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# Evaluating the U.S. Small Business Administration's Growth Accelerator Fund Competition Program

A Report Prepared by the Federal Research Division,  
Library of Congress  
under an Interagency Agreement with the  
Office of Investment and Innovation,  
U.S. Small Business Administration

**FINAL**  
February 2018

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## PREFACE

The U.S. Small Business Administration's (SBA's) Office of Investment and Innovation (OII) contracted with the Library of Congress's Federal Research Division (FRD) for an independent evaluation of the Growth Accelerator Fund Competition (GAFC) program. The OII oversees the program, which the SBA instituted to "support the development of accelerators and their support of startups in parts of the country where there are fewer conventional sources of access to capital."<sup>1</sup>

The goal of this report is to evaluate the scope and value of the GAFC program as a federal government-sponsored means of spurring innovation and small business growth. The analysis included in this report is based on a literature review of scholarly research on the growing accelerator movement; data and reports from the Aspen Institute's Global Accelerator Learning Initiative, Crunchbase, the Global Accelerator Network, and PitchBook; SBA-required reporting by the 2014–16 GAFC winners; interviews with key experts in the field; and a survey of the 2014–16 GAFC winners to build the fullest picture possible of the program's impact.

The report begins with a background on the accelerator movement in the United States, including a description of the landscape of accelerators and other similar entrepreneurial support organizations. It then investigates other startup support programs within the U.S. government, and provides a cursory examination of selected state- and local-level support efforts and the trend abroad. The report then goes on to examine the results of the survey of GAFC recipients and provides a SWOT (strengths, weaknesses, opportunities, and threats) analysis of the program.

Additionally, after conducting its own research, FRD solicited the input of various government, nonprofit, and accelerator experts to provide independent feedback on both the GAFC program and this report. That feedback is highlighted in the conclusion. The project team would like to thank the following individuals who were kind enough to provide their perspectives: Mason Ailstock, Association of University Research Parks; Jason Bossie, SBA's Office of the Chief Financial Officer; Mike Ehst, World Bank; Emily Reichart, Greentown Labs; and Dr. Stephen Tang, University City Science Center. The project team also extends its appreciation to the management of OII, Deputy Associate Administrator Michele Schimpp and Director of Innovation and Technology John Williams. The research team would also like to express its gratitude to the OII program staff, especially Nagesh Rao, Chief Technologist, Amber Chaudhry, Presidential Management Fellow, and Rebecca Rowe, Program Analyst, Government Contracting and Business Development who so generously extended their time, data, advice, input, and contacts to the FRD research team.

FRD provides customized research and analytical services on domestic and international topics to agencies of the U.S. government, the government of the District of Columbia, and authorized

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<sup>1</sup> U.S. Small Business Administration (SBA), "SBA Launches 4th Annual Growth Accelerator Fund Competition to Award \$1 Million to Support Startup Focused Centers of Excellence," accessed August 9, 2017, <https://www.sba.gov/offices/headquarters/ooi/resources/1428931>.

federal contractors on a cost-recovery basis. This report represents an independent analysis by FRD and the authors, who have sought to adhere to accepted standards of scholarly objectivity. It should not be construed as an expression of an official U.S. government position, policy, or decision.

## TABLE OF CONTENTS

PREFACE.....	i
EXECUTIVE SUMMARY .....	1
KEY FINDINGS .....	2
BACKGROUND ON ACCELERATORS.....	6
Accelerator Goals.....	9
Key Features of Accelerators.....	9
Success Factors and Benefits Provided by Accelerators.....	10
THE LANDSCAPE OF ACCELERATORS IN THE UNITED STATES.....	13
OTHER KINDS OF ENTREPRENEURIAL SUPPORT ORGANIZATIONS.....	16
FEDERAL SMALL BUSINESS STARTUP SUPPORT PROGRAMS .....	20
Single Agency Initiatives.....	20
U.S. Department of Energy.....	20
U.S. Department of Health and Human Services.....	21
U.S. Department of Homeland Security .....	21
U.S. Small Business Administration .....	22
National Institutes of Health.....	24
National Science Foundation .....	25
Multi-Agency Initiatives .....	27
State and Local Entrepreneurial Support.....	28
California's Experience with Entrepreneurial Support .....	29
New York's Experience with Entrepreneurial Support.....	31
Ohio's Experience with Entrepreneurial Support.....	34
Texas's Experience with Entrepreneurial Support .....	37
Virginia's Experience with Entrepreneurial Support.....	39
Experience of Other Countries' Government Accelerator Programs.....	41
DESCRIPTION OF SBA'S GAFC PROGRAM.....	42
PROFILE OF 2014–16 GAFC PRIZE WINNERS .....	44
The Survey.....	45
Types of Organizations.....	45
Mission and Focus.....	49
Number of Cohorts and Startups.....	49
Geographic Distribution.....	50
Age and Size of Winners (Employees, Budgets, and Startups) .....	51
Industries Served .....	52
Sources of Accelerators' Outside Investment.....	53

International Investment Scope of the Winners and Their Startups.....	55
Support of Underserved Populations .....	55
How the GAFC Award Affected Accelerators .....	57
SWOT ANALYSIS.....	58
Strengths.....	58
Weaknesses .....	69
Opportunities .....	73
Threats .....	75
CONCLUSION .....	77
Observations .....	79
Recommendations .....	79
APPENDIX I. Examples of SBA Quarterly Reporting Surveys .....	88
APPENDIX II. FRD Survey of GAFC Winners, 2014–16.....	94
APPENDIX III. GAFC Winners, 2014–16 (listed alphabetically by name).....	103
APPENDIX IV. GAFC Winners, 2014–16 (listed alphabetically by state; 187 total).....	108
SELECTED BIBLIOGRAPHY .....	113

## TABLE OF TABLES

Table 1. Number of Accelerators in the United States.....	14
Table 2. International Investments of 2014–15 GAFC Winners and Their Startups .....	55
Table 3. Estimated Number of Jobs Created or Sustained at 2014–16 GAFC Winners' Startups..	66
Table 4. Estimated Number of Jobs Created or Sustained by 2014–16 GAFC Winners.....	66
Table 5. Estimated Minimum Number of Jobs Created or Sustained at 2014–16 GAFC Winners' and Their Startups that Could Be Attributed to GAFC Funding .....	67
Table 6. Estimated Cost to U.S. Taxpayers per Job Created or Sustained by the 2014–16 GAFC Winners and Their Startups .....	67
Table 7. Estimated Number of Startups that Benefited from GAFC Funding.....	68
Table 8. Estimated Cost to U.S. Taxpayers per Startup Served.....	68
Table 9. Estimated Amount of Capital Raised by Startups Served by 2014–16 GAFC Winners.....	68
Table 10. Congresspersons Supportive of Accelerator Initiatives.....	76

## TABLE OF FIGURES

Figure 1. Key Differences between Incubators, Angel Investors, Accelerators, and Hybrid Early-Stage Investors .....	18
Figure 2. Types of Organizations Receiving the 2014–16 GAFC Prize .....	46
Figure 3. Services Offered to Startups by 2014–16 GAFC Winners.....	47

Figure 4. Organizational Focus of 2014–16 GAFC Winners.....	49
Figure 5. Geographic Distribution of 2014–16 GAFC Winners.....	51
Figure 6. Industry Concentrations of 2014–16 GAFC Winners.....	53
Figure 7. Percentage of Outside Investment in 2014• 16 GAFC Winners by Source .....	54
Figure 8. Percentage of 2014-16 GAFC Winners Owned or Led by Member of Underserved Group.....	56
Figure 9. Percentage of Startups Owned or Led by Member of Underserved Group .....	57
Figure 10. Concentration of Venture Capital Investment Across the United States.....	59

## EXECUTIVE SUMMARY

This report presents the results of an evaluation performed by the Federal Research Division (FRD) of the Library of Congress of the U.S. Small Business Administration's (SBA's) Growth Accelerator Fund Competition (GAFC), a \$10.5 million program aimed at supporting the U.S. startup community, particularly in areas that are not typically well served by the private sector. The GAFC program seeks to stimulate economic development and innovation via the award of several nominal (\$50,000), flexible, non-repayable prizes that support organizations such as accelerators, incubators, maker spaces, and various hybrid forms of them. It awarded 223 awards to 187 distinct organizations from 2014 through 2016. Another 20 awards were to be awarded in 2017, but that process was still ongoing at the time of this evaluation.

Focused on the first three years of the program, 2014–16, this evaluation explores its relevance in regard to the rise of the business accelerator model as a means for stimulating innovation and entrepreneurship, compares it to similar government assistance programs, and includes input from program participants. Attempts were made to calculate the estimated economic impacts of the program, but the GAFC's data collection needs to be refined to provide more meaningful quantitative measures. Moreover, the program is at a very early stage, limiting the ability to calculate long-term trends.

This evaluation is expected to provide the SBA, particularly the Office of Investment and Innovation, which administers the GAFC program, with information that will help strengthen the program's delivery. The information provided in this report is also aimed at informing Congress, the U.S. taxpayer, and the GAFC awardees of the value and impact of the prize.

It is important to note that, despite its name, the GAFC program provides awards to a variety of entrepreneurial support organizations that are similar to accelerators in purpose, but not strictly in form or operation. The awardees' models include accelerators, incubators, makerspaces, and virtual or hybrid forms of these businesses. Most of prize recipients offer cohort-based programs, demo days, and mentoring and networking services, but not all offer seed capital or take an equity interest in their startups. For the purpose of this study, the term "accelerators" will be used interchangeably with the term "awardees" to denote those who have received a GAFC award, regardless of their organizational form; the precise distinction of the organizational form of the awardee is made only when germane.

## KEY FINDINGS

This report first studied the characteristics of the business accelerator model and its related forms. The following key findings emerged from this examination:

- Accelerators provide fixed-term programs that last for fewer than 12 months; most last about three months. They provide mentorship and technical assistance that enable the “fast-test” validation of ideas. Additionally, accelerators link entrepreneurs to business consultants and provide assistance in the preparation of pitches needed to obtain further investment.
- In the short term, the success rate of an accelerator can be measured against the acceptance rate of startups and the frequency with which they are acquired or otherwise exit the program. In the long run, an accelerator’s success can be measured against its startups’ internal rates of return and abilities to bring in additional sources of funding. Other characteristics related to an accelerator’s scale of success include the intensive format of mentoring and business skills training, the program length, and the founder’s historical connections to investors.
- Some research has indicated that the startups graduating from an accelerator may obtain funding faster than those using other funding mechanisms. Other research has shown that top accelerators shorten the time it takes to acquire venture capital financing, with accelerators reducing the costs for angel investors and venture capitalists in a number of ways.
- A population of successful entrepreneurs can bring substantial tax revenues to their home regions, as well as broader economic benefits. Regions with more entrepreneurial activity tend to have better economic outcomes.
- When it comes to calculating the number of accelerators in the United States, sources differ largely because the phenomenon is new and has not been studied deeply. Moreover, a lack of clarity exists in what constitutes an accelerator. Although volunteer and crowdsourced efforts such as Crunchbase and Seed-DB have tried to monitor the development of the accelerator movement, the data continues to be incomplete. Little data yet exists that demonstrates their efficacy as institutions and intermediaries in the entrepreneurial ecosystem, meaning that policymakers continue to have little information to help them determine how or if these programs should be supported and encouraged.
- In regions with less venture capital financing, accelerators become more important as a funding source. Metropolitan statistical areas with an established accelerator presence show more seed and early-stage entrepreneurial financing activity.
- The regions with the most concentrated levels of accelerator and incubator activity are located in California and New York. Additionally, Florida, Illinois, Massachusetts, Missouri, Ohio, Pennsylvania, and Texas host significant numbers of accelerators. Together, these nine states represent nearly three-quarters of the accelerator activity in the United States.
- The SBA created the GAFC program in 2014 to draw attention and funding to parts of the country where gaps exist in the entrepreneurial ecosystem. The GAFC awards \$50,000 cash prizes to accelerators to help support their organizations. The money



- can be used for operational expenses, hiring, or programmatic support that leads to better access to capital, mentorship networks, and workspace, enabling high-growth startups to scale up and grow sustainably.
- In 2014, GAFC awarded \$2.5 million to 50 winners from 31 states, Washington, DC, and Puerto Rico. In 2015, it awarded a total of \$4.4 million to 88 winners representing 39 states, Washington, DC, and Puerto Rico. In 2016, the program awarded \$3.4 million to 85 winners, representing 38 states and Washington, DC. Overall, between 2014 and 2016, the SBA awarded 223 GAFC prizes to 187 unique winners for a total of \$10.3 million. For the 2017 competition, the SBA limited the awards to past GAFC winners and planned to award 20 teams with the \$50,000 prize.
  - Multiple federal agencies, either singly or jointly with other organizations, have programs to help spur technological development and support small businesses. Most of these efforts disburse awards in large amounts to a few beneficiaries to conduct specific work within specific target industries. The GAFC program, on the other hand, awards comparatively small amounts of money to many companies. A few of the federal programs also provide small awards (from \$25,000 to \$50,000), but differ from GAFC in that they either exist to support the internal functions of a specific agency, are limited to university-affiliated teams, or target a specific type of product for a specific marketplace.
  - A cursory review of several non-U.S. government-supported accelerator programs reveals that most national-level efforts have been started in the past five years and are aimed at leveraging the private sector to help the public sector address large, complex issues. These programs provide large amounts of funding to a handful of organizations that help the federal government work better—whether it be accelerating the implementation of projects; improving efficiency; developing a sense of entrepreneurship; attracting foreign investment, technology, or know-how; or forming public-private partnerships to address these problems.

To complement its research, FRD developed a survey and polled all 187 distinct GAFC awardees. There was a 59.35 percent response rate to the survey. The following trends were observed among the respondents:

- The SBA awarded the GAFC prize to an increasing number of organizations that were owned or led by other underserved populations, such as racial minorities, veterans, and women. On average, 21 percent of the winners had startups that were owned or led by American Indians, Alaska Natives, or Native Hawaiians. Eighteen percent had startups that were owned or led by individuals with disabilities, 70 percent had startups owned or led by individuals with limited access to capital, 61 percent had startups located in or serving economically disadvantaged areas, 42 percent had startups located in rural areas, 80 percent had startups owned or led by individuals who were racial minorities, 42 percent had startups owned or led by veterans, and 90 percent had startups owned or led by women.
- Most winners were commercial entities, nonprofits or university-based organizations. One was affiliated with a city government.

- The survey asked respondents to self-categorize themselves. The awardees most often identified their organizations as hybrid models (42 percent), followed closely by accelerators (35 percent). Many fewer classified themselves as incubators (16 percent) and even less identified as co-working startup communities (5 percent) or shared tinker/maker spaces (2 percent).
- Incubators are much less likely to provide small amounts of angel money or seed capital, or specialized or structured loans, than accelerators or hybrid programs. Approximately 60 percent of the programs that identified as accelerators provided small amounts of angel funding or seed capital, but only 11 percent of the programs that identified as incubators provided such support.
- Accelerators and incubators are more likely to offer high-growth, tech-driven startup mentorship and commercialization assistance, but they are less likely to provide services to underserved communities (such as women, veterans, minorities, or economically disadvantaged groups or locations) than hybrid models.
- Accelerators are less likely to offer resource sharing and co-working arrangements or to provide a shared working environment than incubators or hybrid models.
- Accelerators and hybrid models are slightly less likely to provide their startups with regular networking opportunities than incubators.
- Hybrid models are less likely to use a selective process to choose participating startups than accelerators or incubators.
- Accelerators, incubators, and hybrid models provide their startups with introductions to customers, partners, suppliers, advisory boards, and other players, as well as opportunities to pitch ideas and startups to investors, along with capital formation avenues (e.g., demo days), at approximately the same rates.
- Contrary to the typical accelerator model, in which the provision of seed funding is fairly standard, less than half of the GAFC winners provided such financing to their startups and even fewer took an equity stake in those businesses. Approximately one-quarter of the winners provided seed funding to only their most promising startups. Of those that did take an equity stake in exchange for seed funding, most took 5–6 percent equity. Accelerators that made investments in their startups made an average total investment of \$1,827,600 between 2014 and 2016.
- Approximately half of the respondents described themselves as focused on an industry (such as life sciences or food) or a location (such as rural areas or specific counties). Forty-one percent of the winners described themselves as focused on a demographic (such as women, Native Hawaiians, or veterans) or technology (such as biotechnology or clean technology [cleantech]). Between 10 percent and 20 percent of the respondents described their organizations as being focused on a product, a service, or being a social enterprise.
- The average number of startup applications that the accelerators received was between 140 and 290. The average number of startups in the accelerators' current cohort was between 10 and 24. The average number of startups that had graduated or exited from the winning accelerators was between 22 and 41.

- The GAFC prize winners have come from 45 states, Washington DC, and Puerto Rico. Accelerators from Delaware, Mississippi, Oklahoma, Vermont, and Wyoming have not won any awards so far. California was home to the most prize winners—13 over the three-year period.
- The winners tended to be young businesses with small numbers of employees and average annual operating budgets of less than \$500,000. As of January 2017, almost half had been in business less than five years, and 20 percent had been in business between 5 years and 10 years. Quarterly reporting shows that the average amount raised by the accelerators from outside investors (excluding the \$50,000 from the SBA) was between \$1,413,106 and \$2,636,024.
- Approximately one-fifth of the winners had an operating budget greater than \$1,000,000. These winners were more likely to describe themselves as having a hybrid model, and were more likely to have 6–15 full-time equivalent employees.
- Among the GAFC winners, healthcare/medicine was consistently the most represented category among their startups, followed by information technology (IT) and food/beverage/hospitality. Other well-represented sectors include education, manufacturing, and agriculture. Non-IT technology/science, energy, and tourism were the least represented. This basic trend appears consistent over the three years of the program for which there is data.
- Funding from a single source—such as angel investors; family/friends/self; corporations; private venture capital; other federal, state, or local government funding; or loans/debt financing—typically comprised 10 percent or less of a winner's operating budget.
- Corporations and state governments were a common source of funding that comprised more than 10 percent of a program's budget.
- It was rare for any single funding source to comprise more than 50 percent of an awardee's operating budget. However, nine respondents received 100 percent of their funding from a single source, with state governments providing one-third of this support.
- According to third-quarter reporting data by the 2014–15 GAFC winners, none of the 2014 winners and only 3 percent of the 2015 winners raised capital from international investors. However, 28 percent of the recipients reported that their startups had raised capital internationally.

FRD researchers also performed a SWOT (strengths, weaknesses, opportunities, and threats) analysis of the GAFC program. The following results were found in the survey responses:

- When given the opportunity to provide a free-form narrative on the impact and future of the program, the respondents were overwhelmingly supportive.
- The few critiques were constructive and, in some cases, served as avenues for further opportunities for the program.

- The main strengths of the GAFC program fell into the following categories: meeting its program goals, filling the geographic gaps in the accelerator and entrepreneurial ecosystem, providing support to accelerators and startups headed by traditionally underserved groups, outstanding program administration, the recognition and leverage provided by a federal award, a strategic boost in funding, a positive impact on the local startup community, and leveraging other SBA services and follow-on funding.
- The primary weaknesses of the GAFC program include, according to the survey respondents, irregular communication from program administrators; concerns that it overlaps and duplicates other SBA entrepreneurial support programs, such as its small business development centers and women's business development centers, or the services of the Office of Entrepreneurial Development; that it grants prizes to too many organizations that are not true accelerators; and that some organizations may become too dependent on the funds for their existence.
- When asked about the size of the award, the GAFC winners were fairly evenly split between thinking that it should be kept as is, made larger, or scaled in some way. Respondents recommended scaling the award according to various factors, such as accelerator size (in terms of jobs, number of startups or cohorts, or revenue), amount of investments raised by applicant, length of time an applicant has been in business, location of applicant, number of startups or cohorts served by applicant, planned use of funds, or type of industry. No respondent thought that the award should be made smaller. More than three-quarters of the winners thought that the number of GAFC awards should not be capped.
- The biggest threat to the GAFC program, as with any public program, is reduced congressional funding, which could come about for several reasons: the SBA's overall funding is cut and it no longer has the funds to support the program; GAFC's inclusion of non-accelerator programs creates a redundancy with other federal programs; the required reporting shows a low return on investment; due to the lack of accurate reporting, GAFC is unable to prove a worthwhile return on investment; or the program or its funding is abused. Additionally, lack of sufficient funding for program staff could impact the effectiveness of how the program is run.

When FRD solicited feedback from a panel of government, nonprofit, and accelerator experts, the project team discovered that they were broadly supportive of the GAFC Program as a relatively low-cost, small, impactful government program, unique in structure and target, which supports the infrastructure needed to successfully launch startups. They all agreed that the program should continue to be funded, but while these experts felt that both the size of the prize and the program were sufficient, they also encouraged the expansion of both—suggesting that, at the very least, the GAFC program should maintain the prize at its current level or increase it up to \$100,000. These experts further recommended maintaining the overall annual program budget from \$2.5 million to \$10 million.

With their unique perspectives from within the federal government and the accelerator industry, these peer reviewers added several unique recommendations to the discussion:

- The GAFC Program needs a larger staff in order to not only assist in program management but, more importantly, to develop and maintain key program

- metrics, which would enable the SBA to more knowledgeably monitor the program's effectiveness.
- The GAFC Program could be diversified and tailored to meet the specific needs of the prize recipients (i.e., the accelerators), their startups, and the local economies they serve, as well as government policymakers.
  - The GAFC Program needs to provide mechanisms to connect current and former GAFC winners, enabling them to share their best practices.

## BACKGROUND ON ACCELERATORS

Business accelerators in the United States date from 2005, and have quickly become an integral part of the entrepreneurial ecosystem. Yet accelerators—and what sets them apart from other elements of the startup community—have been difficult to define. Because scholars have had just a few years to study them, few peer-reviewed articles exist, and a reliance on secondary media sources has led to a lack of clear definitions of accelerators as a distinct economic phenomenon.<sup>2</sup> However, over time, the characteristics that define accelerators have become clearer.

In 2007, for example, Bo Fishback, formerly of the Ewing Marion Kauffman Foundation, a private nonprofit organization based in Kansas City, Missouri, and others described accelerators as agencies engaged in helping entrepreneurs bring products to the marketplace quickly. The new accelerator method involved working with a cohort of companies intensively for a limited period of time. Early articles about this phenomenon also defined accelerators by the unique services they provided to entrepreneurs, such as professional services, mentoring, and office space. In 2011, the London-based, innovation-focused research firm Nesta (formerly the National Endowment for Science, Technology, and the Arts) described the open but competitive application process, the provision of pre-seed investment in exchange for equity, the focus on small teams, the time-limited support involving programmed events and intensive mentoring, and the organization of startups into cohorts as key characteristics of business accelerators. National Business Incubation Association president emerita Dinah Adkins, Metropolitan State University of Denver professors David L. Hoffman and Nina Radojevich-Kelley, and Carleton University assistant professor of global entrepreneurship Diane Isabelle in 2011, 2012, and 2013, respectively, all similarly described accelerators as for-profit organizations that receive equity in exchange for funding, typically provide meeting space, and target regional, national, and international startups. Lastly, University of Richmond assistant professor of management Susan Cohen in 2013 (and in 2014 with professor Yael Hochberg of Rice University) settled on a succinct definition based on four characteristics identified in the Seed Accelerator Ranking Project: "a fixed-term, cohort-based program, including mentorship and educational components, that culminates in a public pitch event or demo day."<sup>3</sup> This last definition is perhaps the most commonly used one today.

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<sup>2</sup> C. Scott Dempwolf, Jennifer Auer, and Michelle D'Ippolito, "Innovation Accelerators: Defining Characteristics Among Startup Assistance Organizations," October 2014, 8, <https://www.sba.gov/sites/default/files/rs425-Innovation-Accelerators-Report-FINAL.pdf>.

<sup>3</sup> Dempwolf, Auer, and D'Ippolito, "Innovation Accelerators," 9, 10, 13.

Y Combinator and TechStars, two of today's most preeminent accelerator programs, were at the forefront of the accelerator phenomenon, with Paul Graham of Y Combinator credited with establishing the first program in the United States in 2005. When TechStars, founded by entrepreneurs David Cohen, Brad Feld, David Brown, and Jared Polis, launched in 2007, it became Y Combinator's first real competition.<sup>4</sup>

Paul Graham's original program was a summer founders program in Cambridge, Massachusetts, for which he selected eight applications from 227 submitted. Graham, an English-born computer scientist, focused his efforts on funding entrepreneurs who were younger than those most other investors would fund, and used Y Combinator as a means of determining how low that minimum age could reach. In his view, the risk of failure at age 22 (rather than at age 40, for example) was more tolerable because a person that age was less likely to have financial commitments like mortgages: "If you try to start a startup right out of college and it tanks, you'll end up at 23 broke and a lot smarter. Which, if you think about it, is roughly what you hope to get from a graduate program." In 2006, Graham decided to move his accelerator program to Silicon Valley, while briefly maintaining an alternate summer program in Cambridge. The move was predicated on the assumption that other seed funds would copy the Y Combinator model; Graham did not want anyone claiming to be "the Y Combinator of Silicon Valley." He made the move permanently in 2009.<sup>5</sup>

Around 2006, David Cohen approached Brad Feld about creating a startup boot camp in Boulder, Colorado. According to Feld, Cohen had become frustrated as a new angel investor. He had invested in several companies, but felt disconnected because it was difficult to help the entrepreneurs he was funding. Often the entrepreneurs did not want help, did not know how to ask for help, or were too busy to engage with Cohen. Cohen's idea was to help start more companies by investing a small amount in 10 of them at one time and enrolling them in an intense 90-day program, during which they would work closely with mentors and other angel investors in order to get their businesses to the next stage and in a position to raise a full angel round.<sup>6</sup> While developing the idea, David Brown studied other organizations, like Y Combinator, that were already up and running. Similar to Y Combinator, TechStars selected a small group to participate and provided each team with a small amount of financing (at the time, \$15,000). The boot camp lasted three months and featured sessions with many prominent members of the entrepreneurial community in Boulder. Of the location, Feld described Boulder as having a vibrant entrepreneurial ecosystem with experienced members. At the time of TechStars's launch in January 2007, Feld considered Boulder one of the top 10 cities in which to start a tech company in the United States.<sup>7</sup>

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<sup>4</sup> Randall Stross, *The Launch Pad: Inside Y Combinator, Silicon Valley's Most Exclusive School for Startups* (New York: Portfolio, 2012), 41.

<sup>5</sup> Stross, *The Launch Pad*, 13, 14, 40–41.

<sup>6</sup> Brad Feld, *Startup Communities: Building an Entrepreneurial Ecosystem in Your City* (Hoboken, NJ: Wiley, 2012), 15.

<sup>7</sup> Brad Feld, "TechStars Launches," *Feld Thoughts* (blog), January 15, 2017, <https://www.feld.com/archives/2007/01/techstars-launches.html>.

Although Y Combinator and TechStars are recognized as the prototypes for the successful accelerator model, others were experimenting with and developing accelerator-like business support organizations years prior. For example, in the late 1990s, venture capitalist Amy Milliman launched Springboard Enterprises to do two things: increase investment in women-owned businesses and support startups without the infrastructure required of incubators. She convened law firms, angel investors, and other groups to provide that support. Investors at the time indicated to her that they would like to invest in women-owned businesses, but they did not know any, saying that “if there were any women who had businesses that we would invest in, we would [already] know them.” Data showed that less than 2 percent of companies using venture capital had a woman CEO or founder, but 45 percent of these companies had women on their team. Milliman considered that such women may be interested in starting their own ventures, but were probably lacking the support to do so. In 1999, she opened her first application period for Springboard, expecting 50 applicants for 25 slots; she received 350 applications.<sup>8</sup> To date, 674 women-led companies have participated in Springboard’s accelerator programs. These companies have raised \$7.8 billion and have generated billions of dollars in annual revenues. More than 81 percent of the companies remain in business.<sup>9</sup>

## Accelerator Goals

Business accelerators are organized to achieve both immediate and long-term goals in their quest to identify undervalued startups and help them quickly advance to the next stage of growth. In the immediate term, accelerators help startup companies secure next-stage funding. The long-term goal, which directly benefits the accelerator, is to make a substantial profit when startups are acquired or have successful initial public offerings. Accelerators are typically focused on highly scalable, high-growth, high-value startups. Traditionally, candidate startups have been web- or cloud-based companies, or those that create mobile applications or software for social networking or gaming. Likewise, the typical profile of these startups featured youthful, male technology enthusiasts, gamers, and hackers.<sup>10</sup> However, the general profiles of accelerators and their participants have begun to change. Today’s cheaper technology costs, easier routes to customer acquisition, and better forms of direct monetization suit the nimble, talented, technology-heavy teams that are able to create a product or service quickly.<sup>11</sup>

## Key Features of Accelerators

An accelerator might typically offer seed-stage investments to startups accepted into its program. In the early days of accelerators, these investments ranged from \$18,000 to \$25,000.

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<sup>8</sup> California Technology Council (CTC), *California Tool Works: Incubation and Acceleration in the Cauldron of Innovation* (Santa Clara: CTC, 2016), 18.

<sup>9</sup> Totem, “Springboard Enterprises: Company,” accessed August 24, 2017, <https://springboard.totemapp.com/company>.

<sup>10</sup> Dempwolf, Auer, and D’Ippolito, “Innovation Accelerators,” 27, 10.

<sup>11</sup> Paul Miller and Kirsten Bound, *The Startup Factories: The Rise of Accelerator Programmes to Support New Technology Ventures* (London: Nesta, 2011), 21, [http://www.nesta.org.uk/sites/default/files/the\\_startup\\_factories\\_0.pdf](http://www.nesta.org.uk/sites/default/files/the_startup_factories_0.pdf).

Accelerators make these investments in exchange for equity in the startups, averaging about 6 percent of the company, but usually within the range of 4–8 percent.<sup>12</sup>

Accelerators provide fixed-term programs that last for fewer than 12 months, with most lasting about three months. During the program, accelerators provide mentorship and technical assistance that enable the “fast-test” validation of ideas, as well as the opportunity to create a functioning beta product and find initial customers. Additionally, accelerators link entrepreneurs to business consultants and provide assistance in the preparation of pitches needed to obtain further investment.<sup>13</sup> However, some accelerators do not operate full-time or even on-site. For example, Startup Next, a Techstars program, is a five-week pre-accelerator designed to help startups get into top accelerator programs, raise seed rounds, or achieve other early goals. Similarly, VentureOut—a New York City-based, one-week hyper-accelerator program—brings in startups from around the world in order to connect them with members of the local startup and technology community.<sup>14</sup> Conversely, MergeLane (a 2015 and 2016 GAFC winner), a Boulder-based accelerator targeting women-led startups, only requires companies to be on-site for a portion of their program. Its mentorship and coaching program, as well as its curriculum, which focuses on early-stage business issues and topics affecting women, is carried out virtually. Circular Board, a 2016 GAFC winner, is another virtual accelerator. Together with Dell, Circular Board developed “a software platform that uses artificial intelligence-related tools designed to connect female entrepreneurs with [the] resources needed to develop their companies regardless of where they are based, what industry they are in, or what language they speak.”<sup>15</sup>

### **Success Factors and Benefits Provided by Accelerators**

A variety of success factors and benefits are provided by business accelerators to startups, local economies, investors, policymakers, and the accelerators themselves. The success of these programs can be measured in both short- and long-term events, according to research published in 2013 by Ross Baird, CEO of Village Capital, a Washington, DC-based venture capital firm, and others. In their report for the Aspen Institute, Baird and his coauthors found that, in the short term, the success rate of an accelerator can be measured against the acceptance rate and frequency with which graduates are acquired or otherwise exit the program. In the long run, an accelerator's success can be measured against its startups' internal rates of return and abilities to bring in sources of funding, particularly if the accelerator does not take equity stakes in its startups. Other characteristics related to an accelerator's scale of success include the intensive format of mentoring and business skills training, the program length, and the founder's historical connections to investors.<sup>16</sup>

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<sup>12</sup> Dempwolf, Auer, and D'Ippolito, “Innovation Accelerators,” 10, 19.

<sup>13</sup> Dempwolf, Auer, and D'Ippolito, “Innovation Accelerators,” 24, 10.

<sup>14</sup> Annie Pilon, “20 Top Business Accelerators to Consider for Your Startup,” *Small Business Trends*, August 16, 2016, <https://smallbiztrends.com/2016/08/list-of-business-accelerators.html>.

<sup>15</sup> Angela Shah, “Dell and Circular Board Advise Women Entrepreneurs: Go Ask Alice,” *xconomy.com*, May 11, 2017, <http://www.xconomy.com/texas/2017/05/11/alice-the-brainchild-of-dell-circular-board-makes-its-debut/>.

<sup>16</sup> Dempwolf, Auer, and D'Ippolito, “Innovation Accelerators,” 28.



Fieldwork conducted in 2016 by University of Washington professor Benjamin L. Hallen and others provides insight into how accelerators assist entrepreneurs with these connections. Hallen's research team found that formal education may enhance the ability of startup founders to identify more promising opportunities and develop a venture's activities, as well as boost their connections to potential supporters. Moreover, a founder's alma mater may reflect his or her social connections and prior work experience may indicate additional social capital. These networking attributes could help entrepreneurs access an accelerator, but are not a requirement. However, participating in an accelerator with a strong, socially connected background can potentially help startup founders make important new connections more quickly. For example, an entrepreneur with a degree from a top business program suggested to Hallen and his team that although professional degrees and work experiences may provide entrepreneurs with networks or networking skills that are comparable to those attained via accelerators, the accelerator provided "access to people we probably would have still met, but it would have taken us much longer to meet." Similarly, those without professional degrees were more likely to comment that they could never have made the right connections without the help of an accelerator.<sup>17</sup>

Participation in an accelerator also can mean faster funding and commercialization for a startup. Some research shows that startups graduating from an accelerator may obtain funding faster than startups using other funding mechanisms.<sup>18</sup> The investment database PitchBook reported in 2015 that one-third of the startups that raised Series A funding had previously graduated from an accelerator. This suggests that participating in an accelerator increases the chance that a startup will grow and continue to raise funds.<sup>19</sup> One standard stipulates that a startup should raise a minimum of \$500,000 in investments to be considered a success.<sup>20</sup> Airbnb, for example, reached this goal by the end of its stint in a top accelerator. The now well-known startup received its first \$20,000 in investments when it was accepted into Y Combinator. By its demo day in April 2009, the venture capital firm Sequoia Capital led the seed round with a \$600,000 investment.<sup>21</sup>

Other research has shown that top accelerators shorten the time to venture capital financing.<sup>22</sup> Compared with their angel-funded counterparts, startups graduating from top accelerator

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<sup>17</sup> Benjamin L. Hallen, Christopher Bingham, and Susan Cohen, "Do Accelerators Accelerate? The Role of Indirect Learning in New Venture Development," July 2016, 12–13, 26, <https://ssrn.com/abstract=2719810>.

<sup>18</sup> Sheryl Winston Smith, T.J. John Hannigan, and Laura L. Gasiorowski, "Accelerators and Crowdfunding: Complementarity, Competition, or Convergence in the Earliest Stages of Financing New Ventures" (paper presented at the University of Colorado–Ewing Marion Kauffman Foundation Crowd-Funding Conference, Boulder, Colorado, July 12–13, 2013), <https://ssrn.com/abstract=2298875>; C. Scott Dempwolf, Jennifer Auer, and Michelle D'Ippolito, "Innovation Accelerators: Defining Characteristics Among Startup Assistance Organizations," *SBA Office of Advocacy Small Business Research Summary* 425 (October 2014): 1, <https://www.sba.gov/sites/default/files/rs425-Innovation-Accelerators-Research-Summary-FINAL.pdf>.

<sup>19</sup> Kia Kokalitcheva, "Here's the \$20 Billion Reason to Consider Joining a Startup Accelerator," *Fortune*, October 17, 2016, <http://fortune.com/2016/10/17/startup-accelerators-20-billion/>.

<sup>20</sup> Dempwolf, Auer, and D'Ippolito, "Innovation Accelerators," 27.

<sup>21</sup> Miller and Bound, *The Startup Factories*, 27. Seed-round funding is a type of initial capital used to start a business; it is typically obtained in exchange for equity. Sources of seed capital include a founder's personal assets, friends or family members, and angel investors.

<sup>22</sup> Sandy Yu, "There's an Accelerator for That!," *Growthology* (Ewing Marion Kauffman Foundation blog), August 1, 2016, <http://www.kauffman.org/blogs/growthology/2016/07/there-is-an-accelerator-for-that>.

programs exited more quickly and had higher acquisition and failure rates.<sup>23</sup> However, Jared Konczal of the Ewing Marion Kauffman Foundation cautions that statistical measures can be misused to present overly positive assessments of early accelerator results. Missing or inaccurate data, limited population or sample sizes of startups, and measures heavily skewed by outliers like Y Combinator, as well as selection bias and inaccurate or incomplete reporting of costs and performance data by accelerators and startups, can all affect how the success rates are interpreted.<sup>24</sup>

Additionally, accelerators have the potential to impact local economies through tax benefits and economic growth. A population of successful entrepreneurs can bring substantial tax revenues to regions as well as broader economic benefits. Regions with more entrepreneurial activity tend to have better economic outcomes. For example, research published in a working paper for the National Bureau for Economic Research found that regions with a mixture of small and large businesses foster more innovation than regions dominated by large firms.<sup>25</sup>

Accelerators also reduce costs for angel investors and venture capitalists in a number of ways. The accelerator model distributes “the inherent riskiness of investing in tech startups over a large startup pool” and reduces the real and opportunity costs associated with searching for new investment opportunities as well as investment risk along two dimensions—product risk and company risk.<sup>26</sup> Risk is lowered in part because the accelerator gathers candidates in a single location, and thus attracts investors who might find the costs of searching for opportunities in smaller regions too high. The use of a demo day allows investors to observe multiple companies in a single instance and creates opportunities for non-local investors to seek additional investment opportunities in the area. This helps reduce the search and sorting costs for investors when investing in smaller regions.<sup>27</sup>

Policymakers too have begun to experiment with the accelerator model, particularly to support nonprofit and socially responsible startups, which often face more difficulty accessing venture capital funding. However, they should be aware of the availability of other financing before using accelerators to increase regional investment because regions with more venture capital typically see less investment from accelerators. Another factor of note for policymakers is the question of whether accelerator investments stay local, especially in areas that are typically underserved by capital.<sup>28</sup>

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<sup>23</sup> Daniel C. Fehder and Yael V. Hochberg, “Accelerators and the Regional Supply of Venture Capital Investment,” September 2014, 10, <http://www.seedrankings.com/pdf/accelerators-and-regional-supply-of-vc-investment.pdf>.

<sup>24</sup> Dempwolf, Auer, and D'Ippolito, “Innovation Accelerators,” 14.

<sup>25</sup> Ajay K. Agrawal, Iain M. Cockburn, Alberto Galasso, and Alexander Oettl, “Why are Some Regions More Innovative than Others? The Role of Firm Size Diversity” (NBER Working Paper No. 17793, National Bureau of Economic Research, Cambridge, MA, 2012), quoted in Jonathan Porat, “Exploring the Policy Relevance of Startup Accelerators,” *SBA Office of Advocacy Issue Brief* 4 (November 2014): 2, <https://www.sba.gov/sites/default/files/advocacy/Issue%20Brief%204%20Accelerators%20FINAL.pdf>.

<sup>26</sup> Dempwolf, Auer, and D'Ippolito, “Innovation Accelerators,” 1, 17, 18.

<sup>27</sup> Fehder and Hochberg, “Accelerators and the Regional Supply of Venture Capital Investment,” 7.

<sup>28</sup> Porat, “Exploring the Policy Relevance of Startup Accelerators,” 3, 4–5, 7.

## THE LANDSCAPE OF ACCELERATORS IN THE UNITED STATES

When it comes to calculating the number of accelerators in the United States, sources differ largely because the phenomenon is new and has not been studied deeply. Moreover, a lack of clarity exists in what constitutes an accelerator. Some groups refer to themselves as accelerators, but in actuality function as incubators, while others meet the formal definition of accelerator but continue to call themselves incubators. These programmatic differences, however, become blurred on an organizational level as startups position themselves in the marketplace. Indeed, the 2016 Global Accelerator Report by Gust, a startup service provider, notes that “as new models emerge, the term ‘accelerator’ describes an increasingly diverse set of programs and organizations, and, often, the lines that distinguish accelerators from similar institutions, like incubators and early-stage funds, become blurred.”<sup>29</sup> Another complication lies in the fact that accelerators as a group are not homogenous, even when they meet the formal definition. Additionally, few large-scale datasets covering these programs have been developed; instead, they provide only directional perspectives on the possible range of organizations providing accelerator-type programs.

Most accelerators operate as small, lean organizations with limited staff with little time to conduct organized data tracking. Accelerator participants are likewise small private companies with little time to collect data. Although volunteer and crowdsourced efforts such as Crunchbase and Seed-DB have tried to monitor the development of the accelerator phenomenon, the data continues to be incomplete.<sup>30</sup> See table 1 for an illustration on the diversity in the data on accelerators.

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<sup>29</sup> Gust, “Global Accelerator Report 2016,” accessed September 20, 2017, [http://gust.com/accelerator\\_reports/2016/global/](http://gust.com/accelerator_reports/2016/global/).

<sup>30</sup> Fehder and Hochberg, “Accelerators and the Regional Supply of Venture Capital Investment,” 9.

**Table 1. Number of Accelerators in the United States**

# of Accelerators	159	102*	109	942
Company	Gust	GALI	Seed-DB	PitchBook
<b>Definition</b>	<p>An application process that is open to all, yet highly competitive.</p> <p>The provision of pre-seed investment, usually in exchange for equity.</p> <p>A focus on small teams, not individual founders.</p> <p>Cohorts of startups rather than individual companies.</p> <p>Time-limited support comprising programmed events and intensive mentoring.</p>	<p>"Time-limited programs that work with cohorts or 'classes' of ventures to provide mentorship and training, with a special emphasis on connecting early stage ventures with investment."</p>	<p>Open application process; anyone with an idea can apply.</p> <p>Cash investments, typically in exchange for equity, at the pre-seed or seed stage.</p> <p>Focus on teams, not individual mentoring.</p> <p>Cohorts of startups; not an on-demand resource.</p> <p>Support program for the cohorts, including events and company mentoring.</p>	<p>Conducted search with the following terms:</p> <p><i>Investor Type</i> Accelerator/Incubator</p> <p><i>Location</i> United States, HQ</p> <p><i>Company Universe</i> Pre-Venture/Venture Capital Only; Active</p> <p><i>Deal Type</i> Accelerator/Incubator</p>
<b>Data Validation</b>	Self-reported.	Self-reported.	Self-reported.	Identified and provided by PitchBook researchers.

\* GALI, the Global Accelerator Learning Initiative, groups its listings of accelerators by region. In this case, the United States is categorized under "North America," which also includes several accelerators in Canada.

*Source:* Gust, "USA & Canada Accelerator Report 2016," accessed August 20, 2017, [http://gust.com/accelerator\\_reports/2016/us\\_and\\_canada/](http://gust.com/accelerator_reports/2016/us_and_canada/); GALI, "The Accelerator Landscape," accessed August 20, 2017, [https://www.galidata.org/accelerators/directory/?keyword=&region=north\\_america](https://www.galidata.org/accelerators/directory/?keyword=&region=north_america); Seed-DB, "Seed Accelerators," accessed August 20, 2017, <http://www.seed-db.com/accelerators>; PitchBook, accessed August 20, 2017, <https://pitchbook.com/data>.

Though accelerators in the United States date back to 2005, they did not really take off until after 2008. Growing from 16 programs in 2008 to 27 in 2009, to 49 in 2010, and eventually to 170 programs in 2014, the number of accelerators increased by an average of 50 percent each year between 2008 and 2014. Growth has remained mostly steady since then. Between 2005 and 2015, 172 accelerators invested in more than 5,000 startups.<sup>31</sup> With a median investment of \$100,000, these startups raised a total of \$19.5 billion in funding, averaging about \$3.7 million per startup. In terms of valuation, the median and average numbers for companies completing accelerator programs was \$5.5 million and \$7.1 million, respectively. Companies that raised additional venture capital after graduating from an accelerator had a median valuation of \$15.6 million and an average valuation of \$90 million. In 2015, those numbers were, respectively, \$30 million and \$196 million.<sup>32</sup>

<sup>31</sup> Hallen, Bingham, and Cohen report that since 2005, over 6,000 startups have participated in one of 650 accelerator programs and have collectively raised \$13 billion in capital ("Do Accelerators Accelerate?," 3).

<sup>32</sup> Ian Hathaway, "Accelerating Growth: Startup Accelerator Programs in the United States," Brookings Institution, February 17, 2016, <https://www.brookings.edu/research/accelerating-growth-startup-accelerator-programs-in-the-united-states/>.

A significant decline in the costs of experimentation and innovation over the last decade also facilitated the emergence of accelerators. For example, building a software company 10 years ago cost an average of \$5 million whereas today the average cost is \$500,000. Startups can now accomplish with a \$50,000 seed investment what used to take \$500,000 to \$1,000,000. According to professors Fehder and Hochberg, accelerators can “provide meaningful funding and assistance to their startup portfolio companies with a seed investment or stipend as low as \$15,000.”<sup>33</sup>

Although it is clear that the proliferation of accelerator programs has been rapid, little data yet exists that demonstrates their efficacy as institutions and intermediaries in the entrepreneurial ecosystem, meaning that policymakers continue to have little information to help them determine how or if these programs should be supported and encouraged.<sup>34</sup> Part of the problem is that “accelerators invest differently depending on the region in which they are located,” and that it is difficult to pinpoint a “typical” accelerator. One factor affecting accelerator investment behavior is the presence of venture capital. In regions with less venture capital, accelerator funding becomes more important as a funding source. A typical accelerator model has yet to emerge, largely because of varying motivations behind the investments. For example, some accelerators have huge portfolios of investments in tech startups trying to achieve a billion dollar valuation, but other accelerators are small and look only for companies that will improve their local communities.<sup>35</sup>

Still, the research shows the impact of accelerators on participating startups and the startup community at large. Top programs can help companies reach key milestones such as raising venture capital, exiting by acquisition, and gaining customer traction more quickly, although many programs do not succeed in accelerating startup development. Accelerator graduates are more likely to receive their next round of financing significantly sooner and are more likely to be acquired or fail than comparable companies funded by top angel investor groups. This implies that top accelerator programs may be more beneficial than top angels. Accelerators also “have a positive impact on regional entrepreneurial ecosystems, particularly with regard to the financing environment.” Metropolitan statistical areas with an established accelerator show more seed and early-stage entrepreneurial financing activity. Such activity is not limited to accelerated startups but also impacts non-accelerated companies, primarily from an increase in investors.<sup>36</sup>

In sum, graduating from a top accelerator program can be correlated with a shorter time to raising venture capital, acquisition, and developing a customer base.<sup>37</sup> But these positive effects have only been attributed to leading accelerators to date; outside the realm of top accelerators, participation may be ambiguous or even negative.<sup>38</sup> Finally, in order for accelerators to be an effective tool in promoting local entrepreneurship, U.S. Small Business Administration economist Jonathan Porat’s findings suggest they should focus on investing within their own regions.<sup>39</sup>

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<sup>33</sup> Fehder and Hochberg, “Accelerators and the Regional Supply of Venture Capital Investment,” 8.

<sup>34</sup> Fehder and Hochberg, “Accelerators and the Regional Supply of Venture Capital Investment,” 31.

<sup>35</sup> Porat, “Exploring the Policy Relevance of Startup Accelerators,” 4, 6.

<sup>36</sup> Hathaway, “Accelerating Growth.”

<sup>37</sup> Fehder and Hochberg, “Accelerators and the Regional Supply of Venture Capital Investment,” 10.

<sup>38</sup> Hathaway, “Accelerating Growth.”

<sup>39</sup> Porat, “Exploring the Policy Relevance of Startup Accelerators,” 4.

## OTHER KINDS OF ENTREPRENEURIAL SUPPORT ORGANIZATIONS

Accelerators are just one among many entrepreneurial support organizations that help stimulate or foster innovation and small business growth. **Innovation accelerators**, also called business accelerators, are stand-alone, for-profit ventures in the business of identifying cohorts of promising startup companies with rapid, high-growth potential. These accelerators make seed-stage investments in exchange for equity and engage in innovation-acceleration activities, such as mentorship, networking, and a culminating demo day, to help companies obtain next-stage funding. Innovation accelerators “cash out for a profit when companies are acquired or have successful IPOs [initial public offerings].”<sup>40</sup> The model is cohort-based, meaning the accelerators accept classes of startups that work simultaneously and graduate at the same time.

Nonprofit or socially responsible startups may find it difficult or inappropriate to take funding from venture capitalists.<sup>41</sup> These **social accelerators**, such as ARK Challenge in Fayetteville, Arkansas (a 2015 GAFC winner), have been founded for the purpose of accelerating nonprofit and socially minded startups while ensuring that accelerators can still pursue profits. Such an experimental accelerator, which is rare and displays “a mix of founder motivations that bridge public and private goods,” may seek profit while relaxing aspects of the business model to accommodate objectives that advance the public good. ARK Challenge, for example, is focused on web-based and mobile technologies in the financial information, health information, and government services sectors. It takes equity stakes in its startups but is organized as a nonprofit, has received federal funding, and seeks (in part) to promote regional job creation.<sup>42</sup> The Social Enterprise Greenhouse accelerator in Providence, Rhode Island, another 2015 GAFC winner, is a social accelerator whose goal is “to help create more successful, sustainable social enterprises in New England, which we contend will deliver social good overall, and help transform our region.”<sup>43</sup> The startups they help are involved in providing “access to improved educational opportunities, training and employment, healthcare, financial services, healthy food, basic human needs, affordable housing, and a safe and healthy environment.”<sup>44</sup>

Another social accelerator, EatsPlace, a 2014 GAFC winner based in Washington, DC, was described in the FRD survey as “a culinary incubator and accelerator” that provides “quality and innovative financial and development services to micro, small, and medium [sized] food entrepreneurs, specifically targeting women and those who have traditionally been denied such services, so that they will in turn improve the quality and health of their families and communities.” Respondents acknowledged that “the GAFC program [has] allowed us to give community members more opportunities for food-based entrepreneurship, both to improve the economy and to increase food access in our neighborhoods for healthful outcomes. Many of the people [EatsPlace supports] are members of underserved groups: women, veterans, and

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<sup>40</sup> Dempwolf, Auer, and D'Ippolito, “Innovation Accelerators,” 23.

<sup>41</sup> Dempwolf, Auer, and D'Ippolito, “Innovation Accelerators” (summary), 2.

<sup>42</sup> Dempwolf, Auer, and D'Ippolito, “Innovation Accelerators,” 25.

<sup>43</sup> Social Enterprise Greenhouse, “Approach: Our Theory of Change,” accessed September 20, 2017, <http://segreenhouse.org/about/approach>.

<sup>44</sup> Social Enterprise Greenhouse, “Our Impacts,” accessed September 20, 2017, <http://segreenhouse.org/about/our-impacts>.

minorities. When they are empowered to start businesses, it's a driver for economic and social change."<sup>45</sup>

**University accelerators** are educational nonprofits that accelerate the development of student entrepreneurs and innovation at universities by offering the same range of services as other accelerators: mentoring, technical assistance, facilities, networking, and a demo day. However, although these accelerators typically provide seed grants to support students through the early stages of development, they do not take equity stakes in student-founded companies. Some accelerators extend services to faculty and alumni as well, such as Stanford University's StartX.<sup>46</sup> Founded in 2009, StartX is open to companies with at least one founder who has an affiliation with the university. Its community of entrepreneurs participates in a wide range of industries, such as consumer and enterprise information technology, the medical field, and hardware development.<sup>47</sup> Of the 187 unique GAFC winners for 2014–16, 59 (31.5 percent) were university-based accelerators.<sup>48</sup>

**Corporate accelerators**, on the other hand, identify next-generation products in specific industries to commercialize. This business model differs somewhat from non-corporate accelerators because of the unique motivation to "advance certain goals of the corporate or institutional parent," but these accelerators typically work with technologies at the same stage of development as other accelerators and offer similar services to startups.<sup>49</sup> For example, they accept two to three cohorts per year, which comprise 8–20 companies. The sessions last 4–20 weeks, and each company receives \$5,000 to \$100,000 in exchange for a 5–20 percent equity stake.<sup>50</sup>

Corporate accelerators drive innovation at a much faster pace than is possible internally, create growth options by taking stakes in interesting companies, gain a window into technologies and business models that will become "winners," and profitably leverage existing scales, distribution networks, and relationships into additional value.<sup>51</sup> According to CorpVenture, an organization that works with large companies to run accelerator programs, "partnerships and distribution agreements are common outcomes for the more interesting companies by the class conclusion." CorpVenture processes applications from 23,000 startups per year and has direct relationships with over 5,000 angel investors in more than 200 angel groups, which increases the likelihood that a startup will secure additional funding, "especially when there is a meaningful corporation endorsing that startup."<sup>52</sup> Examples of the 200 (or more) corporate accelerators currently operating in the United States include the Nike+ Accelerator and the Volkswagen Electronics Research Lab Technology Accelerator.<sup>53</sup>

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<sup>45</sup> FRD, "Survey of 2014–16 GAFC Winners."

<sup>46</sup> Dempwolf, Auer, and D'Ippolito, "Innovation Accelerators," 21.

<sup>47</sup> CTC, *California Tool Works*, 84.

<sup>48</sup> This figure was derived from the winners' email addresses, which were provided to the research team by the SBA's Office of Investment and Innovation.

<sup>49</sup> Dempwolf, Auer, and D'Ippolito, "Innovation Accelerators," 22.

<sup>50</sup> CorpVenturing, "Services: Corporate Accelerators," accessed August 9, 2017, <http://overflo1.com/corpventuring/services-corporate-accelerators.html>.

<sup>51</sup> Dempwolf, Auer, and D'Ippolito, "Innovation Accelerators," 22.

<sup>52</sup> CorpVenturing, "Services: Corporate Accelerators."

<sup>53</sup> Dempwolf, Auer, and D'Ippolito, "Innovation Accelerators," 22; CorpVenturing, "Services: Corporate Accelerators."

**Incubators** are the organizations that are most often confused with accelerators, in part because they each assist early-stage startups. However, the assistance provided by incubators is quite different and is based on a separate business model. Incubators cross numerous industries, ages, and experience levels. Whereas accelerators are designed to quickly move startups from one stage to the next, incubator services aim to move entrepreneurs toward creating self-sustaining, mature businesses. Incubators rarely invest directly in startups; they are often nonprofit organizations, frequently associated with universities, and provide office space at reasonable rates. Scholars and policymakers recognize incubators as a long-established local economic development tool, whereas accelerators were first popularized in the private sector, starting with Y Combinator in 2005.<sup>54</sup> Of the 187 unique GAFC winners for 2014–16, approximately 15 percent identified themselves as incubators.

See figure 1 for a comparison of incubators, angel investors, accelerators, and hybrid entrepreneurial support organizations.

**Figure 1. Key Differences between Incubators, Angel Investors, Accelerators, and Hybrid Early-Stage Investors**

	Incubators	Angel investors	Accelerators	Hybrid
<b>Duration</b>	1 to 5 years	Ongoing	3 to 6 months	3 months to 2 years
<b>Cohorts</b>	No	No	Yes	No
<b>Business model</b>	Rent; non-profit	Investment	Investment; can also be non-profit	Investment; can also be non-profit
<b>Selection</b>	Non-competitive	Competitive, ongoing	Competitive, cyclical	Competitive, ongoing
<b>Venture stage</b>	Early or late	Early	Early	Early
<b>Education</b>	Ad hoc, human resources, legal	None	Seminars	Various incubator and accelerator practices
<b>Mentorship</b>	Minimal, tactical	As needed by investor	Intense, by self and others	Staff expert support, some mentoring
<b>Venture location</b>	On-site	Off-site	On-site	On-site

Source: Ian Hathaway, "Accelerating Growth: Startup Accelerator Programs in the United States," Brookings Institution, February 17, 2016, <https://www.brookings.edu/research/accelerating-growth-startup-accelerator-programs-in-the-united-states/>.

Like accelerators, **venture development organizations** (VDOs) assist in the creation of high-growth companies, typically accelerating the commercialization of technology. These public or nonprofit organizations provide expert business assistance to companies and facilitate or make

<sup>54</sup> Dempwolf, Auer, and D'Ippolito, "Innovation Accelerators," 9–11.



direct financial investments. High-performing VDOs draw on the existing strengths of a region's innovation system. If properly structured, a VDO has the ability to work with a wide cross-section of key assets in that system and the flexibility to adapt its services portfolios to meet the specific needs of individual commercialization opportunities or ventures. Examples of VDOs include Ohio's JumpStart Inc. and Oklahoma's i2E Inc.<sup>55</sup> The main distinction between accelerators and VDOs is that the latter are integrated into a larger system, whereas the former are more independent.

**Proof-of-concept centers** accelerate the commercialization of innovations developed by university faculty and staff in order to help move these innovations into the marketplace. These centers provide seed funding for novel, early-stage research that is unlikely to secure funding from more conventional sources. From a business plan perspective, the centers represent university investments into improved technology transfers. These centers, such as the iGreen New England Partnership and the Florida-based Igniting Innovation Cleantech Acceleration Network, offer a "collection of services to improve the dissemination and commercialization of new knowledge from universities in order to spur economic development and job growth."<sup>56</sup>

Similarly, **technology clusters**—geographical concentrations of firms, supplies, and related industries and specialized institutions within a particular field—also foster innovation. A cluster can form in a nation, state, city, or region. The main components of a technology cluster are intellectual property, such as university and research lab patents; facilities that support research and development through production, as well as people such as engineers, financiers, consultants, and suppliers who provide services and materials; and financing, which comes from venture capitalists, angel investors, industry partners, and government tax incentives or grants. Technology clusters enhance the competitive status of a region and help create the conditions that foster economic growth.<sup>57</sup> Beyond core clusters like Silicon Valley and Seattle, cities such as Atlanta and Baltimore are emerging as areas that can foster and support innovation.<sup>58</sup> Likewise, 2015 and 2016 GAFC winner 406 Labs is developing local startups based on the technologies that are "already thriving" in Bozeman, Montana: biotechnology, outdoor technology, photonics, and SaaS (software as a service).<sup>59</sup>

**Makerspaces**, sometimes called hackerspaces, tinker spaces, or innovation labs, are collaborative work areas that are typically located inside schools, libraries, or other public-private facilities. They are open to both children and adults and host a variety of equipment that ranges from almost no technology to high technology. In these spaces, for example, customers can develop skills in the fields of electronics, 3D-printing/modeling, coding, or robotics. These

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<sup>55</sup> Dempwolf, Auer, and D'Ippolito, "Innovation Accelerators," 21.

<sup>56</sup> Dempwolf, Auer, and D'Ippolito, "Innovation Accelerators," 21, 22.

<sup>57</sup> Roger H. Grace, "Technology Clusters and Their Role in the Development of the Micro and Nanosystems Industry" (presentation given at the 3<sup>rd</sup> Ibero American MEMS Conference, Puebla, Mexico, October 1–4, 2006), slide 5, <https://www.slideshare.net/rogergrace/the-role-of-technology-clusters-in-the-successful-commercialization-of-mems>.

<sup>58</sup> Jones Lang LaSalle, *High-Technology Office Outlook: United States; 2013* (Chicago: Jones Lang LaSalle, 2013), 16, 21, [http://www.clustermapping.us/sites/default/files/files/resource/United\\_States\\_High-technology\\_Office\\_Outlook\\_2013.pdf](http://www.clustermapping.us/sites/default/files/files/resource/United_States_High-technology_Office_Outlook_2013.pdf).

<sup>59</sup> Montana State University, "406 Labs Business Accelerator," accessed September 14, 2017, <http://www.montana.edu/launchpad/406labs.html>.

spaces also foster entrepreneurship and are sometimes used as incubators or accelerators for business startups.<sup>60</sup>

An example of such a space is the 2016 GAFC winner Urban Workshop. With over 18,000 square feet of space, it is the third-largest DIY workshop and makerspace in North America.<sup>61</sup> Its mission is to provide small businesses, students, and hobbyists with work space, engineering and manufacturing tools, education, and enthusiastic support to help them increase their chances of success.<sup>62</sup> Classes are open to members and non-members, but membership provides full access to the space, including the use of tools and equipment and opportunities to store projects that are in progress.<sup>63</sup> Most members of the workshop use the space to manufacture products for resale on a small to very large scale.<sup>64</sup>

Although Urban Workshop does not provide seed funding, it does provide its members with high-growth, tech-driven startup mentorship and commercialization assistance; introductions to customers, partners, suppliers, advisory boards, and others; and opportunities to pitch ideas and startups to investors. Startups associated with Urban Workshop operate in the fields of education, energy, healthcare/medical, information technology (IT), manufacturing, and non-IT technology and science.<sup>65</sup>

## FEDERAL SMALL BUSINESS STARTUP SUPPORT PROGRAMS

Multiple federal agencies, either singly or jointly with other organizations, have long implemented programs to help spur technological development and support small businesses. Most of these programs disburse awards in large amounts to a few beneficiaries to conduct specific work within specific target industries. The GAFC program, on the other hand, awards comparatively small amounts of money to many companies. A few of the federal programs also provide small awards (\$25,000 to \$50,000) but differ from GAFC in that they either exist to support the internal functions of a specific agency, are limited to university-affiliated teams, or target a specific type of product for a specific marketplace, for example, wearable technology for first responders.

### Single Agency Initiatives

#### *U.S. Department of Energy*

The U.S. Department of Energy's **Sunshot Incubator Program** began in 2007, and is aimed at helping shorten the time it takes for a young business to develop an innovative product concept by providing services in product prototyping, deployment, and (potentially) manufacturing. The 12- to 18-month cooperative agreements promote an all-inclusive approach to significantly lower the total installed cost of solar energy systems and put breakthrough innovations

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<sup>60</sup> "What is a Makerspace?," Makerspaces.com, accessed August 11, 2017, <https://www.makerspaces.com/what-is-a-makerspace/>.

<sup>61</sup> Urban Workshop, "Homepage," accessed August 24, 2017, <http://urbanworkshop.net/>.

<sup>62</sup> FRD, "Survey of 2014• 16 GAFC Winners."

<sup>63</sup> Urban Workshop, "Homepage."

<sup>64</sup> FRD, "Survey of 2014• 16 GAFC Winners."

<sup>65</sup> Urban Workshop, "Homepage."

"through a rigorous de-risking process." Such early-stage assistance "enables startup businesses to cross critical technological barriers that the investment community is unable to address." Once key risks are addressed, the startups are ideally suited for private follow-on funding and success. Between 2007 and 2015, the program awarded \$138 million in funds to more than 100 startups, which resulted in \$3.1 billion in venture capital and private equity investment. Startups received \$22 in private-sector support for every \$1 of federal support. The funding for nine incubator rounds ranged from \$7 million to \$27 million, and in 2015, the program provided two rounds of technology-to-market funding totaling \$30 million and \$45 million. Between 2007 and 2016, the Sunshot Incubator Program assisted 138 companies.<sup>66</sup>

### ***U.S. Department of Health and Human Services***

The **Ignite Accelerator**, managed by the U.S. Department of Health and Human Services (HHS), is an internal innovation startup program run out of the department's IDEA Lab for staff who want to improve the way their program, office, or agency works. The accelerator-style program supports the exploration and testing of ideas to help modernize the government and improve HHS's ability to carry out its mission. The three-month program "provides HHS staff [with] a startup environment to test new ideas" (i.e., funding, methodological coaching, and technical guidance within a fast-paced entrepreneurial framework). Through the course of the program, teams validate their ideas through a series of tests, which are followed by the opportunity to pitch those ideas to the department's senior leadership. Each team is responsible for securing additional funding and support for the next phases of their project. The Ignite Accelerator provided 13 teams with up to \$10,000 of funding for the program during its "beta" year in 2013. The accelerator is now in its sixth round, having selected 13 teams from a pool of 108 applicants. Overall, the accelerator has worked with 84 teams, with the cohorts typically comprising 11 or 13 teams. The spring 2016 cohort was the largest with 23 teams.<sup>67</sup>

### ***U.S. Department of Homeland Security***

The U.S. Department of Homeland Security's (DHS's) **EMERGE Accelerator** is a partnership between the agency's Science and Technology Directorate (S&T); the nonprofit Center for Innovative Technology in Herndon, Virginia; and the TechNexus venture collaborative in Chicago, Illinois. Its purpose is to find early-stage companies with next-generation, wearable technology that can be adapted for use by first responders. According to DHS, this technology may be a \$1 trillion commercial market over the coming years and is a market seeing significant investment and innovation. The accelerator model helps DHS leverage this commercial activity to get cutting-edge technology into the field faster at a significantly lower cost to the government. The program has no provision for the government to buy products as part of EMERGE. Moreover, products coming out of EMERGE likely require additional development, testing, and validation. For the pilot year in 2015, S&T selected 20 startups and second-stage companies from among 100 applicants. Following the successful pilot, it selected 10 startups

<sup>66</sup> U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, "SunShot Incubator Program," accessed August 11, 2017, <https://energy.gov/eere/sunshot/sunshot-incubator-program>.

<sup>67</sup> U.S. Department of Health and Human Services (HHS), Office of the Chief Technology Officer, "Ignite Accelerator," accessed August 11, 2017, <https://www.hhs.gov/idealab/ignite-accelerator/>.

representing five states and Canada to participate in the accelerator in 2016. To find these businesses, DHS evaluated 260 startups and worked with over 200 accelerators, incubators, and university partners across 149 cities.<sup>68</sup>

### ***U.S. Small Business Administration***

The U.S. Small Business Administration's (SBA's) **Growth Accelerator Fund Competition** (GAFC) supports the United States' most innovative and promising small business support organizations by providing award winners with additional resource capital, enabling them to better "stimulate the growth and development of startups from within the entrepreneurial communities they serve." The competition is open to "accelerators, incubators, co-working startup communities, shared tinker communities, and other models." Awardees must demonstrate most, if not all, of the following elements of their operations in order to be eligible for a GAFC award:

- A selective process to choose participating startups;
- Regular networking opportunities;
- Introductions to customers, partner suppliers, advisory boards, and other players;
- High-growth and tech-driven startup mentorship and commercialization assistance;
- Shared working environments focused on building a strong startup community;
- Resource-sharing and co-working arrangements for startups;
- Opportunities to pitch ideas and startups to investors and other capital formation avenues;
- Small amounts of angel money, seed capital, or structured loans; and
- Service to underserved communities such as women, veterans, and economically disadvantaged individuals.<sup>69</sup>

The GAFC program has been operational since 2014 and has awarded 223 grants of \$50,000 to 187 different companies for a total of \$10.3 million. Recipients have represented 45 states; Washington, DC; and Puerto Rico.

The SBA also oversees the **Small Business Innovation Research/Small Business Technology Transfer (SBIR/STTR) Programs**, nicknamed "America's Seed Fund." Currently the programs set aside \$2.2 billion annually to finance cutting-edge technology developed by small businesses. Various government agencies that are involved in research and development (R&D), and have extramural budgets of at least \$100 million, implement the programs. The SBIR Program became a government-wide initiative in 1982. To date, it has resulted in 70,000 patents filed, 700 companies created, and \$41 billion in venture capital investments made.<sup>70</sup>

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<sup>68</sup> U.S. Department of Homeland Security, Science and Technology Directorate, "EMERGE Accelerator Program," accessed August 11, 2017, <https://www.dhs.gov/science-and-technology/accelerator>.

<sup>69</sup> Announcement of Growth Accelerator Fund Competition, 81 Fed. Reg. 26,861 (May 4, 2016).

<sup>70</sup> SBA, Small Business Innovation Research Program, "Birth & History of the SBIR Program," accessed August 11, 2017, <https://www.sbir.gov/birth-and-history-of-the-sbir-program>.

The SBIR Program is a highly competitive effort that helps small businesses become involved in federal R&D. The government's purpose in establishing the program was in response to the fact that, while the entrepreneurial sector is where innovation thrives, "the risk and expense of conducting serious R&D efforts are often beyond the means of many small businesses." Eleven federal agencies implement the SBIR Program:

- U.S. Department of Agriculture,
- U.S. Department of Commerce's National Institute of Standards and Technology and National Oceanographic and Atmospheric Administration,
- U.S. Department of Defense,
- U.S. Department of Education,
- U.S. Department of Energy,
- U.S. Department of Health and Human Services,
- U.S. Department of Homeland Security,
- U.S. Department of Transportation,
- U.S. Environmental Protection Agency,
- National Aeronautics and Space Administration, and
- National Science Foundation.

The program operates in three phases:

- Phase I provides up to \$150,000 per recipient for a six-month period to establish the technical merit, feasibility, and commercial potential of the proposed R&D. Since 1983, the program has awarded 23,024 Phase I grants.
- Phase II provides up to \$1 million per recipient for a two-year period to continue the work of Phase I. Funding is based on the results achieved in Phase I and the scientific or technical merit and commercial potential of the project. More than 12,082 Phase II grants have been awarded.
- Phase III focuses on the commercialization of the technology. This phase is not funded by the SBA, but some agencies (such as the National Institutes of Health, the National Aeronautics and Space Administration, and the U.S. Department of Defense) include follow-on, non-SBIR funding or contracts for products, processes, or services that are intended for use by the federal government.<sup>71</sup>

The STTR Program expands these R&D funding opportunities and promotes public-private partnerships through joint venture opportunities for small businesses and nonprofit research institutions. Like the SBIR Program, it is structured in three phases, but the funding amounts and time periods differ slightly. The program's unique feature is that it requires small businesses to collaborate with research institutions in Phases I and II. Its goals are to stimulate technological innovation, foster technology transfer through cooperative R&D, and increase private-sector commercialization of innovations derived from federal R&D. Five agencies participate in this program: the U.S. Departments of Defense, Energy, and Health and Human Services; the National Aeronautics and Space Administration; and the National Science Foundation.<sup>72</sup>

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<sup>71</sup> SBA, Small Business Innovation Research Program, "About SBIR," accessed August 11, 2017, <https://www.sbir.gov/about/about-sbir>.

<sup>72</sup> SBA, Small Business Technology Transfer Program, "About STTR," accessed August 11, 2017, <https://www.sbir.gov/about/about-sttr>.

The SBA's **Small Business Development Centers** (SBDCs) program provides management assistance to current and prospective small business owners. Currently, at least one lead SBDC is located in every state, as well as Washington, DC; American Samoa; Guam; Puerto Rico; and the U.S. Virgin Islands. There are 63 lead offices, with two states having more than one: Texas has four lead offices and California has six. The lead offices coordinate program services through subcenters and satellite locations, of which there are more than 900 located at colleges, universities, vocational schools, chambers of commerce, and economic development corporations. The SBDCs provide entrepreneurs with access to consultants in the private sector for up-to-date counseling, training, and technical assistance. The centers are equipped to assist small businesses with financial matters, marketing, production, organization, and engineering and technical problems, as well as feasibility studies. Special programs include international trade assistance, procurement assistance, venture capital formation, and rural development. The SBDCs make a special effort "to reach minority members of socially and economically disadvantaged groups, veterans, women, and the disabled." The SBA provides up to half of each state's SBDC operating funds. The remaining funds come from a variety of sources including state legislatures, private-sector foundations and grants, state and local chambers of commerce, state-chartered economic development corporations, public and private universities, vocational and technical schools, community colleges, and others.<sup>73</sup>

Requiring special accreditation, **Small Business and Technology Development Centers** (SBTDCs) also provide business advisory services such as management counseling to small and medium-sized businesses. Establishing and maintaining offices on college campuses has allowed SBTDCs to leverage those resources and facilities.<sup>74</sup> The centers do not provide grants or loans, but they do specialize in helping businesses identify and prepare for bank loans; federal, state, and local government contracts; federal R&D funding; equity capital investment; and international export financing.<sup>75</sup>

### *National Institutes of Health*

The National Institutes of Health's (NIH's) National Heart, Lung, and Blood Institute started the **NIH Centers for Accelerated Innovations** (NCAI) in 2013, and also administer the trans-NIH **Research Evaluation and Commercialization Hubs** (REACH), which were authorized in 2011. The NCAI and REACH accelerate the transition of scientific discovery into commercial products that improve patients' health. To do this, a nationwide network of six centers and hubs develops best practices for commercializing academic innovations into new drugs, devices, and diagnostics based on public-private partnerships and expertise and resources from the federal government, academia, and private sector. The NCAI created three centers in Massachusetts, Ohio, and California, merging the strengths of 14 high-impact research institutions. With an initial investment of \$9 million that was matched by university resources, the REACH program

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<sup>73</sup> SBA, Office of Small Business Development Centers, "About Office of Small Business Development Centers," accessed August 11, 2017, <https://www.sba.gov/offices/headquarters/osbdc/about-us>.

<sup>74</sup> North Carolina Small Business and Technology Development Center, "About Us," accessed August 24, 2017, <http://www.sbtcdc.org/about-us/>.

<sup>75</sup> North Carolina Small Business and Technology Development Center, "How We Can Help You Make Your Business Better," accessed August 24, 2017, <http://www.sbtcdc.org/about-us/how-we-help-nc-businesses/>.

added three hubs in New York, Kentucky, and Minnesota to the network in 2015 and began funding “promising product development projects” in 2016. The formation of this network created upstream considerations of commercial and business issues and industry-style project management with go/no-go milestones. The end result is de-risked technologies, with well-designed business cases, that are primed for licensing or startup company formation. Of the approximately 400 projects that had been evaluated as of April 2017, REACH had identified more than 60 experimental treatments and tests targeting a range of health issues.<sup>76</sup>

The NIH's **I-Corps** program, which was modeled after the National Science Foundation's Innovation Corps, first hosted a pilot cohort of 19 three-member teams in 2014 to support entrepreneurial training, mentorship, and collaboration opportunities along three tracks: therapeutics, diagnostics, and medical devices.<sup>77</sup> It has since expanded across 17 institutes and centers run by the NIH and HHS's Centers for Disease Control and Prevention. The program's purpose is to accelerate the translation of innovations from the lab to clinical practice, using a curriculum “designed to provide scientists from NIH SBIR-funded companies with real-world, hands-on entrepreneurship training, facilitated by domain experts from the biotech sector.” Awardees each receive \$55,000 in grant funding to work on the development and commercialization of new products and services “arising from projects supported by currently funded NIH or Centers for Disease Control . . . SBIR/STTR [Small Business Technology Transfer] awards.”<sup>78</sup> The training program consists of a three-day “entrepreneurial immersion” course, an eight-week online training curriculum, and a two-day, in-person “report out” session.<sup>79</sup>

### ***National Science Foundation***

The National Science Foundation's (NSF's) university-based **Partnerships for Innovation** program offers “opportunities to connect new knowledge to societal benefit through translational research efforts and/or partnerships that encourage, enhance, and accelerate innovation and entrepreneurship.” The program serves as an early opportunity to move previously NSF-funded research results with promising potential along the path toward commercialization. It supports projects that demonstrate proof of concept, prototype, or scale-up while engaging faculty and students in entrepreneurial and innovative thinking. The program encapsulates two subprograms: Accelerating Innovation Research–Technology Translation (AIR–TT) and Building Innovation Capacity (BIC).<sup>80</sup>

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<sup>76</sup> HHS, National Institutes of Health, National Heart, Lung, and Blood Institute, Centers for Accelerated Innovations and Research Evaluation and Commercialization Hubs, “About NCAI and REACH,” accessed August 11, 2017, <https://ncai.nhlbi.nih.gov/ncai/aboutncai/mission>; Paula J. Bates et al., “NIH Program Strives to Turn More Lab Discoveries into Real-World Treatments,” *STAT*, April 17, 2017, <https://www.statnews.com/2017/04/17/nih-reach-biomedicine-treatments/>.

<sup>77</sup> HHS, National Institutes of Health, National Cancer Institute, SBIC Development Center, “I-Corps™ at NIH for Small Businesses,” November 12, 2015, 11, [https://grants.nih.gov/grants/webinar\\_docs/2015-11-12-ICorps\\_Webinar02-PC\\_no\\_vids.pdf](https://grants.nih.gov/grants/webinar_docs/2015-11-12-ICorps_Webinar02-PC_no_vids.pdf).

<sup>78</sup> HHS, National Institutes of Health, National Cancer Institute, SBIC Development Center, “2017 I-Corps at NIH FOA: PA-16-414,” last updated January 6, 2017, <https://sbir.cancer.gov/programseducation/icorps>.

<sup>79</sup> HHS, National Institutes of Health, National Cancer Institute, SBIC Development Center, “2017 I-Corps”; HHS, National Institutes of Health, National Cancer Institute, SBIC Development Center, “I-Corps at NIH,” accessed August 11, 2017, <https://sbir.cancer.gov/sites/default/files/ICorpsNIH2016.pdf>.

<sup>80</sup> NSF, “Partnerships for Innovation: Accelerating Innovation Research–Technology Translation,” accessed August 11, 2017, [https://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=504790](https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=504790).

To qualify for an 18-month, \$200,000 award in the AIR–TT subprogram, a university-based researcher's proposed proof of concept or prototype must be derived from the research results or discoveries from a prior NSF award. Overall, the work "should advance the team's technical knowledge along with their understanding of commercialization issues so that the project will be ready for the next step toward successful translation at the end of the AIR–TT award." Of the 130 projects currently underway across 36 states, Massachusetts, Michigan, Ohio, Pennsylvania, and Texas received the highest number of awards at seven or more each.<sup>81</sup>

In 2016, the NSF invested \$13 million in the BIC subprogram. Thirteen smart-service-system efforts each received \$1 million for three-year projects in eight service application areas: advanced manufacturing, intelligent spaces/ambient intelligence, smart emergency warning systems, smart energy services, smart environmental services, smart health services, smart transportation, and smart water reclamation systems. BIC's nongovernmental partners include academia and members of the private sector, such as AVANGRID, IBM Research, Microsoft Research, and SolarCity. Examples of projects addressing challenges in advanced manufacturing include two focused on the maker movement: one seeks to integrate state-of-the-art, 3D, mixed and augmented reality technology with the cloud, and the other seeks to manufacture a service system that would allow the public to manufacture complex designs during machines' idle time at a factory. A third project "will research novel methods to improve human-robot workflow and productivity in assembly manufacturing."<sup>82</sup>

The NSF's **Innovation Corps** program provides entrepreneurship training for NSF-funded scientists and engineers by pairing them with business mentors during an intensive curriculum. The curriculum focuses on discovering a truly demand-driven path from lab work to a marketable product in the health sector. Selected university-affiliated teams receive \$50,000 for the six-month program, with the expectation that they will be able to make a "clear go or no go decision regarding [the] viability of products and services," create a transition plan for projects moving forward, and carry out a technology demonstration for potential partners.<sup>83</sup> Over 800 teams have completed the program since 2011, resulting in the creation of more than 320 companies. Those companies have collectively raised more than \$83 million in funding from outside sources since completing the program.<sup>84</sup>

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<sup>81</sup> NSF, "Partnerships for Innovation: Accelerating Innovation Research–Technology Transfer," accessed August 11, 2007, <https://www.nsf.gov/eng/iip/pfi/air-tt.jsp>.

<sup>82</sup> NSF, "NSF Invests \$13 Million in Smart, Human-Centered Service Systems," November 9, 2016, [https://www.nsf.gov/news/news\\_summ.jsp?cntn\\_id=189628&org=IIP&from=news](https://www.nsf.gov/news/news_summ.jsp?cntn_id=189628&org=IIP&from=news).

<sup>83</sup> NSF, Innovation Corps, "Factsheet: I-Corps™ Teams," accessed August 11, 2017, [https://www.nsf.gov/news/special\\_reports/i-corps/pdf/factsheet\\_teams.pdf](https://www.nsf.gov/news/special_reports/i-corps/pdf/factsheet_teams.pdf); NSF, "Innovation Corps–National Innovation Network Teams Program," accessed August 11, 2017, [https://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=504672](https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=504672).

<sup>84</sup> Barack Obama, "Fact Sheet: President Obama Announces New Commitments from Investors, Companies, Universities, and Cities to Advance Inclusive Entrepreneurship at First-Ever White House Demo Day," in *American Presidency Project* (digital archive), eds. Gerhard Peters and John T. Woolley, August 4, 2015, <http://www.presidency.ucsb.edu/ws/index.php?pid=120100>; NSF, "NSF Fosters Entrepreneurship, Innovation Through New Awards for I-Corps Nodes," September 27, 2016, [https://www.nsf.gov/news/news\\_summ.jsp?cntn\\_id=189600](https://www.nsf.gov/news/news_summ.jsp?cntn_id=189600).



## Multi-Agency Initiatives

The **Advanced Manufacturing Jobs and Innovation Accelerator Challenge** (AMJIAC) is a multi-agency partnership connecting innovations from National Science Foundation-supported research with stakeholders who can accelerate technology commercialization and economic growth. The participating agencies are the National Science Foundation, the U.S. Small Business Administration, the U.S. Department of Labor's Employment and Training Administration, the U.S. Department of Energy, and the U.S. Department of Commerce's Economic Development Administration and National Institute of Standards and Technology. The purpose of the challenge is to promote cluster-based development in regions across the United States by assisting the creation and implementation of regionally driven economic development strategies. Such strategies will support advanced manufacturing, which in turn should create jobs, grow the economy, and enhance the competitiveness of U.S. manufacturing in the global marketplace.<sup>85</sup> Following a competitive grant process in 2012, AMJIAC selected 10 regions to receive awards of about \$2 million each, for a total of \$20 million. These regions are located in Arizona, California, Michigan, New York (two regions), Oklahoma, Pennsylvania (two regions), Tennessee, and Washington and Oregon, which share a region. Grantees, which vary greatly from region to region but comprise combinations of academia, chambers of commerce, and economic development councils, used the funding to conduct worker training programs or to connect manufacturers to resources such as national labs or universities. Despite a complex structure, the grants allow flexibility for regions "to determine the best way to grow their target clusters and support small and medium-sized manufacturers."<sup>86</sup>

The **i6 Challenge**, which was first authorized and funded in 2014, is a leading national initiative designed to support the creation of programs that provide assistance to innovators and entrepreneurs. The awards are intended to foster the commercialization of innovations, ideas, intellectual properties, and research.<sup>87</sup> Funding for the challenge comes from multiple agencies: the U.S. Department of Commerce's Economic Development Administration (as part of the Regional Innovation Strategies Program) and National Institute of Standards and Technology, the National Science Foundation (via Small Business Innovation Research [SBIR] Program funding), and the U.S. Patent and Trademark Office. The challenge is four-pronged—rewarding innovation, entrepreneurship, regional economic development, and commercialization. In 2010, \$1 million was awarded to six teams. By 2016, the program had grown to 27 entities, which included incubators, accelerators, and proof of concept centers, receiving investments of about \$500,000 each.<sup>88</sup>

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<sup>85</sup> National Science Foundation (NSF), "Obama Administration Launches \$26 Million Multi-Agency Competition to Strengthen Advanced Manufacturing Clusters Across the Nation," May 29, 2012, [https://www.nsf.gov/news/news\\_summ.jsp?cntn\\_id=124330](https://www.nsf.gov/news/news_summ.jsp?cntn_id=124330).

<sup>86</sup> Heidi Sheppard, *The Advanced Manufacturing Jobs and Innovation Accelerator Challenge (AMJIAC): MID-PROJECT REVIEW* (Washington, DC: U.S. Department of Commerce, National Institute of Standards and Technology, Manufacturing Extension Partnership, 2014), 2–3, 17, <https://www.nist.gov/sites/default/files/documents/mep/AMJIAC-Report-final0520.pdf>.

<sup>87</sup> U.S. Department of Commerce, Economic Development Administration, "Frequently Asked Questions for the Regional Innovation Strategies Program," June 6, 2016, 3, <https://www.eda.gov/archives/2016/oie/files/ris/2016-RIS-FAQ.pdf>.

<sup>88</sup> U.S. Department of Commerce, "U.S. Department of Commerce Invests \$15 Million in Entrepreneurs Across the Nation to Move Ideas to Market, Promote American Innovation," November 15, 2016, <https://www.commerce.gov/>

## State and Local Entrepreneurial Support

Early evidence suggests that accelerators may have a significant impact on local startup communities as they help attract seed and early-stage financing, which, in turn, are expected to bring additional benefits to the regional economy.<sup>89</sup> Research has shown that attracting venture capital to a region has a positive impact on employment growth and entrepreneurship more broadly. An increase in finance activity following the arrival of an accelerator leads to new growth in local, regional investment groups. Accelerators also can serve as catalysts, bringing together forces to create an entrepreneurial environment where one did not exist previously.<sup>90</sup>

In light of many local governments adopting the accelerator model, Massachusetts Institute of Technology economist Daniel C. Fehder and Rice University professor Yael Hochberg published in 2015 their findings from a study that measured the impact of such programs on local entrepreneurial ecosystems. The researchers focused on the availability and provision of seed and early-stage venture capital financing for startups and found that the presence of an accelerator led to a shift in the general equilibrium of funding activity. Their findings revealed that the arrival of an accelerator was associated with a 104 percent annual increase in the number of seed and early-stage venture capital deals, a 289 percent increase in the amount of seed and early-stage funding provided in the region, and a 97 percent increase in the number of distinct investors investing in the region. Fehder and Hochberg were able to tie the increases to the presence of nearby investment groups. Regions with previously existing formal angel groups experienced a larger impact than regions without such groups, meaning that startup accelerators are complementary to existing institutions in a region's innovation ecosystem.<sup>91</sup>

The regions with the most concentrated levels of accelerator and incubator activity are located in California and New York. Additionally, Florida, Illinois, Massachusetts, Missouri, Ohio, Pennsylvania, and Texas have significant accelerator activity. Together, these nine states represent nearly three-quarters of the accelerator activity in the United States.<sup>92</sup> At the city level, San Francisco–Silicon Valley, Boston–Cambridge, and New York City continue to be prime technology hubs, accounting for 40 percent of all accelerators in the United States and nearly two-thirds of accelerator-funded deals between 2005 and 2015. However, a good amount of activity is now occurring outside of those areas: 54 metropolitan statistical areas and four non-metropolitan areas across 35 states and Washington, DC, have accelerator programs. Some cities, including Chattanooga and Nashville, Tennessee; Cincinnati, Ohio; Milwaukee, Wisconsin; and Honolulu, Hawaii have more than two accelerators.<sup>93</sup> Today, “upwards of 650 accelerators” have been founded in the United States, some of which are funded privately while others receive backing from governments, corporations, or universities.<sup>94</sup>

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news/press-releases/2016/11/us-department-commerce-invests-15-million-entrepreneurs-across-nation; Nish Acharya, “2013 i6 Challenge: Seeding Regional Innovation Ecosystems,” 3, 8, accessed August 11, 2017, [http://sites.nationalacademies.org/cs/groups/pgasite/documents/webpage/pga\\_081019.pdf](http://sites.nationalacademies.org/cs/groups/pgasite/documents/webpage/pga_081019.pdf).

<sup>89</sup> Hathaway, “Accelerating Growth.”

<sup>90</sup> Fehder and Hochberg, “Accelerators and the Regional Supply of Venture Capital Investment,” 4, 25, 29.

<sup>91</sup> Fehder and Hochberg, “Accelerators and the Regional Supply of Venture Capital Investment,” 2–3.

<sup>92</sup> CTC, *California Tool Works*, 21.

<sup>93</sup> Hathaway, “Accelerating Growth.”

<sup>94</sup> Hallen, Bingham, and Cohen, “Do Accelerators Accelerate?,” 6.

## California's Experience with Entrepreneurial Support

California likely has the largest population of incubators and accelerators in the United States. Although finding reliable data has been problematic, research results from Signals Analytics (formerly the Signals Intelligence Group) indicate that as of May 2016, California hosted 148 incubators and accelerators.<sup>95</sup> The programs are hosted by a mixture of private, corporate, and university organizations. In addition to 24 incubators and accelerators that are located at University of California campuses, the website AcceleratorInfo.com lists Chapman and Stanford universities as having similar entrepreneurial support efforts. Although an incomplete list with only 39 accelerators, AcceleratorInfo does provide an idea of the geographic distribution of the programs within the state. For example, most of California's accelerators appear to be located in San Francisco and Los Angeles, but Berkeley, Burlingame/San Mateo, Menlo Park, Mountain View, Orange County, Palo Alto, Redwood City, San Jose, and Santa Clara each host one or two.<sup>96</sup>

### Profile: Supporting Cleantech for the Local Economy

The Los Angeles Cleantech Incubator (LACI), a 2015 and 2016 GAFC winner, aims to "build an ecosystem that supports innovation in sustainable technologies, de-risks the commercialization process, and helps companies deliver market-ready cleantech solutions while fostering the creation of well-paying jobs and support services." It is a private nonprofit organization founded in 2011 as a "cluster-driven economic development initiative supported by the City of Los Angeles, the Los Angeles Department of Water & Power, and the Community Redevelopment Agency of Los Angeles." LACI's startups operate in agriculture, education, energy, information technology (IT), manufacturing, and non-IT technology/science.

LACI is led by a racial minority, a veteran, and a woman, and it has used GAFC funds to support a number of diversity programs, including a steering committee on women in cleantech and a diversity and inclusion advisory council. Similarly, its startups are led/owned by racial minorities, veterans, women, and those who have limited access to capital from traditional sources or are located in or serving an economically disadvantaged area. LACI is a strong believer in diversity: "Diversity is not solely a social issue. It is also the key to the robust and enduring technological innovation needed to overcome the global resource and ecological dilemma[s] that face the world today." It has been recognized by UBI Global, a Sweden-based data and advisory firm specializing in mapping and highlighting the world of business incubation, as "one of the most innovative business incubators in the world." It has helped 67 companies raise \$135 million in funding, created 1,500 jobs, and delivered more than \$335 million in long-term economic value for the city of Los Angeles.

*Source:* FRD, "Survey of 2014• 16 GAFC Winners"; LACI, "Homepage," accessed September 28, 2017, <http://lincubator.org>; "First Impact Report on Economic, Environmental and Social Performance of Clean Technology Companies Released by Los Angeles Cleantech Incubator," Bsuinesswire.com, July 12, 2017, <http://www.businesswire.com/news/home/20170712005997/en/Impact-Report-Economic-Environmental-Social-Performance-Clean>.

<sup>95</sup> CTC, *California Tool Works*, 22.

<sup>96</sup> "California Accelerators/California Universities," AcceleratorInfo.com, accessed September 20, 2017, <http://www.acceleratorinfo.com/california.html>.

California has been at the forefront of accelerator activity since the advent of the phenomenon. Over the past decade and a half, a few interesting trends have emerged. As investment levels have grown in other parts of the country, venture investments in California's incubators and accelerators have remained consistent at the multi-billion dollar level since 2012. Despite the apparent plateau, these investments have a powerful impact beyond the state's economy. For example, portfolio companies from the top 44 accelerator programs in California have raised nearly \$17 billion since 2004. The spending that results from these investments is not limited to California or even the United States: some companies have expanded to other U.S. markets and some have expanded globally.<sup>97</sup>

Despite these investment levels remaining high, a couple of trends suggest that California may be reaching the point of accelerator saturation in some areas. For example, the investment activity via incubators and accelerators in life sciences is not keeping pace with other emerging industries, despite being a leader of that sector for the past five years. The development of accelerators with specific corporate affiliations has increased rapidly, with new players moving beyond traditional technology and innovation to represent nearly every industry, including automotive giants, retailers, food, and advanced materials. Practitioners are beginning to question the durability of these programs, however, as accelerators affiliated with high-profile companies like Coca Cola, Time Warner, Nike, and Citrix have all folded within the past three years.<sup>98</sup>

The California Governor's Office of Business and Economic Development is the state's portal for economic development and job creation efforts. To aid these efforts, the office established 16 so-called iHubs, which are intended to stimulate partnerships, economic development, and job creation around specific research clusters. The assets leveraged by these iHubs include research parks, technology incubators, universities, and federal laboratories, which together create an innovative platform for startups, economic development organizations, business groups, and venture capitalists.<sup>99</sup> For example, California's state-wide university system includes incubators and accelerators with resources for fostering the growth of startup companies and early-stage technology research that originate within the system. The 24 listed incubators and accelerators help speed up the transfer of innovative ideas to the development and commercialization stages by providing any combination of free or affordable workspace; access to equipment; mentor support via campus entrepreneurs or entrepreneurs from outside the university system, as well as through faculty and alumni; and funding.<sup>100</sup>

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<sup>97</sup> CTC, *California Tool Works*, 52, 44.

<sup>98</sup> CTC, *California Tool Works*, 35, 49.

<sup>99</sup> University of California, Office of the President, "Innovation Services: Governor's Office of Business and Economic Development (GO-Biz)," accessed September 20, 2017, <http://ucop.edu/innovation-alliances-services/innovation/innovation-alliances/governors-office-of-business-and-economic-development-go-biz.html>; California Business Portal, "Entrepreneurship: Entrepreneurship Support," accessed September 20, 2017, <http://www.businessportal.ca.gov/Business-Assistance/Start-a-Business/Entrepreneurship/std/217818>.

<sup>100</sup> University of California, Office of the President, "Innovation Services: Campus Incubators and Accelerators," accessed September 20, 2017, <http://ucop.edu/innovation-alliances-services/innovation/innovation-alliances/campus-incubators--accelerators.html>.

### Profile: Supporting Women Startups in STEM

Three-time GAFC winner mystartupxx (MSXX) is a university-based accelerator focusing on women in STEM—providing them with mentorship, education, and avenues toward funding. MSXX's ultimate goal is to increase and encourage diversity in entrepreneurship. It is housed within the Rady School of Management at the University of California, San Diego, and claims to be "the only accelerator that focuses on females and STEM while they are still at universities." The MSXX program involves building teams, assessing markets, creating value propositions, validating business models, understanding the financing strategies needed to launch a business, and working with mentors and advisors who provide guidance and encouragement. As part of a university, MSXX can't provide funding to startups but it does help connect its students with potential investors to get their feet in the door.

MSXX reports that venture capital (VC) funding is "a huge challenge for women because only approximately four percent of [venture capitalists] are female, and only three percent of VC funded companies have a female CEO." MSXX also states that "mentorship and networking are challenges for women because of the small pool of successful entrepreneurs who have started and run a tech-based company." The MSXX program has developed an ever-growing, diverse community of founders to support and network with one another. The accelerator has supported 26 female-led startups, which have raised more than \$8 million in funding. Since its creation in 2012, the program has grown exponentially, a factor that MSXX cofounder Lada Rasochova attributes to the GAFC program. She considers GAFC "one of the best programs we have experienced. It put us on the map and led to us raising funds from the state."

*Success Story:* One MSXX student, Rady alum Ashley Van Zeeland, launched the life sciences startup Cypher Genomics in the accelerator and later developed it into a very successful business. Last year, the company was acquired by the biotechnology firm Human Longevity, where Van Zeeland is currently the chief technology officer.

*Source:* FRD, "Survey of 2014• 16 GAFC Winners"; mystartupxx, "Homepage," accessed September 28, 2017, <http://rady.ucsd.edu/centers/ciid/mystartupxx/>; Lada Rasochova, "How We Won \$50,000 in SBA Growth Accelerator Fund Contest," xconomy.com, September 12, 2016, <http://www.xconomy.com/san-diego/2016/09/12/how-we-won-50000-award-in-sba-growth-accelerator-fund-contest/#>.

## New York's Experience with Entrepreneurial Support

New York State and New York City support a number of accelerator programs and similar business support initiatives, making "New York's booming tech scene . . . a strong second to Silicon Valley and [it is] getting stronger." While the exact number of accelerators in New York is unknown, in 2015, the number of incubators in the state was reportedly 282, which represented a 40 percent increase over the prior three years.<sup>101</sup> Currently, the programs range from university-affiliated incubators to government-supported accelerators focused on specific industries to regional initiatives intended to help support and grow the economic ecosystems of specific areas.

<sup>101</sup> Sage Lazzaro, John Bonazzo, and Brady Dale, "Startup U: NYC's Booming University Incubator Scene is Driving Innovation," *New York Observer*, November 11, 2015, <http://observer.com/2015/11/startup-u-nycs-booming-university-incubator-scene-is-driving-innovation/>.

### **Profile: A Social Enterprise Creating Tech Jobs as a Pathway Out of Poverty**

C4Q (Coalition for Queens) is 2014, 2015, and 2016 GAFC winner located in Long Island City, New York, that is helping to develop Queens into a leading hub for innovation and entrepreneurship. It teaches adults living in poverty and without college degrees to code, helps them gain software engineering jobs, and supports them to become entrepreneurs. In under a year, C4Q graduates go "from making \$18,000 to over \$85,000 . . . going from poverty to the middle class in the process."

Established in 2011, C4Q provides laptops, a 24/7 learning space, and other resources in a 10-month program for no upfront costs, enabling it to reach the neediest audiences. Instead, all participants commit to paying a percentage of their future earnings back to C4Q upon securing a job in the technology industry. Past participants have gone on to work at companies like Capital One, IBM, and Kickstarter, and are representative of the community with over 50 percent women, 60 percent African American or Hispanic, 50 percent immigrant, and 50 percent without a college education.

According to survey responses, "C4Q wants to take New Yorkers from public housing to public offering, supporting them as they enter the tech workforce, gain experience, and launch their own ventures. However, one of the risks in our work is that we focus on populations previously in poverty, many of whom use their incomes to support not only themselves but also other generations of their family, which can make them more risk-adverse to launching their own companies at comparable levels to other software engineers. One of our measures of . . . success is therefore that our graduates go on to start companies at comparable levels, and continue to empower others from their communities to enter tech and build companies as well."

In addition to the GAFC prizes and support from the U.S. Department of Commerce's Economic Development Administration, C4Q has received financial support from investors such as Blackstone, Google for Entrepreneurs, the Robin Hood Foundation, and Verizon Communications.

*Success Story:* One C4Q graduate, who was an immigrant living in public housing, has gone on to found SmartSpot, a fitness tool that was accepted into Y Combinator and has raised \$1.85 million in venture capital.

*Source:* FRD, "Survey of 2014• 16 GAFC Winners"; C4Q, "Homepage," accessed September 29, 2017, <https://www.c4q.nyc/>; Crunchbase, "C4Q (Coalition for Queens)," accessed September 29, 2017, <https://www.crunchbase.com/organization/c4q#/entity>.

New York's university-affiliated incubators include Columbia University's Startup Lab, which opened in 2014 and subsidizes a WeWork space that provides free office space to startups regardless of their financial status for 4–12 months. In addition to the office space, Columbia alumni are available to meet with the founders and organize workshops and networking events. The university does not take an equity stake in the startups, but rather "serves as a way to provide free professional development to entrepreneurs, just as [it does] for aspiring lawyers and journalists." Unlike Columbia, the City University of New York does take an equity stake, 5 percent, in its incubator companies. The equity "is in exchange for connections with advisors, access to contacts with capital, and a stipend that allows students to devote themselves" to their classes as well as their companies. The university currently gives student teams \$2,500 for trading equity when they join the incubator and they are eligible for an additional \$2,500

milestone payment.<sup>102</sup> The New York City Economic Development Corporation, which also supports a number of incubators, wet-lab spaces, and shared workspaces, notes that “over 1,000 startup businesses and 1,500 employees have benefited from city-supported incubators, and [that] these companies have raised more than \$180 million in venture funding.”<sup>103</sup>

As for its accelerator programs, the state supports a variety of efforts. For example, the New York Digital Health Accelerator announced its inaugural class in October 2012. A joint effort of the New York eHealth Collaborative, the Partnership for New York City Fund, and the Statewide Health Information Network of New York, the accelerator’s initial investment of \$4.2 million was expected to create 1,500 jobs over five years and companies graduating from the accelerator were expected to attract \$150–200 million in venture capital investment post-program. The inaugural class comprised eight early- and growth-stage companies developing technology products in care coordination, patient engagement, analytics, and message alert systems for healthcare providers. Each company received \$300,000 and mentoring services for nine months and was required to open an office in the state.<sup>104</sup> In January 2017, the accelerator’s most recent class of six companies presented their products at their demo day. The results of 21 previous participating companies include the launch of 39 pilots with providers, the creation of 160 high-tech jobs in New York, and a total of \$230 million raised post-program.<sup>105</sup>

Another example of a state-supported accelerator is GENIUS NY. Governor Andrew Cuomo announced the Growing ENtreprenuers and Innovators in UpState New York program, also known as GENIUS NY, in June 2015.<sup>106</sup> The accelerator is funded with \$5 million from Empire State Development, “the umbrella organization for New York’s two principal economic development public-benefit corporations,” and other sponsors.<sup>107</sup> The program dedicates \$4 million directly to prizes and covers expenses such as subsidized rent for startups, stipends, speakers, and advisers. The accelerator takes a 6 percent equity stake in the companies, most of which work in the field of unmanned systems, including ground, aerial, and marine systems. The in-residence accelerator operates in two phases. The first phase lasts three months and concludes with all six teams pitching their business cases to a panel of judges. Each team earns a prize ranging from \$250,000 to \$1,000,000. All six teams advance to phase two, which lasts nine months and concludes with a demo day attended by investors and program judges. Follow-on incubation may be offered to some teams, as well as additional funding, with the stipulation that the companies continue to operate in Central New York.<sup>108</sup>

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<sup>102</sup> Lazzaro, Bonazzo and Dale, “Startup U.”

<sup>103</sup> New York City Economic Development Corporation, “Incubators & Workspace Resources,” accessed August 24, 2017, <https://www.nycedc.com/service/incubators-workspace-resources>.

<sup>104</sup> New York Digital Health Accelerator, “New York Digital Health Accelerator Reveals Inaugural Class,” October 15, 2012, <http://digitalhealthaccelerator.com/nydwp14/site/wp-content/uploads/AcceleratorInauguralClass10-15-121.pdf>.

<sup>105</sup> New York eHealth Collaborative, “What’s Next in Health Tech Presented at the New York Digital Health Accelerator Demo Day,” January 24, 2017, <https://www.nyehealth.org/whats-next-health-tech-presented-new-york-digital-health-accelerator-demo-day/>.

<sup>106</sup> “New York Launches Startup Accelerator GENIUS NY,” *Government Technology*, June 19, 2015, <http://www.govtech.com/state/New-York-Launches-Startup-Accelerator-GENIUS-NY.html>.

<sup>107</sup> New York, Empire State Development, “About Empire State Development,” accessed September 15, 2017, <https://esd.ny.gov/about-us/corporate-info>.

<sup>108</sup> GENIUS NY, “Program Details,” accessed August 24, 2017, <http://www.geniusny.com/program-details.html>.

On a larger scale, in 2013, Cuomo announced the launch of the first phase of the Finger Lakes Business Accelerator Cooperative, a joint effort between Empire State Development and the incubator High Tech Rochester, which received \$5 million in funding from the state.<sup>109</sup> As part of the cooperative, RocGrowth.com brings together important resources for small businesses, local startups, and growth-oriented companies in the Rochester/Finger Lakes region of New York. These resources include co-working spaces, connections to funding sources, advisory services, and networking opportunities, as well as more specific resources such as technology transfer services.<sup>110</sup>

#### **Profile: Supporting Women and Minorities in Tech**

2015 GAFC winner Minority Venture Partners Accelerator (MVP) is a nonprofit program that helps women- and minority-owned startups commercialize their digital, social, and mobile innovations. Ultimately, its mission is to “increase and expand minority and women-led tech companies across the tri-state area.” MVP works with the New York Institute of Technology’s School of Management to provide minority tech founders with “access to tech talent, knowledge, mentors, networking, and startup capital in order to successfully bring their product/service to market.” MVP considers itself a hybrid incubator/accelerator that supports the development of new technologies and prototypes and then connects entrepreneurs to industry partners. MVP was cofounded and launched by Vanguard Consulting Group, a venture-in-residence at the institute’s Center for Entrepreneurial Studies. In 2016, D. Bernard Webster, a managing partner at MVP and Vanguard, reported that MVP “is committed to generating funding to invest growth capital into more than 90 companies over the next four years.”

*Source:* FRD, “Survey of 2014• 16 GAFC Winners”; Minority Venture Partners Accelerator, “Homepage,” accessed September 29, 2017, [www.mvpaccelerator.com/](http://www.mvpaccelerator.com/); Carolyn Brown, “New Startup Accelerator Addresses Needs of Minority and Women Entrepreneurs Who Have Limited Access,” *Black Enterprise*, March 3, 2016, <http://www.blackenterprise.com/small-business/new-technology-business-accelerator-addresses-needs-of-minority-and-women-entrepreneurs/>.

## **Ohio’s Experience with Entrepreneurial Support**

Less than 10 years ago, the venture capital community viewed states like Ohio as “fly over” territory, yet now Ohio “is experiencing a vibrant and robust investment climate with national [venture capitalists] directly tied to the . . . statewide network of incubators and accelerators that comprise our entrepreneurial ecosystem,” according to Darrin M. Redus, Sr., vice president of the Cincinnati USA Regional Chamber and executive director of the Minority Business Accelerator.<sup>111</sup> This ecosystem is well supported by state and local actors, including chambers of commerce and state-level regulatory agencies. For example, state law mandates the Ohio Development Services Agency “to produce a publicly available report mapping and reviewing

<sup>109</sup> New York, Office of the Governor, “Governor Cuomo Announces Progress on Business Accelerator Project in the Finger Lakes Region,” November 3, 2013, <https://www.governor.ny.gov/news/governor-cuomo-announces-progress-business-accelerator-project-finger-lakes-region>.

<sup>110</sup> RocGrowth, “About RocGrowth,” accessed August 24, 2017, <https://www.rocgrowth.com/copy-of-about>; RocGrowth, “Entrepreneur Resources,” accessed August 24, 2017, <https://www.rocgrowth.com/resources>.

<sup>111</sup> U.S. House of Representatives, *Hearing on Empowering Small Businesses: The Accelerator Model, Before the Committee on Small Business*, 115th Cong., 1st sess. (May 3, 2017), “Testimony of Darrin M. Redus, Sr.: Statement on Behalf of the Minority Business Accelerator; An Initiative of the Cincinnati USA Regional Chamber,” 3, [https://smallbusiness.house.gov/uploadedfiles/5-3-17\\_redus\\_testimony.pdf](https://smallbusiness.house.gov/uploadedfiles/5-3-17_redus_testimony.pdf).



entrepreneurial business incubators in Ohio," which are defined as entities "supporting startup companies, offering a collaborative environment, and providing access to support services, technical expertise, and business assistance resources." The staff of the agency includes business accelerators and Entrepreneurial Services Provider Program (ESP) partners in its reporting.<sup>112</sup> Investments in accelerators, incubators, and other entrepreneurial activities are funded by Ohio Third Frontier, an economic development initiative within the services agency.<sup>113</sup>

### **Profile: Supporting Local Manufacturing**

First Batch is a 2015 GAFC prize winner and "America's first business accelerator dedicated to physical products and local manufacturing." The program takes its startups through "the process of refining prototypes, creating local connections, scaling up production, and bringing a product to market" in 16 weeks. First Batch is building on Ohio's reputation as the United States' number three manufacturing base, and Cincinnati's position as the number one city in the state for manufacturing.

First Batch provides small amounts of angel or seed money to all of its startups, totaling \$132,000 so far, without taking any equity. In addition to the SBA, First Batch receives funding from the U.S. Department of Commerce's National Institute of Standards and Technology and a number of foundations, including the Duke Energy Foundation, the Carol Ann and Ralph V. Haile/USBank Foundation, and the Greater Cincinnati Foundation.

First Batch is part of Cincinnati Made, a nonprofit that promotes Cincinnati manufacturing and makers. Home to industry giants like Proctor & Gamble, Cincinnati has access to "a great collection of resources from existing manufacturers to available light industrial space in desirable urban locations."

In First Batch's 2016 class, 50 percent of the participating businesses were women-owned, and in 2017, women owned 67 percent of the participating startups; all of them are in fashion-related fields. John Spencer, a First Batch cofounder, says that the support to women manufacturers was serendipitous: "When the judging was completed, they were the best people with the best products."

First Batch considers the GAFC award a game changer for "upgrading and expanding [its] operations [enabling it] to go on to accept even more companies in following years after the award."

*Source:* FRD, "Survey of 2014• 16 GAFC Winners"; Crunchbase, "First Batch," accessed September 29, 2017, <https://www.crunchbase.com/organization/first-batch#/entity>; Sara Elliott, "First Batch," [cincyctic.com](http://cincyctic.com), September 5, 2016, <https://www.cincyctic.com/career/first-batch/>; Bowdeya Tweh, "First Batch's \$50K award to boost Cincinnati maker movement," [Cincinnati.com](http://cincinnati.com), August 6, 2015, <http://www.cincinnati.com/story/money/2015/08/06/first-batch-grant/31225957/>; First Batch, "Homepage," accessed September 29, 2017, [www.firstbatch.com](http://www.firstbatch.com).

Two listings of the accelerators in Ohio, one from AcceleratorInfo.com and one from the Ohio Development Services Agency, show some overlap but do not entirely duplicate one another. They are also organized differently. AcceleratorInfo lists accelerators (8 across 4 cities) and university-affiliated entities (13 across 9 cities) separately. The services agency breaks the entities down into accelerators (10 across 5 cities), ESP partners (4 across 4 cities), and

<sup>112</sup> Ohio Development Services Agency, "Ohio Entrepreneurial Business Incubators," accessed August 11, 2017, [https://development.ohio.gov/bs/bs\\_oebi.htm](https://development.ohio.gov/bs/bs_oebi.htm).

<sup>113</sup> Kevin Volz, "Spotlight on Accelerators: The 411 on Ohio's Accelerator Programs," *TechOhio*, February 10, 2015, <https://weare.techohio.ohio.gov/2015/02/10/spotlight-on-accelerators-the-411-on-ohios-accelerator-programs/>.

incubators (32 across 22 cities). However, both lists indicate that Cincinnati and Cleveland have the most activity (five or more facilities), but many cities—upwards of 20—have at least one accelerator, incubator, or similar entity.<sup>114</sup>

Examples of accelerators using Ohio Third Frontier funds are Cleveland's Bizdom and Cincinnati's Minority Business Accelerator and The Brandery, a 2014 GAFC winner. Dan Gilbert, the majority owner of the Cleveland Cavaliers professional basketball team, founded Bizdom in 2012 to "foster the growth of innovative, tech-based startups in Cleveland." Companies accepted into the program are asked, as part of their participation, to headquarter in the city. Bizdom does not take on a set number of startups each year, but focuses instead on the quality of a company or idea and its likelihood of success. As a regional partner of Ohio Third Frontier, Bizdom gives each company \$25,000 in exchange for 8 percent equity and an opportunity to apply for \$100,000 of additional investment. As of April 2014, Bizdom had "accelerated 40 companies, with 16 receiving additional outside funding totaling more than \$2.1 million." Bizdom's graduates had also created 45 new jobs.<sup>115</sup>

The Minority Business Accelerator, which is headed by Redus, targets primarily African American and Hispanic populations in an effort to address negative trends among minority communities, such as widening economic disparities and an increasing wealth gap. The 35 larger-scale firms that work with the accelerator have collectively generated \$1 billion in annual revenues and created over 3,500 jobs in the region since 2003. Over the most recent year, clients have seen \$30 million in average annual revenue per firm and 24 percent average year-over-year revenue growth; they have also created over 250 new jobs.<sup>116</sup>

The Brandery, which was founded in 2010, accepts a class of 10–12 startups each summer from approximately 1,000 applicants, and specializes in software development. Each startup receives a \$50,000 grant. As of March 2015, the program had accelerated 45 companies; these companies had raised \$70 million, averaging \$1.2 million per firm.<sup>117</sup>

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<sup>114</sup> "Ohio Accelerators/Ohio Universities," AcceleratorInfo.com, accessed August 11, 2007, <http://www.acceleratorinfo.com/ohio.html>; Ohio Development Services Agency, "Ohio Entrepreneurial Business Incubators."

<sup>115</sup> Kevin Volz, "Spotlight on Accelerators: Bizdom is Slam Dunk for Cleveland Entrepreneurs," *TechOhio*, May 26, 2015, <https://weare.techohio.ohio.gov/2015/05/26/spotlight-on-accelerators-bizdom-is-slam-dunk-for-cleveland-entrepreneurs/>.

<sup>116</sup> U.S. House of Representatives, *Hearing on Empowering Small Businesses*, "Testimony of Darrin M. Redus, Sr.," 3.

<sup>117</sup> Robert Leitch, "Spotlight on Accelerators: Strategy Comes First at the Brandery," *TechOhio*, March 27, 2015, <https://weare.techohio.ohio.gov/2015/03/27/spotlight-on-accelerators-strategy-comes-first-at-the-brandery/>.

### Profile: Developing Entrepreneurship in Local Underserved Communities

The Cincinnati-based Mortar accelerator hybrid, a 2016 GAFC winner, aims to "enable underserved entrepreneurs and businesses to succeed; creating opportunities to build communities through entrepreneurship." It offers a traditional accelerator course, access to retail pop-up space, and access to capital for local businesses in the Over-the-Rhine neighborhood, a traditionally working-class area that is more than 75 percent African American. When asked about its challenges, a Mortar representative responded: "One of the most significant challenges Mortar faces is accessing capital. For many Cincinnati entrepreneurs, especially those coming from low-income homes, access to traditional capital is nearly impossible." The organization believes that "by targeting underserved and redeveloping communities, we're offering these nontraditional entrepreneurs the opportunity to use their inherent talents to not just make a dollar, but to positively participate in the rise of Cincinnati." After only three years in business, Mortar's founders believe that "Cincinnati has definitely already benefited from our entrepreneurship program, leading to improved quality of life, business ownership, job creation, and a flourishing local economy."

For the most promising startups, Mortar provides small amounts of angel or seed money and specialized or structured loans. In total, between 2014 and 2016, Mortar invested \$21,000 in its startups. Four Mortar-trained startups secured additional funding upon graduating from the program. Mortar estimates that 36–40 startup jobs could be directly or indirectly attributed to the GAFC award. The organization has a diversified funding base, with half of its annual operating budget coming from family/friends/self, corporate, and local government contributions. The other half comes from a variety of foundations, banks, and other financial institutions.

Mortar has gained a lot of support and publicity in its three short years. Two of its three cofounders, Derrick Brazier and William Thomas, were featured in *Forbes* magazine's 2016 "30 under 30" list as social entrepreneurs. The third cofounder, Allen Woods, has dedicated his career to empowering minority business owners, bringing people who often feel like outsiders into the entrepreneurial community. In July 2017, AOL cofounder Steve Case visited Mortar as part of his "Rise of the Rest" tour, which aims to bring attention and capital to startups and talent between the east and west coasts. Also in July 2017, Mortar was featured on *NBC Nightly News*.

*Source:* FRD, "Survey of 2014• 16 GAFC Winners"; Mortar, "Homepage," accessed September 29, 2017, <https://wearemortar.com/>; *NBC Nightly News*, "These Cincinnati Residents are Building New Businesses as Their Neighborhood Changes," July 31, 2017, <https://www.nbcnews.com/nightly-news/video/these-cincinnati-residents-are-building-new-businesses-as-their-neighborhood-changes-735669315965>; Caroline Howard with Emily Inverso, "2016 30 Under 30: Social Entrepreneurs," *Forbes*, accessed September 29, 2017, <https://www.forbes.com/pictures/qkhd45ml/derrick-brazier-29-wil/#7fba6f6675e1>.

## Texas's Experience with Entrepreneurial Support

According to researchers affiliated with the California Business Incubation Alliance, Texas has experienced the most pronounced increase in accelerator activity, particularly between 2006 and 2012.<sup>118</sup> By 2014, it reportedly had 63 accelerators and incubators statewide. Sixty percent of those served high-tech industries such as aerospace, biotechnology, energy, and telecommunications. The remainder served clients across multiple industries.<sup>119</sup> In 2015, those

<sup>118</sup> CTC, *California Tool Works*, 22.

<sup>119</sup> "Abundant Accelerators Speed Growth for Texas Startups," *Business Climate*, February 7, 2014, <http://www.businessclimate.com/abundant-accelerators-speed-growth-texas-startups/>.

numbers increased to 103 accelerators and incubators, with 61 percent of them assisting high-tech industries. Of those, 13 exclusively served biotechnology efforts, and 4 focused solely on energy startups. By region, Central Texas hosted the most incubators and accelerators, with 31 percent, followed by North Texas (28 percent), West Texas (20 percent), the Gulf Coast (18 percent), and South Texas (11 percent); East Texas was home to less than 1 percent.<sup>120</sup>

#### **Profile: Using Technology to Empower Women Entrepreneurs Worldwide**

Circular Board is a woman-owned accelerator that won the 2016 GAFC prize and specializes in helping startups led by minorities, such as those who have disabilities; are veterans; are women; have limited access to capital; or are located in economically disadvantaged or rural areas. The board, which was launched in 2015, was created as a way to close the gender gap and give women access to the "mentorship, content, community and capital, and connection" they need to start multimillion dollar businesses and ignite growth. Though the organization has a U.S. focus, it is actively expanding to other countries around the world. So far, it has worked with more than 13,000 women business owners.

Circular Board's startups focus on the agriculture, education, energy, food/beverage/hospitality, healthcare, IT, manufacturing, non-IT technology/science, and tourism industries. Of those businesses, 41–50 were provided with seed funding and secured additional financing after graduation.

Carolyn Rodz, Circular Board's founder, has noted that "she is committed to closing the gender gap prevalent in the startup environment by helping female founders implement key strategies for sustainable, accelerated business growth." To help level the playing field, Rodz is focused on providing women with the resources that men tend to have organically available to them. Rodz, who was recognized by *Entrepreneur* magazine as a 2016 "Woman to Watch," says: "Women are driving forces of social change. . . . When we arm women with the ability to develop and implement technology, we are enabling them to think in more scalable terms."

Circular Board is supported by the Case Foundation, the Kauffman Foundation, Johnson & Johnson, Dell, Y Combinator, and the U.S. Small Business Administration.

*Source:* FRD, "Survey of 2014• 16 GAFC Winners"; Belisa Silva, "How Circular Board Helps Female Entrepreneurs Rev Up Funding," *Swaay.com*, February 2, 2017, <http://swaay.com/circular-board-helps-female-entrepreneurs-rev-funding/>; Leo King, "Meet the Woman Empowering Entrepreneurs to Change the World," *Forbes*, February 27, 2016, <https://www.forbes.com/sites/leoking/2016/02/27/circular-board-carolyn-rodz-women-in-tech-female-entrepreneur/#41c509d96f47>.

Until June 2015, the Texas Emerging Technology Fund (TETF) helped finance university-based incubators and accelerators like the Austin Technology Incubator at the University of Texas's flagship school. The incubator's portfolio includes bio/health sciences, clean energy, information technology, and wireless industries. The 2012 class raised \$230 million in funding and its overall membership garnered more than 40 percent of the TETF awards in Central Texas.<sup>121</sup> However,

<sup>120</sup> Texas, Office of the Governor, Economic Development and Tourism Division, *2015 Texas Business Incubators* (Austin: Texas, Office of the Governor, 2015), 57–60, [https://texaswideopenforbusiness.com/sites/default/files/11/06/15/business\\_incubators\\_directory.pdf](https://texaswideopenforbusiness.com/sites/default/files/11/06/15/business_incubators_directory.pdf).

<sup>121</sup> Amy Reagan, "Finding Your Match: 6 Austin Incubators and Accelerators to Stimulate Your Startup," *Built in Austin*, January 28, 2016, <http://www.builtinaustin.com/2014/10/06/finding-your-match-6-austin-incubators-and-accelerators-stimulate-your-startup>.

the Texas legislature replaced the fund with the Governor's University Research Initiative, which it hopes will attract major researchers (like Nobel laureates) to the state's public universities. In the time since TETF was first launched under Governor Rick Perry, local angel investor networks have emerged and are able to fund deals of \$2–5 million, whereas five years ago, TETF was the only option to help companies get off the ground.<sup>122</sup>

#### **Profile: Hybrid Support to Life Sciences Innovation**

A 2016 GAFC winner, Fannin Innovation Studio is an "early-stage life science[s] development group focused on commercializing innovations developed in . . . Texas Medical Center institutions." It considers itself a hybrid accelerator that supports startups working on complex life sciences technologies through incubation, shared resources, advice on complex regulatory issues, and seed capital. Fannin has modified the typical accelerator model to address issues specific to the life sciences: longer timelines (it supports startups for up to three years), high capital needs, and experienced management. It also sponsors an apprenticeship program for aspiring entrepreneurs, which provides on-the-job training for the development and commercialization of life sciences technologies, particularly pharmaceuticals, autoimmune- and metabolic-related treatments, and medical devices. In addition to raising capital through investment rounds, Fannin taps into local, state, and federal government grants to finance its startups and has successfully leveraged Small Business Innovation Research funding for early de-risking.

The SBA awarded Fannin its 2016 Tibbetts Award for its work to "successfully advance technological innovation and stimulate economic growth . . . in a way that has created measurable impacts."

According to Fannin, most federally funded life sciences research is centered in Boston and San Francisco, and the commercialization of related technologies has not been very successful outside of these markets. Fannin wants to fill "this enormous unmet market need" and is grateful to the GAFC program for its support: "Seeding creative, high-risk approaches is a critical role played by the SBA. [GAFC] is especially important since it supports organizations that are themselves catalytic."

*Source:* FRD, "Survey of 2014•16 GAFC Winners"; Fannin Innovation Studio, "Homepage," accessed September 29, 2017, <http://fannininnovation.com/>; "Fannin Wins Prestigious SBA Tibbetts Award for 2016," ABNewswire, January 23, 2017, [http://www.abnewswire.com/pressreleases/fannin-wins-prestigious-sba-tibbetts-award-for-2016\\_95701.html](http://www.abnewswire.com/pressreleases/fannin-wins-prestigious-sba-tibbetts-award-for-2016_95701.html); Joe Martin, "Exclusive: Fannin Innovation Studio Closes Multimillion-Dollar Round," *Houston Business Journal*, February 24, 2015, <https://www.bizjournals.com/houston/blog/2015/02/exclusivefannin-innovation-studio-closes.html>.

## **Virginia's Experience with Entrepreneurial Support**

Virginia's approach to supporting startups includes an emphasis on public-private partnerships. For example, Peter Jobse, the CEO of the Center for Innovative Technology, worked with state government and industry leaders to create the first cybersecurity business accelerator.<sup>123</sup> The MACH37 Cyber Accelerator opened in September 2013. Modeled after Y Combinator and named for the minimum velocity necessary to launch past Earth's gravitational field, the

<sup>122</sup> Matthew Watkins, "Legislature Replaces Emerging Technology Fund with University Fund," *Star-Telegram* (Fort Worth, TX), June 1, 2015, <http://www.star-telegram.com/news/politics-government/state-politics/article22800357.html>.

<sup>123</sup> Catherine MacDonald, "A Push Toward Success: Business Accelerator Trend is Growing in Virginia," *Virginia Business*, April 29, 2014, <http://www.virginiabusiness.com/News/article/a-push-toward-success>.

accelerator was "designed to capitalize on Virginia's expertise in the cybersecurity industry and help launch additional startup companies developing innovative technology in this area."<sup>124</sup> Administered by the center and originally funded by the Virginia General Assembly, the Platinum Sponsorship program was created in December 2015 to supplement the original funding. General Dynamics's Mission Systems then acquired the sponsorship, which, in addition to providing funding, includes mentorship activities.<sup>125</sup>

#### **Profile: Supporting Small Businesses in Federal Government Contracting**

Eastern Foundry is a young, Arlington, Virginia-based co-working startup community that won the GAFC award in 2015, the same year it was founded. Its niche is helping small government contractors build federal sales capabilities, primarily in the education, energy, healthcare/medical, and IT fields. In order to compete with large government contractors, participating in a co-working setup such as Eastern Foundry can help small government contractors "consolidate the buying and resources of a community of small businesses so that [they] can engage with the market effectively."

Started by four veterans, Eastern Foundry acts as a modified incubator/accelerator, offering educational resources, physical workspace, professional services, and community for innovative tech startups. "The inspiration and core of the business model are rooted in the proven incubator and accelerator models modified to the dynamics of the government contracting market. . . . The growth cycle for government companies is quite long so [it has] to have a model that support[s] companies over years," according to one of founder, Geoff Orazem.

After opening its first location in Crystal City in December 2014, Eastern Foundry expanded to a second location in Rosslyn in June 2016, which houses 138 small government contractors. Eastern Foundry has "a lot of aspirations in growing in different cities and different communities." Aside from the GAFC prize and a small amount of personal capital, Eastern Foundry is supported largely through membership dues.

*Source:* FRD, "Survey of 2014• 16 GAFC Winners"; Tajha Chappellet-Lanier, "Eastern Foundry is Bringing a Little Startup Shine to the Government Contracting Space," *fedcoop.com*, July 25, 2017, <https://www.fedscoop.com/eastern-foundry-incubator-federal-contractors/>; Jill R. Aitoro, "Eastern Foundry to Launch Government Contracting Incubator, Signs Lease in Crystal City," *Washington Business Journal*, November 4, 2014, [https://www.bizjournals.com/washington/blog/fedbiz\\_daily/2014/11/eastern-foundry-to-launch-government-contracting.html](https://www.bizjournals.com/washington/blog/fedbiz_daily/2014/11/eastern-foundry-to-launch-government-contracting.html); Eastern Foundry, "Homepage," accessed September 29, 2017, <http://eastern-foundry.com/>.

<sup>124</sup> "The MACH37 Cyber Accelerator Opens in Herndon, Virginia," *YesVirginia.org* (blog), September 17, 2013, <http://www.yesvirginia.org/BlogSpot/post/The-MACH37-Cyber-Accelerator-Opens-in-Herndon-Virginia.aspx>.

<sup>125</sup> Virginia, Office of the Governor, "Governor McAuliffe Announces New Funding for MACH37 Cyber Accelerator," December 8, 2015, <https://governor.virginia.gov/newsroom/newsarticle?articleId=13663>.

### Profile: Keeping Life Sciences Startups Local

The Prince William Science Accelerator (PWSA) is a 2016 GAFC winner. It was created by the Prince William County Department of Economic Development because many local university life sciences startup companies were unable to find the lab space needed to commercialize their technologies and were leaving the area. The county invested \$1.33 million to build the PWSA "to stop the leak" and capitalize on the area's core capabilities in information technology and life sciences. The PWSA provides entrepreneurs with an innovative environment for research and product development, and aims to catalyze life sciences business for faster growth and commercialization. Business assistance services are provided by the county's Department of Economic Development. The GAFC award provided the PWSA with the capital needed to reconfigure a single-tenant wet lab into a multi-tenant space, thereby lowering lease rates to accommodate capital-strained startups: "GAFC provided us with the opportunity to bring 5 new biotech startups to the Prince William Science Accelerator."

In 2017, CSSi LifeSciences, "a trusted partner from discovery to commercialization for biologics and vaccines," announced that it was partnering with the PWSA to provide additional support in the development of new businesses and the retention and expansion of existing businesses within the county. CSSi will provide technical assistance, along with regulatory, clinical, and commercial assessment, for all PWSA tenants. It also will contribute its preclinical, regulatory, and clinical expertise. Both partners envision even more support to fledgling companies via "a productive environment and speed-to-market solutions to wet-lab tenants through the use of unparalleled services and strategies and readily available space and equipment, as well as by providing access to industry networks, partnerships, and internships."

*Source:* PWSA, "Homepage," accessed September 29, 2017, <http://www.pwcecondev.org/prince-william-science-accelerator-0/>; "Prince William Science Accelerator," *Prince William Living*, accessed September 28, 2017, <https://princewilliamliving.com/2015/06/prince-william-science-accelerator/>; Courtney Gaddi, "CSSi LifeSciences & Prince William Science Accelerator Partner to Delivery Critical Support Services to Wet Lab Space Startups," *Patch*, April 6, 2017, <https://patch.com/maryland/glenburnie/cssi-lifesciences-prince-william-science-accelerator-partner-deliver-critical>.

## Experience of Other Countries' Government Accelerator Programs

A cursory review of several non-U.S. government-supported accelerator programs reveals that most national-level efforts have been started in the past five years and are aimed at leveraging the private sector to help the public sector address large, complex issues—similar to the U.S. Department of Energy's Sunshot Incubator Program. These programs provide large amounts of funding to a handful of organizations that help the national government work better—whether it be accelerating the implementation of projects; improving efficiency; developing a sense of entrepreneurship; attracting foreign investment, technology, or know-how; or forming public-private partnerships to address these problems. These programs include the United Arab Emirates' Government Accelerators program; Dubai's Future Accelerators program; South Korea's K-Startup Grand Challenge; Canada's Canadian Technology Accelerator; New Zealand's R9 Accelerator program; and various U.K. efforts, such as the Data Science, Growth, Defence and Security, and GCHQ Cyber Accelerators.

At least four national-level government accelerator programs have similar goals (spurring entrepreneurship, particularly in underserved regions and populations) and funding levels (small amounts for many awardees) as GAFC:

- Bulgaria's Eleven Accelerator,
- Canada's Canada Accelerator and Incubator Program,
- Chile's Startup Chile Accelerator, and
- Europe's Social Impact Accelerator.

However, upon closer examination, they differ from the GAFC program in important aspects:

- Bulgaria's Eleven Accelerator is actually a private organization that was given a big boost for its first round of seed funding by the European Investment Fund. It also funds startups directly in exchange for an equity stake.<sup>126</sup>
- Canada's Canada Accelerator and Incubator Program provides large amounts of funding to a relatively small number (16) of accelerators and works with them over a five-year period.<sup>127</sup>
- Chile's Startup Chile Accelerator has subprograms for female founders, seed funding for new companies, and follow-on funding for scale-up efforts, which goes directly to startups, not accelerators.<sup>128</sup> Its programs touch 250 participants per year.<sup>129</sup>
- Europe's Social Impact Accelerator operates as a fund-of-funds investment company managed by the European Investment Fund and invests in social impact funds that strategically target social enterprises across Europe.<sup>130</sup>

## DESCRIPTION OF SBA'S GAFC PROGRAM

The SBA created the GAFC program in 2014. The purpose of the competition is to draw attention and funding to parts of the country where gaps exist in the entrepreneurial ecosystem. GAFC awards \$50,000 cash prizes to accelerators to help support their organizations. The money helps them reach needed resources, such as manpower or programmatic support, that can lead to better access to capital, mentorship networks, and workspace, enabling high-growth startups to scale up and grow sustainably.<sup>131</sup> Award recipients commit to quarterly reporting for one year. Reported metrics include, but are not limited to, the numbers of jobs created, funds raised, startups launched, and corporate sponsors obtained.<sup>132</sup> To apply, applicants fill out an online

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<sup>126</sup> Crunchbase, "Eleven," accessed June 15, 2017, <https://www.crunchbase.com/organization/eleven>; Eleven, "About," accessed June 15, 2017, <http://www.11.me/about/>.

<sup>127</sup> National Research Council Canada, "Canada Accelerator and Incubator Program (CAIP)," accessed August 3, 2017, <https://www.nrc-cnrc.gc.ca/eng/irap/caip/index.html>.

<sup>128</sup> Startup Chile, "Our Offer: Our Programs," accessed June 15, 2017, <http://www.startupchile.org/programs/>.

<sup>129</sup> Startup Chile, "Startup Chile: Startup Portfolio," accessed June 15, 2017, <http://www.startupchile.org/startups/>.

<sup>130</sup> European Investment Fund, "What We Do: Equity Products; The Social Impact Accelerator (SIA)," accessed June 15, 2017, [http://www.eif.europa.eu/what\\_we\\_do/equity/sia/index.htm](http://www.eif.europa.eu/what_we_do/equity/sia/index.htm).

<sup>131</sup> SBA, Office of Investment and Innovation, "About Office of Investment and Innovation," accessed August 9, 2017, <https://www.sba.gov/offices/headquarters/ooi/about-us>.

<sup>132</sup> SBA, "SBA Spurs Economic Growth, Announces 50 Awards to Accelerators," September 4, 2014, <https://www.sba.gov/about-sba/sba-newsroom/press-releases-media-advisories/sba-spurs-economic-growth-announces-50-awards-accelerators>.



application and upload a deck similar to one that would be used to pitch their idea. In 10 slides or less, the deck needs to answer questions related to the accelerator's mission and vision, impact, implementation, and metrics.<sup>133</sup>

The evaluation and award process consists of two rounds of judging. Primary judges review the applicant pool for a list of finalists, who are then notified to submit pitch videos. Final round judges receive judging criteria, a description of the scoring system, a list of applicants and access to their applications, and a spreadsheet for recording their scores and notes. The judges then submit their scores and notes for a final review. Three months after the application period opens, the winners are announced.<sup>134</sup>

As the applicant pool grew, so did the judging panels. In 2014, seven judges—who were experts in entrepreneurship, investing, and business plans, both inside and outside the government—selected the finalists and winners from a pool of more than 800 applicants.<sup>135</sup> In 2015, the second year of the competition, the applicants were judged by more than 40 experts, split across two panels. The first panel reviewed over 400 applications and selected 180 finalists. The second panel evaluated the finalists' presentations and pitch videos to select the 80 winners.<sup>136</sup> Applicants in the third year of the competition (2016) were judged by more than 100 experts. The first panel reviewed over 400 applications and selected a pool of 200 finalists, which was narrowed to 68 winners by the second panel.<sup>137</sup>

In 2014, GAFC awarded \$2.5 million to 50 winners.<sup>138</sup> The winners came from 31 states, Washington, DC, and Puerto Rico, and represented accelerators from a broad range of industries, such as manufacturing, technology, and farming.<sup>139</sup> In the second year of the competition (2015), the program awarded a total of \$4.4 million to 88 winners representing 39 states, Washington, DC, and Puerto Rico, reaching some of the most underserved areas for startups. A portion of the 2015 funds were part of the multiagency POWER Initiative, providing \$50,000 matching prizes to accelerators serving American Indian, Alaskan Native, or Native Hawaiian populations.<sup>140</sup> The SBA's Office of Native American Affairs used the GAFC framework to award an additional \$400,000 to entrepreneurial ecosystems primarily dedicated to the American Indian startup and small business communities. The office determined the criteria for eight \$50,000 prizes, and managed and judged the selections.<sup>141</sup>

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<sup>133</sup> SBA, "2016 SBA Growth Accelerator Fund Application," accessed August 9, 2017, <https://gaf2014.wufoo.com/forms/2016-sba-growth-accelerator-fund-application/>.

<sup>134</sup> SBA, *The Growth Accelerator Fund Competition Program Overview*, last updated March 16, 2015, [https://www.sba.gov/sites/default/files/growth\\_accelerator\\_competition\\_1Pager.pdf](https://www.sba.gov/sites/default/files/growth_accelerator_competition_1Pager.pdf).

<sup>135</sup> SBA, *The Growth Accelerator Fund Competition: Program Overview*, SBA, "SBA Spurs Economic Growth, Announces 50 Awards to Accelerators."

<sup>136</sup> SBA, "SBA Boosts Economic Impact of Accelerators with \$4.4 Million in Prizes," August 4, 2015, <https://www.sba.gov/content/sba-boosts-economic-impact-accelerators-44-million-prizes-0>.

<sup>137</sup> SBA, "SBA Launches 4th Annual Growth Accelerator Fund Competition."

<sup>138</sup> SBA, *The Growth Accelerator Fund Competition: Program Overview*.

<sup>139</sup> SBA, "SBA Spurs Economic Growth, Announces 50 Awards to Accelerators."

<sup>140</sup> SBA, "SBA Spurs Economic Growth, Announces 50 Awards to Accelerators."

<sup>141</sup> SBA, "SBA Boosts Economic Impact of Accelerators with \$4.4 Million in Prizes."

In 2016, GAFC awarded \$3.4 million to 85 winners, representing 38 states and Washington, DC.<sup>142</sup> For the competition, the SBA partnered with the National Institutes of Health, National Science Foundation, and U.S. Departments of Education and Agriculture to provide additional prizes to accelerators assisting entrepreneurs with submitting proposals for the SBIR and SBTB Programs.<sup>143</sup>

For the 2017 competition, the SBA limited the awards to past GAFC winners. Of the 187 eligible organizations, 122 submitted applications. Twenty teams involved in SBIR or STEM work, or representing women and other underserved populations, including veterans or those living in rural areas, could win \$50,000 prizes.

Overall, between 2014 and 2016, the SBA has awarded 223 GAFC prizes to 187 unique winners for a total of \$10.3 million.

## PROFILE OF 2014–16 GAFC PRIZE WINNERS

As a condition of accepting the GAFC prize, winners are required to submit quarterly reports.<sup>144</sup> In the first quarter of data collected, they establish a baseline by reporting the metrics for their organization since its inception. Accelerators were asked to respond to an identical series of questions in the second and fourth quarters. In the third quarter, the winners were asked to respond to series of questions that largely focused on the international scopes of their programs and startups. In 2016, the SBA added a series of questions in the first quarter on the types of engagement that the winners had with several SBA tools and programs (see appendix I for examples of the SBA's quarterly reporting surveys).

However, the GAFC winners' reporting data had several limitations or inconsistencies that made data analysis difficult, for example:

- It is self-reported by the winners and not audited.
- The reporting rate was below 100 percent (the average reporting rate was 87 percent, though this dropped for the third and fourth quarters, which averaged 74 percent for 2014 and 2015).
- Some respondents entered text-based responses in numeric fields, resulting in responses that were challenging to interpret.
- Repeat winners sometimes reported metrics under different business names.

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<sup>142</sup> SBA, "SBA Launches 4th Annual Growth Accelerator Fund Competition."

<sup>143</sup> SBA, "SBA Launches 3rd Annual Growth Accelerator Fund Competition to Award \$3.95 Million for Small Business Startups," May 2, 2016, <https://www.sba.gov/about-sba/sba-newsroom/press-releases-media-advisories/sba-launches-3rd-annual-growth-accelerator-fund-competition-award-395-million-small-business>.

<sup>144</sup> SBA, Office of Investment and Innovation, "Report to the Congress of the United States: 2015 Growth Accelerator Competition; Quarterly Metrics and Results as of December 31, 2015," February 2016, 4, <https://www.sba.gov/sites/default/files/FY2015-Growth-Accelerators-Report-to-Congress.pdf>.

- Multiple respondents entered data for the same organization or a single respondent entered data for a single organization multiple times.
- Some respondents entered "0" in numeric fields when reporting metrics, resulting in confusion about whether the respondent's intention was to record the number zero or to skip the question by entering a null value.

For the above reasons, the research team devoted considerable time to cleaning the data. Even so, the data was such that some conclusions had to be based on different set sizes. In order to augment and target the information needed for this assessment, the research team created a survey to elicit additional statistics from the prize winners.

The following discussion represents a baseline snapshot of the GAFC winners and their startups, based primarily on the responses to the survey. Data from quarterly reporting has been pulled in where appropriate, as is information from the winners' and the SBA's websites.

## **The Survey**

The Federal Research Division (FRD) developed a questionnaire of 43 qualitative and quantitative survey questions, which were approved by the SBA. The questions covered the GAFC application and evaluation process; the benefits of the GAFC program; and certain aspects of the awardees' organizations, financial information, startups, and support of markets and populations traditionally underserved by the venture capital community. See appendix II for a copy of the survey questions.

Prior to the distribution of the survey, the SBA sent a preliminary letter to the GAFC awardees detailing the effort, who would be conducting it, and how it would be administered. In May and June 2017, FRD sent survey invitations to an SBA-provided contact list for the 187 organizations that had won the award. Over the course of the two months, FRD and SBA staff followed up with several reminders to non-respondents. By the end of August 2017, FRD had received 111 complete responses. Almost 59 percent of the organizations that won the award in 2014, 2015, and 2016 completed the survey, although several respondents skipped multiple questions.

## **Types of Organizations**

The SBA has held the GAFC competition for three years (2014–16), awarding \$50,000 each to 187 distinct businesses across 45 states, Washington, DC, and Puerto Rico. Each year the SBA expressly states in its competition announcement that it will give special consideration to groups that traditionally have difficulty accessing capital, such as those that "fill geographic gaps in the accelerator and entrepreneurial ecosystem space," are located "in parts of the country where there are fewer conventional sources of access to capital," are in rural communities, and those that are owned or led by women, minorities, and veterans.<sup>145</sup>

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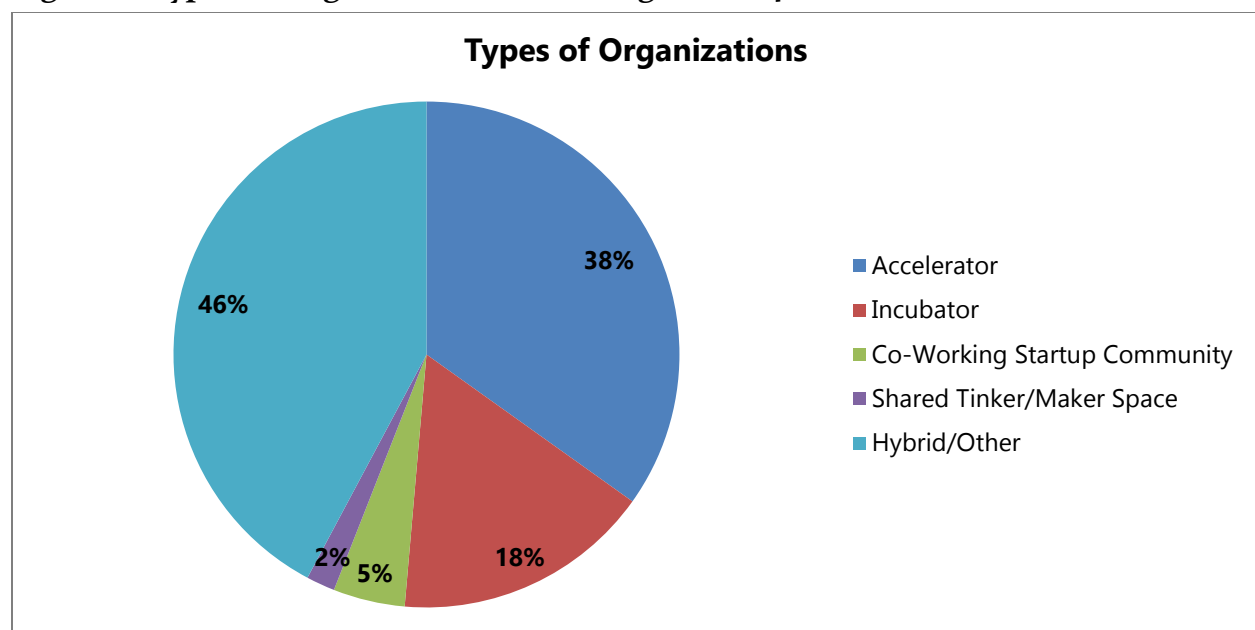
<sup>145</sup> SBA, Office of Investment and Innovation, "Report to the Congress of the United States" (2015), 4.

A cursory review of the email addresses and websites of all 187 winners shows that most winners were commercial entities (83)<sup>146</sup>, nonprofits (80), or university-based (59), while one was affiliated with a city government (San Antonio).

In terms of functionality, the FRD survey asked the 111 award winners who completed the survey to categorize themselves as accelerators, incubators, co-working startup communities, shared tinker/maker spaces, hybrid combinations of the above, or some other entity.

The awardees most often identified themselves as hybrids (42 percent), followed closely by accelerators (35 percent); many fewer classified themselves as incubators (16 percent). Even fewer identified as co-working startup communities (5 percent) or shared tinker/maker spaces (2 percent). Figure 2 shows this distribution of organization types.

**Figure 2. Types of Organizations Receiving the 2014–16 GAFC Prize**



As mentioned earlier, the functions of entrepreneurial support organizations operating under these various names (e.g., accelerator, incubator, makerspaces, etc.) often overlap. For this reason, the survey asked respondents to describe the services they offer to startups, according to the following list of services typically offered by accelerators:

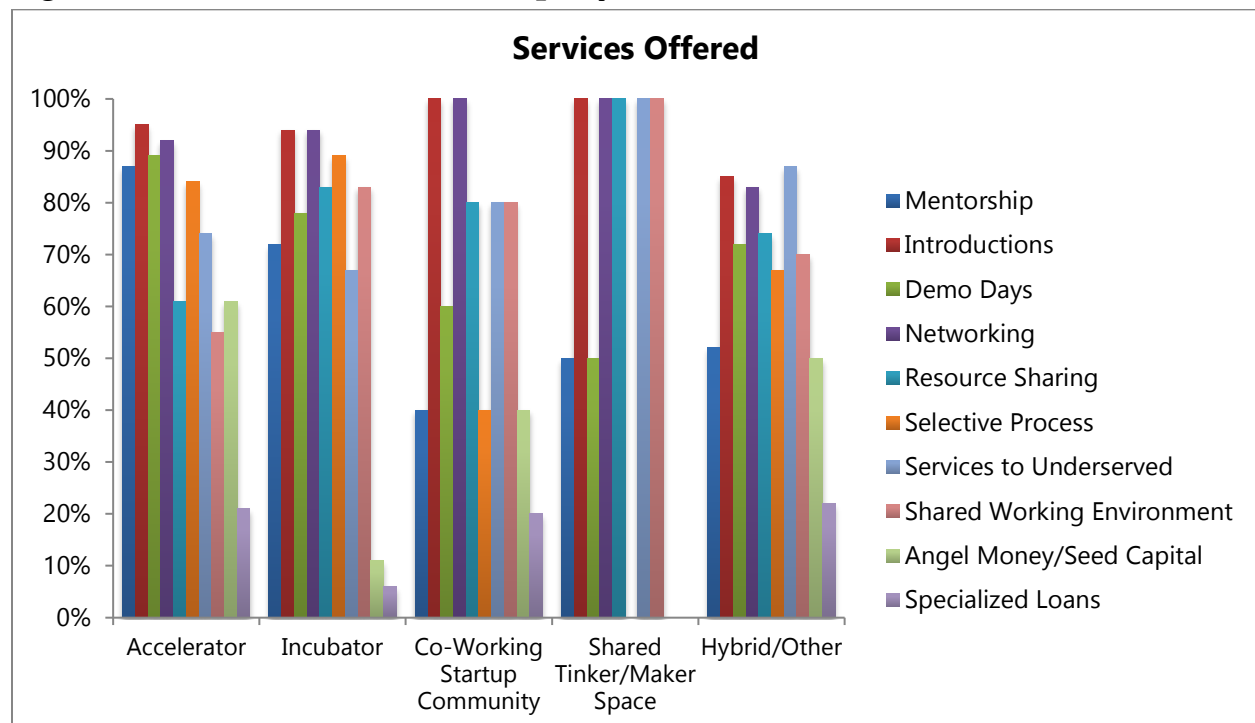
- High-growth, tech-driven startup mentorship and commercialization assistance.
- Introductions to customers, partners, suppliers, advisory boards, and other players.
- Opportunities to pitch ideas and startups to investors, along with capital formation avenues (e.g., demo days).
- Regular networking opportunities.

<sup>146</sup> In addition to 67 commercial entities with a .com email address, there were several with extensions such as .co (6), .net (5), .us (2), .biz (1), .vc (1), and .build (1), which are presumably also commercial organizations, giving a total of 83 commercial entities receiving the prize.

- Resource sharing and co-working arrangements.
- Selective process to choose participating startups.
- Services to underserved communities, such as women, veterans, minorities, or economically disadvantaged groups or locations.
- Shared working environment focused on building a strong startup community.
- Small amounts of angel money or seed capital.
- Specialized or structured loans.

Figure 3 shows the services offered, according to survey responses, by each type of organization.

**Figure 3. Services Offered to Startups by 2014–16 GAFC Winners**



According to figure 3, one can see that:

- The top services offered by 2014–16 GAFC winners that call themselves accelerators include introductions, networking, demo days, mentorship, a selective process, and services to underserved communities. To a lesser extent they offer resource sharing, seed capital, and a shared working environment. Very few GAFC accelerators offer specialized loans.
- The top services offered by incubators to startups are introductions, networking, a selective process, a shared working environment, and resource sharing. Demo days, mentorship, and services to underserved communities follow. Incubators do not tend to offer seed capital or specialized loans.
- All of the co-working startup communities that answered this question in the survey offer introductions and networking; 80 percent offer resource sharing, services to the underserved, and a shared working environment. Some 60 percent offer demo days

- and a little less than half offer mentoring, a selective process, and seed capital. About 20 percent offer specialized loans, a rate equivalent to accelerators and hybrids.
- All shared tinker or maker spaces that completed the survey offer introductions, networking, resource sharing, services to the underserved, and a shared working environment. About half offer mentoring and demo days. None of these spaces offer a selective process, seed capital, or specialized loans.
  - The services offered by hybrids are interesting: Between 65 percent and 85 percent offer introductions, demo days, networking, resource sharing, a selective process, services to the underserved, and a shared working environment; just about half offer mentoring and seed capital, and a little more than 20 percent offer specialized loans.

After further comparing the results across the organization types, one can see that:

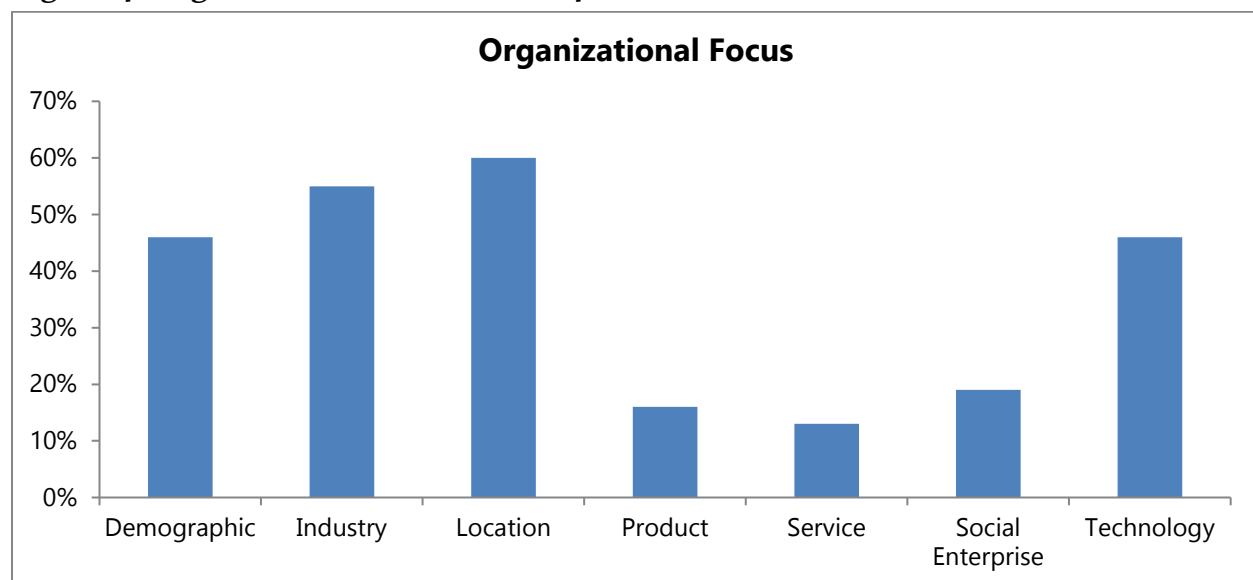
- Incubators are much less likely to provide small amounts of angel money or seed capital, or specialized or structured loans than accelerators or hybrid programs. Approximately 60 percent of the programs that identified as accelerators provided small amounts of angel funding or seed capital, but only 11 percent of programs that identified as incubators provided such support.
- Accelerators and incubators are more likely to offer high-growth, tech-driven startup mentorship and commercialization assistance, but they are less likely to provide services to underserved communities (such as women, veterans, minorities, or economically disadvantaged groups or locations) than hybrid models.
- Accelerators are less likely to offer resource sharing and co-working arrangements or to provide a shared working environment than incubators or hybrid models.
- Accelerators and hybrid models are slightly less likely to provide their startups with regular networking opportunities than incubators.
- Hybrid models are less likely to use a selective process to choose participating startups than accelerators or incubators.
- Accelerators, incubators, and hybrid models provide their startups with introductions to customers, partners, suppliers, advisory boards, and other players, as well as opportunities to pitch ideas and startups to investors, along with capital formation avenues (e.g., demo days), at approximately the same rates.

In general, the survey responses showed that contrary to the typical accelerator model, in which the provision of seed funding is fairly standard, less than half of the GAFC winners provided such funding to their startups or took an equity stake in those businesses. Approximately one-quarter of the winners provided seed funding to only their most promising startups. Of those that did take an equity stake in exchange for seed funding, most took 5–6 percent equity. Accelerators that made investments in their startups made an average total investment of \$1,827,600 between 2014 and 2016.

## Mission and Focus

GAFC winners were asked to describe the focus of their organizations, selecting from as many descriptive categories as were applicable. Approximately half of the respondents described themselves as focused on an industry (such as life sciences or food) or a location (such as rural areas or specific counties). Forty-one percent of winners described themselves as focused on a demographic (such as women, Native Hawaiians, or members of the military) or technology (such as biotech or cleantech). Between 10 and 20 percent of the respondents described their organization as focused on a product, a service, or being a social enterprise (see fig. 4).

**Figure 4. Organizational Focus of 2014–16 GAFC Winners**



## Number of Cohorts and Startups

Approximately 87 percent of the GAFC winners conducted a cohort during the year in which they won the award. According to the survey data, 69 percent of the programs accepted one to two cohorts per year, and 55 percent of the cohort sessions lasted three to six months. Approximately 40 percent of the winners had more than 50 startups apply for their programs, and 74 percent of the winners used a selective process to choose the startups that would participate. Over the course of the year, 62 percent of the awardees accepted 1–15 startups. Sixty percent of the programs had no startups drop out of their programs, and 64 percent of awardees graduated 1–15 startups in the year that they won the award. Seventy-six percent of the 2014 and 2015 winners had 1–15 startups still in business one year after graduation, and the overwhelming majority were still thriving two years after graduation.

According to quarterly reporting:

- The average number of startup applications that the accelerators received was between 140 and 290 applications.<sup>147</sup>
- The average number of startups in the accelerators' current cohort was between 10 and 24 startups.<sup>148</sup>
- The average number of startups that had graduated or exited from the winning accelerators was between 22 and 41 startups.

## Geographic Distribution

The GAFC prize winners have come from 45 states, Washington DC, and Puerto Rico. Accelerators from Delaware, Mississippi, Oklahoma, Vermont, and Wyoming have not won any GAFC prizes so far. California was home to the most prize winners (13 over the three-year period), followed by:

- New York and Texas (nine winners each);
- Pennsylvania (eight);
- Arizona, Colorado, Massachusetts, and Tennessee (seven each);
- Florida and Virginia (six each);
- Washington, DC, Louisiana, North Carolina, Ohio, and Oregon (five each);
- Georgia, Hawaii, Kentucky, Michigan, New Mexico, South Carolina, and Wisconsin (four each);
- Kansas, Maryland, Puerto Rico, and Washington (three each);
- Alabama, Alaska, Arkansas, Connecticut, Indiana, Iowa, Maine, Missouri, Nevada, New Hampshire, New Jersey, Utah, and West Virginia (two each);
- Idaho, Minnesota, Montana, Nebraska, North Dakota, Rhode Island, and South Dakota (one each).

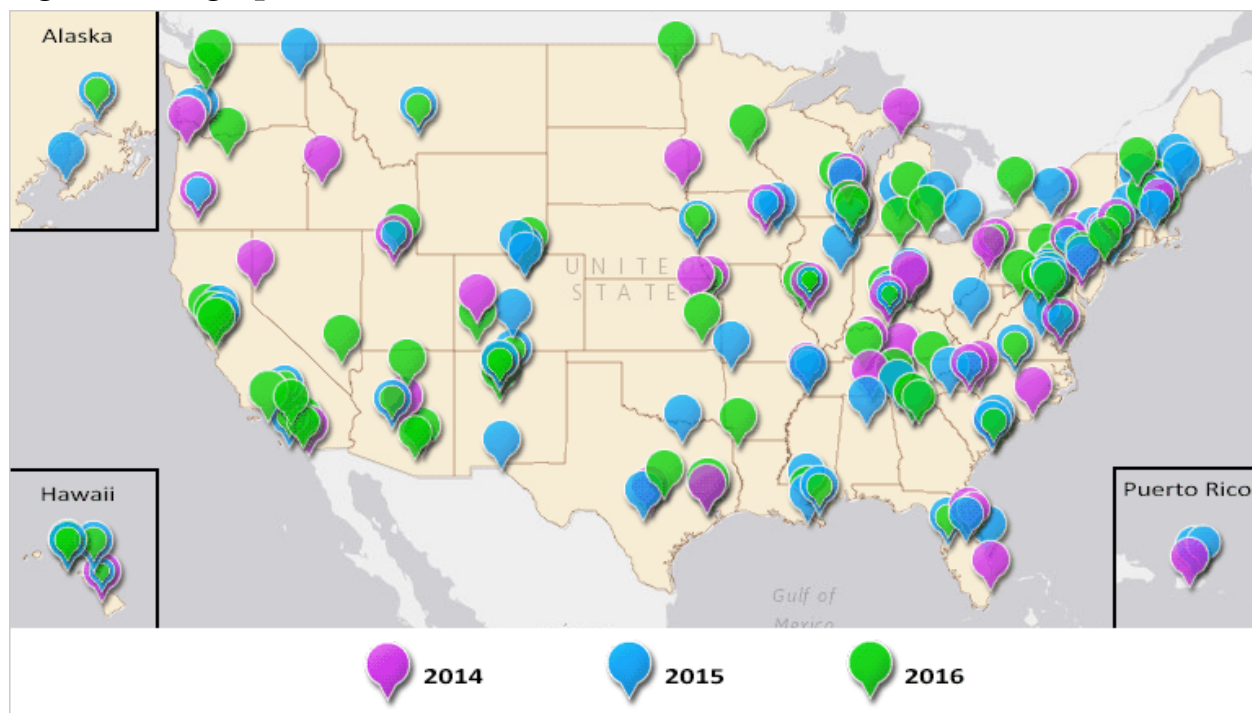
Figure 5 shows the geographic spread of the 187 GAFC award winners from 2014 through 2016.

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<sup>147</sup> These calculations are based on 48, 88, and 85 returned responses for 2014, 2015, and 2016, respectively.

<sup>148</sup> These calculations are based on 47, 87, and 83 returned responses for 2014, 2015, and 2016, respectively. It also should be noted that one respondent in Q1 of 2016 reported having 20,175 startups in its current cohort. Because of the probability that this outlier was an error, it was excluded from the calculations.



**Figure 5. Geographic Distribution of 2014–16 GAFC Winners**

Appendix III contains an alphabetical listing of the GAFC winners by year, while appendix IV groups them by state.

### **Age and Size of Winners (Employees, Budgets, and Startups)**

According to their survey responses, the GAFC award winners tended to be young businesses with small numbers of employees (1•15) and average annual operating budgets of less than \$500,000. As of January 2017, almost half had been in business less than five years, and 20 percent had been in business 5•10 years. Quarterly reporting shows that the average amount raised by the accelerators from outside investors (excluding the \$50,000 from the SBA) was between \$1,413,106 and \$2,636,024.<sup>149</sup>

Approximately one-fifth of the winners had an operating budget greater than \$1,000,000. These winners were more likely to describe themselves as having a hybrid model, and were more likely to have 6•15 full-time equivalent employees.

There were three survey respondents that had more than 50 employees, one of which won the GAFC award in multiple years. These programs are: NewSchools Ignite/WestEd Research Partnership (2016); University City Science Center Digital Health Accelerator [Phase 1 Ventures at the University City Science Center] (2015 and 2016); and FastForward (2016). NewSchools Ignite/WestEd Research Partnership is a national organization; University City Science Center Digital Health Accelerator is a very large and well-established incubator program that partners

<sup>149</sup> These calculations are based on 48, 88, and 85 returned responses for 2014, 2015, and 2016, respectively.

with resources across Pennsylvania, Delaware, and New Jersey; and FastForward is a program at Johns Hopkins University. FastForward, which describes itself as an incubator, conducted three cohort sessions that lasted two months each and accepted 31–40 startups. NewSchools Ignite/WestEd Research Partnership and University City Science Center Digital Health Accelerator both classified themselves as hybrid models and conducted 1–2 cohort sessions that lasted either 6 months or 12 months. University City Science Center Digital Health Accelerator accepted six startups in 2015, the first year that it won the award, and 19 startups in 2016. NewSchools Ignite/WestEd Research Partnership accepted 21–30 startups. All three respondents had operating budgets over \$1,000,000.

## Industries Served

The 2014–16 GAFC winners are involved in a range of industries, which the SBA provides in its annual report to Congress. SBA analysts found the following to be the main industry foci of the GAFC winners according to these reports:

Of the 2014 winners:

- 40 percent had a focus on industries categorized as “general/all”;
- 36 percent on tech/science;
- 14 percent on “other industries”;
- 10 percent on healthcare/medical;
- 6 percent each on manufacturing, education, agriculture, and food/beverage/hospitality; and
- 4 percent each on biotech, energy, and tourism.”<sup>150</sup>

The 2015 winners showed a similar trend:

- 54 percent had a focus on industries categorized as “general/all”;
- 18 percent on tech/science;
- 7 percent on healthcare/medical;
- 5 percent each on food/beverage/hospitality and energy;
- 5 percent on “other industries”; and
- 3 percent each on manufacturing and biotech.<sup>151</sup>

The FRD survey asked respondents to select from a slightly different industry breakdown as it applied to the winners’ startups: agriculture, education, energy, food/beverage/hospitality, healthcare/medical, information technology (IT), manufacturing, non-IT technology/science, and tourism. According to results, from year to year, healthcare/medicine was consistently the most represented category among the GAFC winners’ startups, followed by IT and food/beverage/hospitality. Other well-represented sectors include: education, manufacturing, and agriculture. Non-IT technology/science, energy, and tourism were the least represented. This basic trend appears consistent over the three years of the program for which there is data.

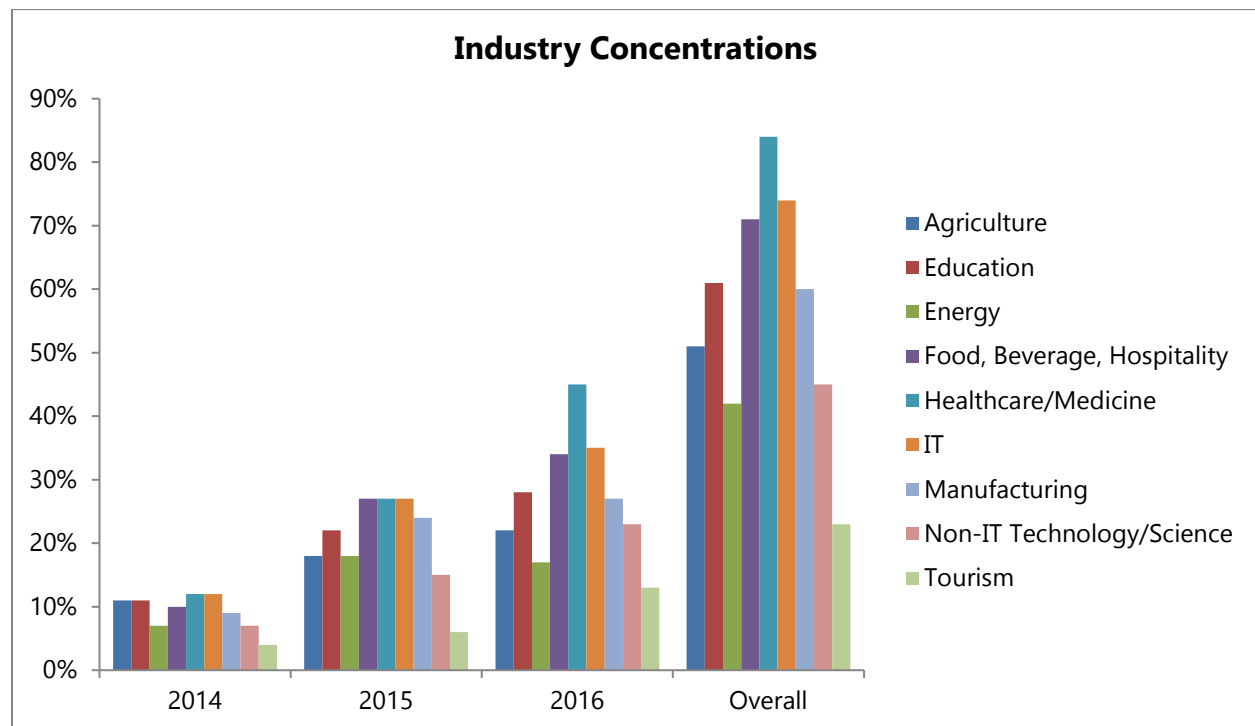
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<sup>150</sup> SBA, Office of Investment and Innovation, “Report to the Congress of the United States: 2014 Growth Accelerator Competition; Quarterly Metrics and Results as of January 31, 2015,” February 2015, 5, [https://www.sba.gov/sites/default/files/files/Growth\\_Accelerators\\_Report\\_to\\_Congress.pdf](https://www.sba.gov/sites/default/files/files/Growth_Accelerators_Report_to_Congress.pdf).

<sup>151</sup> SBA, Office of Investment and Innovation, “Report to the Congress of the United States” (2015), 5.

Figure 6 shows the industries that 2014–16 GAFC winners' startups are involved in, according to the survey responses.

**Figure 6. Industry Concentrations of 2014–16 GAFC Winners**



Winners that described themselves as “industry-centric” in the survey reported working in the fields of technology, bioscience and life sciences, cleantech, agriculture and water, healthcare, food, education, energy, manufacturing, and defense and security.

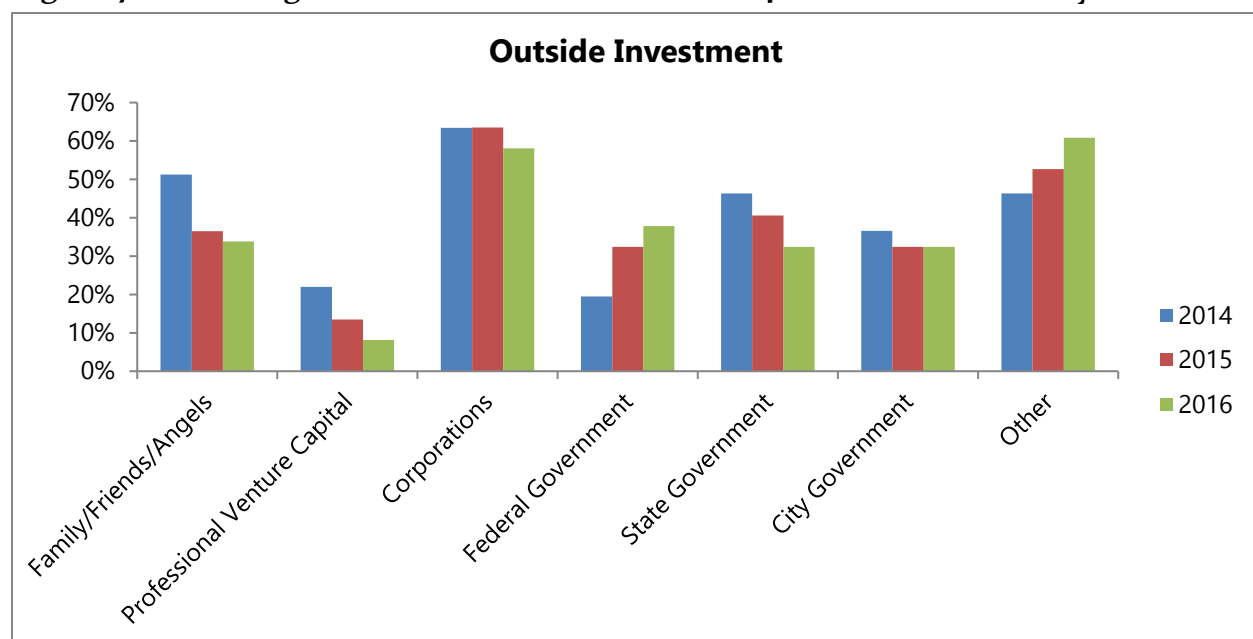
### Sources of Accelerators' Outside Investment

Responses to the survey regarding other sources of funding, besides the GAFC prize (for the year that they won the prize only), showed that:

- Funding from a single source—such as angel investors; family/friends/self; corporations; private venture capital; other federal, state, or local government funding; or loans/debt financing—typically comprised 10 percent or less of a winner's operating budget.
- Corporations and state governments were a common source of funding that comprised more than 10 percent of a program's budget.
- It was rare for any of these funding sources to comprise more than 50 percent of an awardee's operating budget. However, nine respondents received 100 percent of their funding from a single source, with state governments providing one-third of this support.

- According to quarterly metrics data gathered by the SBA, corporations provided funding to the largest number of programs, followed by:
  - “Other,”
  - Angel investors, family/friends/self, and state governments,
  - Local/city governments,
  - Federal programs, and
  - Private venture capitalists.
- Most winners were aware of or had made use of other grant funds for operational expenses. Almost half of the respondents who provided comments on other grant funds mentioned “foundations” in their answer, and almost one-quarter mentioned the U.S. Department of Commerce’s Economic Development Administration.<sup>152</sup>

**Figure 7. Percentage of Outside Investment in 2014•16 GAFC Winners by Source**



<sup>152</sup> The complete list of all private-sector granting-making entities (including foundations, corporations, and financial institutions) provided by respondents is: Baptist Community Ministries; Blackstone Charitable Foundation; Blue Cross and Blue Shield of Louisiana; Brown-Forman; Capital One; Carol Ann and Ralph V. Haile, Jr./U.S. Bank Foundation; Chase Bank; Cherokee Preservation Foundation; Chicago Community Trust; Clemson University; Coastal Community Foundation of South Carolina; Colorado Health Foundation; Colorado Impact Fund; Colorado Office of Economic Development and International Trade; Dick & Betsy DeVos Family Foundation; Douglas F. & Marion S. Attaway Foundation; Duke Energy Foundation; Ewing Marion Kauffman Foundation; Eugenie and Joseph Jones Family Foundation; Fifth Third Bank; Franks Family Foundation; Gaylord and Dorothy Donnelley Foundation; Goldring Family Foundation; Greater Cincinnati Foundation; Guggenheim Partners; James Graham Brown Foundation; JPMorgan Chase; Keller Family Foundation; Kickstarter; Legler Benbough Foundation; Lemelson Foundation; Linn County Economic Development Fund; Local Initiatives Support Corporation, Creative Placemaking; Louisiana Business Incubator Association; Louisiana Economic Development; Lyndhurst Foundation; Manuel D. & Rhoda Mayerson Foundation; Mary Freeman Wisdom Foundation; Massachusetts Clean Energy Center, InnovateMass Program; Massachusetts Life Sciences Center; Midwest Foods; Mildred V. Horn Foundation; New Belgium Brewing; Ohio Third Frontier; Pathfinder Foundation; Patrick Family Foundation; PNC Bank; Procter & Gamble; Robert Wood Johnson Foundation; Roy & Patricia Disney Family Foundation; San Diego Region Regional Economic Development Corporation; Singing for Change; Spaulding Paolozzi Foundation; Surdna Foundation; Target; Texas 4000; Union Bank of California; U.S. Bank; VentureWell; W.K. Kellogg Foundation; Walton Family Foundation; and Wells Fargo.

## International Investment Scope of the Winners and Their Startups

According to third-quarter reporting data by the 2014–15 GAFC winners, none of the 2014 winners and only 3 percent of the 2015 winners raised capital from international investors. However, 28 percent of the recipients reported that their startups raised capital internationally (see table 2).

**Table 2. International Investments of 2014–15 GAFC Winners and Their Startups**

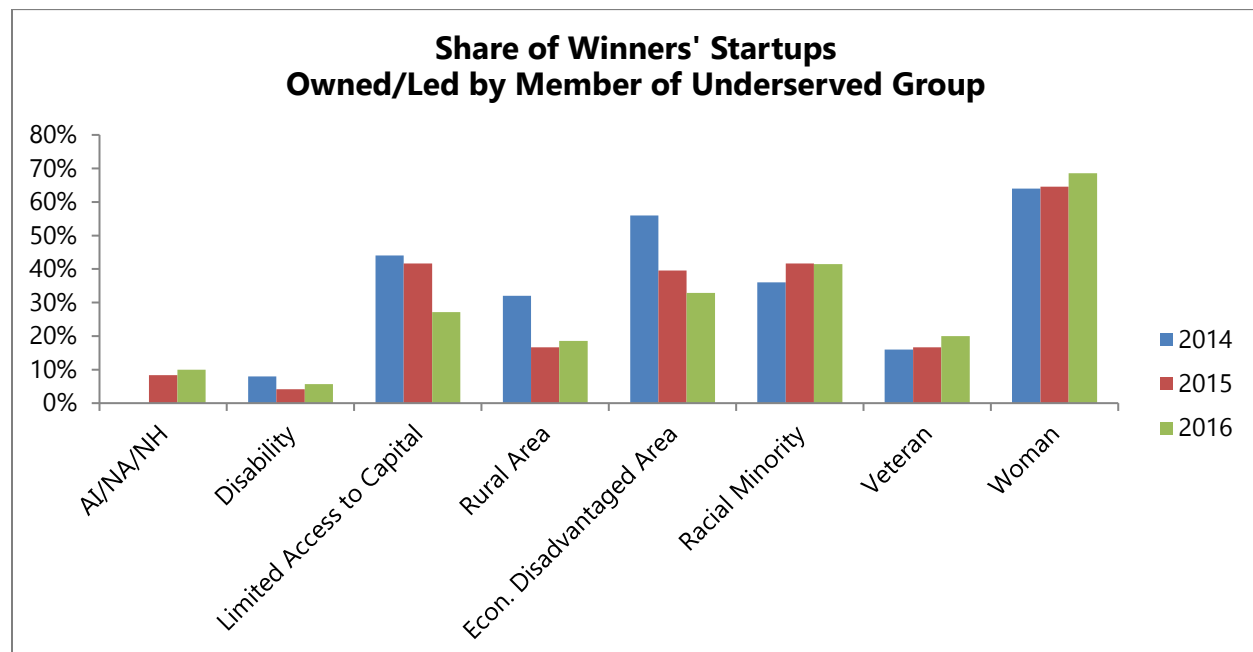
GAFC Winners	Award Year		GAFC Winners' Startups	Award Year	
	2014	2015		2014	2015
# of Winners Investing Internationally	0/34	2/62	# of Winners with Startups Raising Capital	9/34	16/56
% of Total Reported	0	3	% of Total Reported	26.5	28.6
Avg. Investment	\$0	\$37,500	Avg. Investment	\$2,676,875	\$4,882,143

## Support of Underserved Populations

Over time, the SBA awarded the GAFC prize to an increasing number of organizations that were owned or led by other underserved populations, such as racial minorities, veterans, and women (see fig. 8).<sup>153</sup> For example, the percentage of winning organizations that were owned or led by American Indians, Alaska Natives, or Native Hawaiians increased from zero percent to 10 percent between 2014 and 2016.

<sup>153</sup> These calculations are based on 25, 48, and 70 returned responses for 2014, 2015, and 2016, respectively. The survey asked respondents if any of their accelerators were led or owned by members of each of these groups; however, it does not provide parameters to define the terms "led" or "owned."

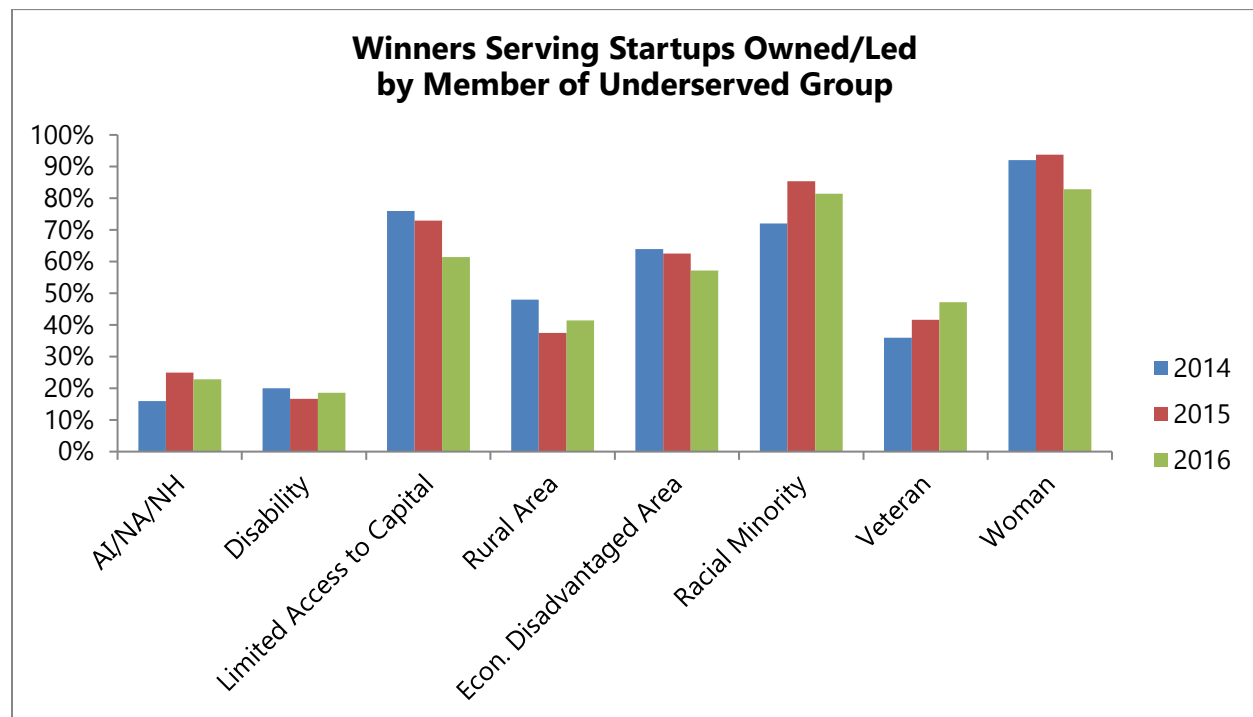
**Figure 8. Percentage of 2014-16 GAFC Winners Serving Startups Owned or Led by Member of Underserved Group**



On average, 21 percent of the GAFC winners had startups that were owned or led by American Indians, Alaska Natives, or Native Hawaiians. Eighteen percent had startups that were owned or led by individuals with disabilities, 70 percent had startups owned or led by individuals with limited access to capital, 61 percent had startups located in or serving economically disadvantaged areas, 42 percent had startups located in rural areas, 80 percent had startups owned or led by individuals who were racial minorities, 42 percent had startups owned or led by veterans, and 90 percent had startups owned or led by women (see fig. 9).<sup>154</sup>

<sup>154</sup> These calculations are based on 25, 48, and 70 returned responses for 2014, 2015, and 2016, respectively. The survey asked respondents if any of their startups were led or owned by members of each of these groups; however, it does not provide parameters to define the terms "led" or "owned."

**Figure 9. Percentage of Winners Serving Startups Owned or Led by Member of Underserved Group**



### How the GAFC Award Affected Accelerators

For most GAFC winners, the impact of the award was to create a “step stool” for an organization that welcomed any financial assistance. Approximately one-quarter of the winners described a game-changing impact from the award, and very few thought the award’s effect was merely “a drop in the bucket.” Most winners used the award money to fund general operating expenses such as rent and utilities or to hire new personnel. The award comprised less than 10 percent of most winners’ operating budgets in the year that they won it.

Most GAFC winners thought the program benefited their organization by providing:

- Increased credibility brought by receiving a federal financial award,
- Improvements to the local entrepreneurial culture,
- Increased participation in the local entrepreneurial community,
- Support of groups and regions that are not typically served by the venture capital community, and
- Increased number of startups launched.

Most winners thought that the award benefited their startups by:

- Improving the local entrepreneurial culture,
- Increasing participation in the local entrepreneurial community,
- Creating faster market entry, and
- Increasing the number of startups launched and jobs created.

Most winners thought that the award benefited their communities by:

- Increasing the number of jobs created,
- Supporting the local entrepreneurial culture,
- Increasing participation in the local entrepreneurial community, and
- Supporting groups or regions that are not typically served by the venture capital community.

## SWOT ANALYSIS

The overall purpose of this study is to evaluate the scope and value of the GAFC program as a government-sponsored means of spurring innovation and small business growth. To do this, the research team used the SWOT (strengths, weaknesses, opportunities, and threats) framework to evaluate various aspects of the program. They derived the strengths and weaknesses of, opportunities for, and threats to the GAFC program from performance metrics, which are scarce and inconsistent at this early stage of the program, and responses to the FRD survey.

### Strengths

When given the opportunity to provide a free-form narrative on the impact and future of the GAFC program, the survey respondents were overwhelmingly supportive of the effort. The few critiques were constructive and, in some cases, served as avenues for further opportunities for the program. A sign of the interest that was taken in the program by the participants is the fact that of the 111 accelerators that completed the survey, 73 responded to this question.

Judged from the perspective of the U.S. government and the SBA, the GAFC program has accomplished its two main goals:

- Filling geographic gaps in the accelerator and entrepreneurial ecosystem by supporting the development of accelerators and their startups in parts of the country where there are fewer conventional sources of access to capital.
- Providing support to accelerators and startups headed by traditionally underserved groups, such as women, minorities, veterans, and those in rural or poor communities.<sup>155</sup>

**Filling geographic gaps in the accelerator and entrepreneurial ecosystem.** An examination of the geographic spread of the 2014–16 GAFC winners (see fig. 5) shows that the program has provided much more widely dispersed support to accelerators (across 45 states, Washington, DC, and Puerto Rico) than the traditional venture capital markets, which tend to be centered on three main hubs: the San Francisco Bay Area, the Boston–Washington corridor, and Southern California—encompassing approximately seven states (see fig. 10).<sup>156</sup> In addition, the responses from the FRD survey indicated that venture capital funding was one of the lowest contributors to the GAFC winners' operating budgets. In fact, 77 percent of the winners who responded to FRD's question about private venture capital funding reported that they had received no such funding

<sup>155</sup> SBA, "SBA Launches 4th Annual Growth Accelerator Fund Competition"; SBA, "SBA Launches 2nd Growth Accelerator Fund Competition to Award," April 2, 2015, <https://www.sba.gov/about-sba/sba-newsroom/press-releases-media-advisories/sba-launches-2nd-growth-accelerator-fund-competition-award>.

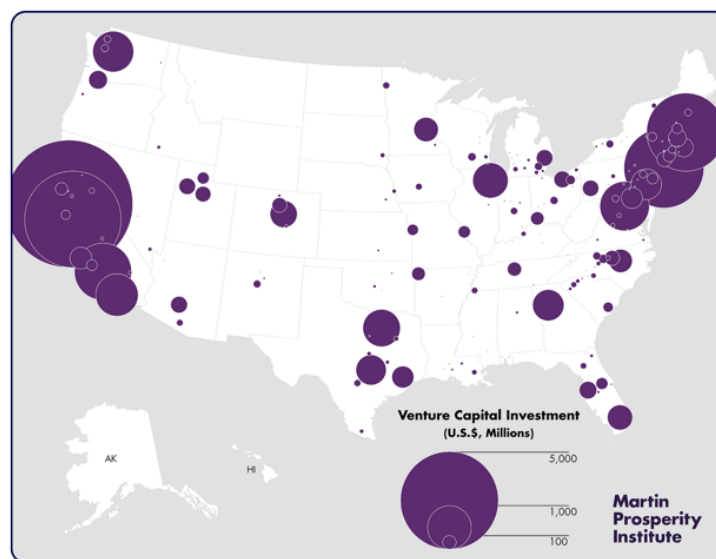
<sup>156</sup> Richard Florida, "A Closer Look at the Geography of Venture Capital in the U.S.," *CityLab*, February 23, 2016, <https://www.citylab.com/life/2016/02/the-spiky-geography-of-venture-capital-in-the-us/470208/>.



in the year that they won the GAFC award. Two respondents in particular addressed the gap that GAFC fills for these communities:

- “A relatively small amount of investment can make a huge impact, especially to smaller communities where capital and/or corporate sponsorship dollars is very limited. This program has had a huge return on investment for our community. It literally changes lives and makes entrepreneurship a reality.”
- “Positively impact [sic] the economy of our communities and to raise the next amazing companies that drive this country. Too often, efforts in rural area[s] where there are innovation droughts . . . are simply overlooked despite the good and important work being done here.”

**Figure 10. Concentration of Venture Capital Investment Across the United States**



*Source:* Richard Florida, “A Closer Look at the Geography of Venture Capital in the U.S.,” *CityLab*, February 23, 2016, <https://www.citylab.com/life/2016/02/the-spiky-geography-of-venture-capital-in-the-us/470208/>.

**Support to accelerators and startups headed by traditionally underserved groups.** As far as supporting underserved groups such as women, minorities, veterans, and those in rural or economically disadvantaged areas, the GAFC program has been effective. The FRD survey found that, on average, over the past three years:

- 66 percent of the programs were owned or led by women,
- 43 percent of the programs were located in or serving economically disadvantaged areas,
- 40 percent of the programs were owned or led by racial minorities,
- 22 percent of the programs were located in rural areas,

- 22 percent of the programs were owned or led by individuals with little access to traditional sources of capital,
- 18 percent of the programs were owned or led by veterans,
- 6 percent of the programs were owned or led by American Indians, Alaska Natives, or Native Hawaiians, and
- 6 percent of the programs were owned or led by individuals with disabilities.

Specific groups that spoke out in support of the GAFC program included women; minorities; Native Hawaiians; those from rural areas; those working in maker spaces, education, and science; and members of the military. The following are some of the remarks from survey respondents on the GAFC program's support of diverse business owners:

- "Many of the people we serve are members of underserved groups: women, veterans, and minorities. When they are empowered to start businesses, it's a driver for economic and social change."
- "A game changer and a disrupter in terms of bringing the underserved to feast at the innovation table of plenty."
- "It has been critical to our ongoing efforts to support companies through commercialization and to grow/extend our reach to other underserved areas."
- "We believe the GAFC program is an important tool in providing funding to entrepreneurial support organizations in disadvantaged regions within the United States and its territories."

Beyond responding to its government mandate, the strengths of the GAFC program and its impact were much broader. According to the FRD survey, most of the program's benefits fell into one or more of the following general categories:

**Program administration.** The SBA Office of Investment and Innovation (OII) staff administering the GAFC program were generally given high praise—frequently by name—for promoting, supporting, and connecting the awardees, the entrepreneurs they are supporting, and the resources they represent. The application and evaluation process, for the most part, was complimented for its simplicity, flexibility, and transparency. One respondent summed it up succinctly: "As someone who has worked in the government, I was blown away at how easy and smooth the process was." Several survey respondents also thanked the SBA for its reporting requirements, which helped them develop the metrics they needed to measure their own success as well as to attract potential investors:

I just wanted to send a note to let you know that I actually really appreciate the reporting you require each quarter. It helps us prioritize the gathering of data to report our metrics. Also, as emerging fund managers, we did not realize how much these types of metrics would matter in the process of raising subsequent

funds and recruiting companies to participate in our fund. I am not sure we would have tracked all of these metrics so diligently if you had not required them. We are so grateful that you require this reporting and for all of the good work you are doing. Onward and Upward!

In comparison to other entrepreneurial support programs, many recipients remarked on the GAFC prize's unique flexibility, which allows them to use the award to support their strategic needs or cover their general operating expenses:

Very important as a source of unrestricted revenue, able to use to create new space and upgrade existing [facilities] in a way that serves goals—difficult to source those kinds of funds, more valuable than the actual amount is they [sic] type of funds.

Indeed, according to the survey responses, most GAFC winners used the award money to fund general operating expenses such as rent and utilities (67 percent) or hire new personnel (52 percent).<sup>157</sup>

**Recognition and leverage provided by the GAFC prize, a federal award.** This benefit of the GAFC prize is mentioned over and over again by the winners. Many of their websites prominently display the SBA logo and at least one press release touting the coveted federal endorsement. The following are some examples of the feedback on the award's value:

- "The recognition from the U.S. SBA has boosted the credibility of our incubator program in the eyes of the foundation and corporate funders."
- "This program provided unprecedented access to the SBA, helped leverage other funding, and increased our brand as it was our first federal funding."
- "Winning support from the SBA through a competitive process has increased the credibility of our organization."
- "The GAFC program was pivotal to provide an additional source of grant funding and validation early in our accelerator. It also directly brought in dialog [sic] with local and state government officials when we had a chance to present the award."
- "A Huge Helping Hand: This grant gave us an infusion of funding to support a new group of startups, but it also gave our organization, which is, again, not tied to a larger organization or university, a credibility boost in the local, state, and national startup community."
- "Massive press (& credibility) which has directly led to the formation of a seed fund for our startups that will launch later this summer (July–Aug 2017). Transformational change for our organization & our community."
- "Credibility provided by [the] award more important than the monetary support."

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<sup>157</sup> This question instructed respondents to "select all that apply," so the total exceeds 100 percent.

**A strategic boost in funding.** One survey question asked if the GAFC funding was considered a drop in the bucket (too little to make a meaningful difference), a step stool (any financial assistance is welcome), or a game changer (allowed operations to continue long enough to bring in revenue). Only one respondent out of 111 answered that it was a drop in the bucket.

Over half of the survey respondents answered that the GAFC award was a step stool and an analysis of the winners' narrative comments showed that it was key for sustainability: it provided financial support "at an incredibly important juncture in [the business's] growth"; "without it, we would not have been able to get our accelerator off the ground"; it was "a significant impetus in the growth of our company"; and it enabled them "to function long enough to make an impact." Many others noted that the funding allowed them to focus on or develop specific programs that they otherwise would not be able to offer, such as building online training platforms, providing services to a greater number of entrepreneurs, focusing on and improving service delivery, and launching "catalyst" programs. Still others remarked that the GAFC prize allowed them to hire more employees or purchase needed equipment (especially for labs and maker spaces): "The GAFC program bridged the gap in resources and created an experience few entrepreneurs have without significant risk."

One respondent reported that the GAFC prize helped them keep things running when local funding was not available:

We lost state funding (Illinois state funding is now non-existent). This award helped us to continue the program without interruption.

Nearly 30 of the 111 survey respondents rated the GAFC financing as a game changer, the impact of which was several fold:

- "The GAFC award was critical in helping [us] scale our operations from 1 accelerator a year to 3, 15 entrepreneurs a year to 40+[,] these business have created over 400 jobs, which are 60 percent women owned."
- "It was a game changer for upgrading and expanding operations to go on to accept even more companies in following years after the award."
- "GAFC provided us with the opportunity to bring 5 new biotech startups to the . . . accelerator. This award was a game changer for us. THANKS!"

**A positive impact on the local startup community.** Several GAFC winners reported that the prize not only helped their organizations and allowed them to bring in more startups, but also boosted the local startup community. Take, for example, the following stories related by FRD survey respondents:

- "I cannot say this enough—the GAFC program has made a transformational impact on the greater Tampa Bay region. While we live in the 18th largest MSA [metropolitan statistical area] in the US, the National Venture Capital Association (NVCA) ranks the Tampa Bay region #43 out of 133 MSAs in the US in 2015 for venture capital investment activity. In the past decade, there have been many unsuccessful attempts to launch a seed fund in Tampa Bay. Thanks to this program—and the credibility it generated for our program and our vision of a viable seed fund,

this is now [a] reality in less than 12 months. This fund will not only serve as a model seed fund that communities across the US can aspire to, but will also be the catalyst for finally unlocking the early stage capital gap in the local ecosystem. Thank you!"

- "The GAFC provided the catalyst to build a culture of entrepreneurship in our community. The funds leveraged local community funding to provide a space where entrepreneurs could collaborate and share their successes and failures. The end result has been forward movement in business development and a place for a business to start or grow."
- "Early stage organizations need more funding opportunities like this."
- "This program has been instrumental in our success over the last 2 years and will be critical in helping us take our accelerator to the next level and assisting more ventures and our community."
- "The GAFC award allowed us to launch a new and needed program for the community that was not in our existing budget. The impact was 4+ jobs created and a new pipeline [sic] for generations of entrepreneurs [sic] to come."

**Leveraging other SBA services.** Several survey respondents were quite familiar with other SBA programs and commented on how the GAFC program informed their ability to take advantage of these efforts:

- "Aside from providing necessary funds for the prototyping center, it has given us access to/knowledge about other SBA programs."
- "The GAFC program has been helpful to support our organization's efforts to inform entrepreneurs and scientists about how the SBIR–STTR [Small Business Innovation Research and Small Technology Transfer Research] Programs can enable them to apply for non-dilutive capital to support their small innovation businesses. It has enabled us to partner with local SBDC [small business development center] and SBA partners to offer SBIR–STTR training programs and build our mentor network. Several of the companies who went through that training this year have applied for and received SBIR or STTR funding as a result."

**Leveraging other follow-on funding.** Several recipients of the GAFC prize reported that it has attracted additional funding:

- "The credibility from receiving this award helped us to secure a much larger capital gift."
- "While only 7% of our total operating budget, this award brought much for value to our organization in terms of credibility in the community and the ability to attract significant capital contributions."
- "The GAFC has been a significant impetus in the growth of our company. Not only did the financial support allow us to hire additional staff, but the recognition was important in attracting sponsors and partners."

In the year that they won the award, the SBA's quarterly reporting shows that the 2014 GAFC winners received a total of \$21,979,091 from outside investors, while the 2015 winners received a total of \$103,271,745 from such financiers.<sup>158</sup>

According to the responses to FRD's survey:

- 23 percent of the organizations benefited from the award by raising external capital,
- 23 percent of the organizations benefited from the award through better access to investors, and
- 43 percent of the organizations benefited because a "federal financial award attracts capital."

Some survey respondents even mentioned specific instances of the follow-on funding they received:

- "Companies that have gone through the [accelerator] have gone on to receive \$1.3 million dollars in private funding, and \$237,000 in additional public funding. None of this would have been possible if we hadn't received GAFC funding . . . Women owned companies that went through the Passenger to Pilot [program] received almost \$3 million dollars in revenue in 2016 and \$1.3 million dollars in private investment."
- "Our awards enabled us to create two new programs that have been able to attract additional external financial support to provide valuable resources to our science based startups. These two programs are enhancing our reputation in the community and attracting better startup companies more aligned with our mission."

**Economic impact.** In performing this evaluation, the FRD researchers encountered several issues with data from the SBA's required quarterly reporting that made an accurate assessment of the impact, or return on investment, of the GAFC program problematic. FRD implemented a survey to try to rectify these issues, however, the structure of the survey was not suited to all of the types of analysis that FRD would have liked to perform. For example, survey respondents were asked to provide the number of jobs they had created within a range, rather than a specific number. As a result, precise job creation numbers could not be calculated. In other instances, the intention of the question was misinterpreted. Respondents often did not differentiate between the questions aimed at revealing the characteristics of their accelerators from those concerned with the characteristics of their startups. Furthermore, as of the writing of this report, there were only two full years of SBA reporting available, making trends are difficult to observe. In addition, all data are self-reported by the awardees and have not been validated.

The section is an attempt to analyze the return on investment of the GAFC program in terms of:

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<sup>158</sup> These figures, which exclude the \$50,000 GAFC prize, are aggregate totals for all of the accelerators that won in that year. Since the delta for the year is only available from Q4 reporting, only data for 2014 and 2015 is available.

- The number of jobs created,
- The number of startups that were touched by program funding, and
- The amount of follow-on capital raised by the startups upon graduation from the program.

This analysis is based on the data available to the researchers, which includes quarterly reporting from the GAFC awardees for Q1–Q4 for 2014 and 2015, and Q1–Q3 for 2016, as well as the results of the FRD survey, which represent the input of 59.35 percent of the total awardee population of 187 individual recipients (of 223 total prizes) for all three years.<sup>159</sup>

**Jobs created.** The amount of U.S. taxpayer funding that has supported the GAFC awards for 2014–16, and the number of awards that have been given each of the three years, is:

	2014	2015	2016
<b>Total Funding</b>	\$2.5 million	\$4.4 million	\$3.4 million
<b># of Awards</b>	50	88	85

A very rough estimation of the number of jobs created by the GAFC funding is shown in the following tables. Table 3 shows the jobs created at startups, while table 4 considers those funded by accelerators. Tables 5 and 6, respectively, look at the number of jobs that can be attributed to GAFC funding and the costs to U.S. taxpayers. Please note that the SBA and FRD survey data collected this information differently.

<sup>159</sup> Not every program that won the award answered FRD's survey, so the total number of jobs created or sustained is actually higher than the number listed here. This is also true of the SBA survey, which had a response rate below 100 percent for most quarters.

**Table 3. Estimated Number of Jobs Created at 2014–16 GAFC Winners' Startups**

Year	SBA Data # of Jobs Created at Startups	FRD Data # of Employees at Startups*
<b>2014</b>	1,623	384
<b>2015<sup>†</sup></b>	11,682	1,111
<b>2016</b>	N/A <sup>‡</sup>	1,560
<b>TOTAL</b>	13,305	3,055

\* The FRD survey did not ask about the number of jobs that were created or sustained by startups, but it did ask for the number of full-time-equivalent employees. Because the answer fields were numerical ranges, the actual total number of employees could not be calculated. However, the minimum number of possible employees can be calculated and is shared here.

<sup>†</sup> The high variation of 2015 data from 2014 data can be attributed to the larger size of the 2015 class and a few 2015 accelerators that reported high values.

<sup>‡</sup> This data comes from the Q4 reporting, which was not available for 2016.

**Table 4. Estimated Number of Jobs Created by 2014–16 GAFC Winners**

Year	SBA Data # of Employees at Accelerators*	FRD Data # of Jobs Created at Accelerators <sup>†</sup>	
		Based on 59.35% Response Rate (111/187 Awardees)	Imputed to 100% Response Rate
<b>2014</b>	172	323	538
<b>2015<sup>†</sup></b>	760	823	1,371
<b>2016</b>	N/A <sup>‡</sup>	1,150	1,917
<b>TOTAL</b>	932	2,296	3,826

\* The SBA's reporting does not ask about the number of jobs created or sustained by the accelerator programs, but it does ask about the number of people employed by the accelerators. Therefore, data on the number of jobs created through direct employment is used. Awardees reported all jobs created during the award year, regardless of whether the award was used to directly fund new positions. The high variation of 2015 data from 2014 can be attributed to the larger size of the 2015 class and a few 2015 accelerators that reported high values.

<sup>†</sup> The FRD survey asked respondents to calculate the number of jobs that their organization had created—exclusive of their startups—that could be directly or indirectly attributed to the GAFC award. Because the answer fields were numerical ranges, the actual total number of jobs could not be calculated. However, the minimum number of possible jobs can be calculated and is shared here.

<sup>‡</sup> This data comes from the Q4 reporting, which was not available for 2016.



**Table 5. Estimated Minimum Number of Jobs Created at 2014–16 GAFC Winners' and Their Startups that Could Be Attributed to GAFC Funding**

Year	SBA Data # of Jobs Created at Startups and # of Employees at Accelerators*	FRD Data # of Employees at Startups <sup>†</sup> and # of Jobs Created at Accelerators <sup>‡</sup>
		Imputed to 100% Response Rate
2014	1,795	922
2015 <sup>§</sup>	12,442	2,482
2016	N/A <sup>¶</sup>	3,477
<b>TOTAL</b>	14,237	6,881

\* The SBA's reporting does not ask about the number of jobs created by the accelerator programs, but it does ask about the number of people employed by the accelerators. Therefore, data on the number of jobs created through direct employment is used. Awardees reported all jobs created at the accelerator during the award year, regardless of whether the award was used to directly fund new positions.

† The FRD survey did not ask about the number of jobs that were created by startups, but it did ask for the number of full-time-equivalent employees. Because the answer fields were numerical ranges, the actual total number of employees could not be calculated. However, the minimum number of possible employees can be calculated and is shared here.

‡ The FRD survey asked respondents to calculate the number of jobs that their organization had created or sustained—exclusive of their startups—that could be directly or indirectly attributed to the GAFC award. Because the answer fields were numerical ranges, the actual total number of jobs could not be calculated. However, the minimum number of possible jobs can be calculated and is shared here.

§ The high variation of 2015 data from 2014 data can be attributed to the larger size of the 2015 class and a few 2015 accelerators that reported high values.

¶ This data comes from the Q4 reporting, which was not available for 2016.

**Table 6. Estimated Cost to U.S. Taxpayers per Job Created by the 2014–16 GAFC Winners and Their Startups**

Year	Total Award Budget	Estimated # of Jobs Created		Estimated Taxpayer Cost per Job Created	
		Minimum	Maximum	Minimum	Maximum
2014	\$2.5 million	922	1,795	\$1,393	\$2,711
2015	\$4.4 million	2,482	12,442	\$354	\$1,773
2016	\$4.25 million	3,477	N/A*	\$978	N/A*
<b>TOTAL</b>	\$10.3 million	6,881	14,237	\$723	\$1,497

\* This data comes from the Q4 reporting, which was not available for 2016.

As table 6 illustrates, the approximate cost of one job created by the 2014–16 GAFC awardees and their startups is about \$1,500.

**Startups served.** Similarly, a very rough estimation of the number of startups served directly by GAFC funding and the estimated costs to U.S. taxpayers are shown in tables 7 and 8.

**Table 7. Estimated Number of Startups that Benefited from GAFC Funding**

Year	SBA Data # of Startups Graduated	FRD Data # of Startups Graduated*
2014	663	208
2015	1,659	437
2016	N/A <sup>†</sup>	920
<b>TOTAL</b>	2,322	1,565

\* Because the answer fields for this question on the FRD survey were numerical ranges, the actual total number of startups graduated could not be calculated. However, the minimum number of possible startups can be calculated and is shared here.

<sup>†</sup> This data comes from the Q4 reporting, which was not available for 2016.

**Table 8. Estimated Cost to U.S. Taxpayers per Startup Served**

Year	Total Award Budget	Estimated # of Startups Served		Estimated Taxpayer Cost per Startup Served	
		Minimum	Maximum	Minimum	Maximum
2014	\$2.5 million	208	663	\$3,771	\$12,019
2015	\$4.4 million	437	1659	\$2,652	\$10,069
2016	\$4.25 million	920	N/A*	\$3,696	N/A*
<b>TOTAL</b>	\$10.3 million	1,565	2,322	\$4,436	\$6,581

\* This data comes from the Q4 reporting, which was not available for 2016.

As table 8 illustrates, the GAFC program supports one startup at the roughly estimated cost of approximately \$6,580.

**Follow-on capital raised by startups.** The amount of follow-on capital that was raised by the GAFC awardees' startups is part of the SBA's required reporting. Table 9 shows the total amount of capital that has been raised by these startups since their inception, as well as the year in which their parent accelerator won the GAFC award.

**Table 9. Estimated Amount of Capital Raised by Startups Served by 2014•16 GAFC Winners**

Year	SBA Data* Capital Raised Since Inception	SBA Data Capital Raised Year of Award
2014	\$325,179,492	\$213,441,599
2015	\$1,317,616,176	\$395,801,834
2016	\$1,880,916,731	N/A <sup>†</sup>
<b>TOTAL</b>	\$3,523,712,399	\$609,243,433

\* With the SBA data, there is an issue with deciding whether to take the information from Q1 or Q4. The Q1 numbers are the baseline so they don't represent the award's effects on the programs. However, while the Q4 data shows the delta for the year the award was won—and therefore illustrates its effects—it only exists for 2014 and 2015.

<sup>†</sup> This data comes from the Q4 reporting, which was not available for 2016.

The FRD survey did not ask the accelerators how much capital their startups had raised from outside sources. However, there were questions about the amount of capital the programs had invested in these businesses. For example, in response to question 36—"From 2014–16, what is the total dollar amount your organization has invested in your startups?"—the respondents replied that they had invested a total of \$87,724,794 in their startups.

## Weaknesses

The primary weaknesses of the GAFC program include issues with program administration, such as irregular record keeping, statistically inaccurate performance metrics, and its required reporting; as well as concerns that it overlaps and duplicates other SBA entrepreneurial support programs, that it grants prizes to too many organizations that are not true accelerators, and that some organizations may become too dependent on GAFC funds for their existence.

***Irregular record keeping.*** In gathering information about the GAFC program and participants from the SBA, the FRD researchers discovered that, because of a small and fluctuating staff, record keeping (from the winners' contact information to required reporting documentation) was irregular and sometimes incomplete. This helps explain the discrepancy the team observed in the survey responses concerning OII's administration of the project. As noted previously, many respondents were effusive with praise for the program staff for keeping in touch and providing important news and contacts, while others, though not as many, complained of the opposite:

- "Aside from an initial mention in the PR [public record] for winning, there was very little continued press or engagement enacted by the GAFC, which would have been crucial to building the program. Overall it's worth continuing but there should be more involvement and support from the GAFC vs the general checkin [sic] to ask for metrics."
- "The reporting process for GAFC has been somewhat confusing. Upon receipt of the award, we were informed of an initial list of metrics we were expected to track but then the questionnaires asked for metrics that were not included in the list."

It is the researchers' judgement that the issue behind such complaints is the low staffing of the GAFC program. This could be rectified by providing a more consistent level of administrative support for managing the competition records.

***Statistically inaccurate performance metrics.*** The researchers found in conducting this evaluation that, in some cases, the SBA-required reporting metrics were not properly framed to collect statistically accurate data that could be used to compare the GAFC prize winners across various metrics and characteristics. It is recommended that the SBA bring in statistical experts to reframe the reporting questions so they can produce statistically accurate and meaningful measurements of the program. One survey respondent, in fact, indicated that "better scrutiny and measurement of KPI's [key performance indicators] would make the program more valuable." Another noted:

The 2014 follow up and reporting was utterly confusing and nonsensical.  
I hope it's been addressed since, as it is an important program and we are huge

contributors to key metrics but the questions were never asked in a way that showed the correct metrics/timelines relevant to this field.

**Required reporting.** Some GAFC participants felt the required reporting was overkill because they will not be able to show tangible performance results for several years. However, Congress and U.S. taxpayers need some sort of metric to measure the impact of their investments in government support programs and a baseline needs to be established to measure their progress over time. The SBA cannot be faulted for trying to collect early metrics, but perhaps it could investigate the potential of streamlining its reporting process.

Of course, these problems are also experienced by government programs elsewhere in the world. For example, a September 2016 evaluation of Canada's Canada Accelerator and Incubator Program shows that it suffers from some of the same reporting issues as the SBA—namely, how to balance its oversight controls with the administrative burden they cause. The evaluation went on to express the importance of collecting performance metrics early on in the program and the problems with collecting statistically usable data:

The evaluation shows that NRC-IRAP [the National Research Council's Industrial Research Assistance Program] was late in collecting performance measurement (PM) data for year one. Further, once collection was implemented, data provided by recipients was incomplete. The PM outlook for year two is concerning given this reluctance of recipients to share information. NRC-IRAP should ensure that the recipients provide all the data necessary for the mandatory impact evaluation.<sup>160</sup>

**Overlaps and duplicates other SBA entrepreneurial support organizations.** In 2016, the SBA began asking the GAFC award winners to report back on the other agency services they have used. The following analysis is based on reporting for the first quarter of that year:

- 77 percent of the respondents stated that someone from their team was undergoing the SBIR Train the Trainer Initiative webinar<sup>161</sup>, and
- 31 percent of the respondents stated that they had a strong level of engagement with the SBA District Field Offices.

However,

- 15 percent of the respondents stated that they did not have a relationship with these offices, and
- 7 percent of the respondents stated that their relationship with the SBA District Field Offices was weak or not useful.<sup>162</sup>

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<sup>160</sup> Benoît Gauthier, Jennifer Birch-Jones, and Natalie Kishchuk, *Evaluation of the Canada Accelerator and Incubator Program (CAIP): Evaluation Report* (Gatineau, Quebec: Circum Network, 2016), [https://www.nrc-cnrc.gc.ca/obj/doc/about-apropos/planning\\_reporting-planification\\_rapports/evaluation-evaluation/caip\\_evaluation\\_report\\_2016\\_e.pdf](https://www.nrc-cnrc.gc.ca/obj/doc/about-apropos/planning_reporting-planification_rapports/evaluation-evaluation/caip_evaluation_report_2016_e.pdf).

<sup>161</sup> These calculations are based on 85 returned responses for 2016. SBIR is "a highly competitive program that encourages domestic small businesses to engage in federal research/research and development (R/R&D) that has the potential for commercialization" (SBA, Small Business Innovation Research Program, "About SBIR").

<sup>162</sup> These calculations are based on 85 returned responses for 2016.

Additionally, the responses to the FRD survey indicated that 49 percent of the 2014-16 GAFC winners have obtained important entrepreneurial assistance from the SBA's district or regional centers and 56 percent have obtained entrepreneurial assistance from the agency's SBDCs. However, there was little evidence to suggest that the services supported by GAFC funding overlapped with those provided by other SBA programs.

Some overlap may exist with the SBDCs in the form of networking opportunities, business training, and technical assistance. The SBA's clusters program, which the agency created "to strengthen small business participation in existing regional economic clusters" may also have some overlap with the GAFC effort. The clusters, according to a former associate administrator:

[Foster] a network of businesses, universities, and investors that work to grow a related set of industries. Leveraging these resources, each cluster acts as a networking hub, connecting small businesses to innovation assets, while providing targeted matchmaking, training, and mentoring. Small businesses participating in our clusters are able to access new markets, [and] commercialize products, thus accelerating their growth.<sup>163</sup>

Nonetheless, no survey respondents reported using the SBA cluster programs.

Other federal programs<sup>164</sup> were common sources of assistance to the GAFC winners, but they had a lower rate of engagement with other SBA resources, such as the Emerging Leaders, Regional Innovation Clusters, and ScaleUp America programs; the Small Business Technology Transfer Center; SCORE; the Veterans Business Outreach Centers; and the Women's Business Centers. However, several respondents discussed how their involvement with the GAFC program connected them to or made them more aware of other SBA services and funding opportunities, other nonprofit or local funding and support opportunities, or a network of other accelerators and entrepreneurial support organizations.

***Grants prizes to too many organizations that are not true accelerators.*** Some critics of the GAFC program, particularly academics, argue that it includes too many organizations that are not, strictly speaking, accelerators. In fact, the FRD survey results show that 35 percent of the prize winners consider themselves to be accelerators, while 17 percent see themselves as incubators. Forty-two percent of the respondents think of their organizations as hybrid models,

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<sup>163</sup> U.S. House of Representatives, *Hearing on SBA-Created Initiatives: Necessary or Redundant Spending?, Before the Committee on Small Business*, 113th Cong., 2d sess. (April 30, 2014), "Testimony of Tameka Montgomery, Associate Administrator, Office of Entrepreneurial Development, U.S. Small Business Administration," 7, <https://www.gpo.gov/fdsys/pkg/CHRG-113hhrg87751/pdf/CHRG-113hhrg87751.pdf>.

<sup>164</sup> The other federal programs identified by survey respondents were: the U.S. Department of Commerce's Economic Development Administration—including its Regional Innovation Strategies Program—and the National Institute of Standards and Technology's Manufacturing Extension Partnership; the U.S. Department of Defense, including the Defense Advanced Research Projects Agency; the U.S. Department of Health and Human Services' National Heart, Lung, and Blood Institute's Office of Translational Alliances and Coordination, the National Institutes of Health's Small Business Innovation Research and Small Business Technology Transfer Programs, and the Office of the Assistant Secretary for Preparedness and Response's Biomedical Advanced Research and Development Authority; the U.S. Food and Drug Administration's Pediatric Device Consortia Grant Program; the National Science Foundation; and the U.S. Department of Agriculture, including its Beginning Farmers and Ranchers Program.

5 percent claim to be co-working startup communities, and 2 percent classify themselves as shared tinker/maker spaces.

However, as discussed earlier in this report, there are many different and evolving definitions of what constitutes an accelerator. As entrepreneurial support organizations have expanded, the distinctions between labs, incubators, and accelerators, for example, have become less clear and the number of organizations that describe themselves as hybrids is on the rise. An analysis of the GAFC data shows that there was a steady increase in the number of hybrids that won the award. Hybrids accounted for 36 percent of the 2014 winners, 42 percent of the 2015 winners, and 44 percent of the 2016 winners. It is important to note that it is hard to say whether this is because there are an increasing number of hybrid models in existence, or because the SBA's selection process has (for some reason) increasingly favored awarding the GAFC prize to hybrid programs.

For the purposes of this report, accelerators are defined as "a fixed-term, cohort-based program, including mentorship and educational components, that culminates in a public pitch event or demo day."<sup>165</sup> Most GAFC recipients appear to follow these guidelines. However, this definition notably does not include the organization providing low levels of funding to startups in exchange for a small share of the startups' equity, which many argue is key for "accelerating" these businesses' entry into the market. Yet when one looks at the narrative remarks made by the FRD survey respondents, one notices that this reluctance to take an equity stake in startups is mostly done for the benefit of the startups.

In 2014, the OII initiated the GAFC program and defined an accelerator as "a time-specific, mentorship-driven program designed to provide startups with critical resources to help them make rapid progress on product and customer development."<sup>166</sup> The stated goal of the program was "to get an extra infusion of capital to qualified accelerators and the burgeoning ecosystem in which they play, which, in turn, provides resources to boost the startup and entrepreneurship communities around them."<sup>167</sup>

Although the GAFC award recipients might not fit the strictest definition of accelerators, the overarching goals of the program, as previously stated, have been met, which may carry more weight for a government assistance program than the need to award strict accelerator models.

***Some organizations may become too dependent on GAFC funds.*** There is a concern that by providing funding to small startups that have difficulty attracting financial support by other means, they may become too dependent on the GAFC program for their existence. In fact, some survey respondents stated as much, saying, "Our program depends on it," and "The GAFC has been the single most important funding for our accelerators [sic] launch and sustaining future."

The SBA does not intend for the GAFC prize to constitute a critical share of the winners' funding. With independent competitions, many more applicants than awards, and inconsistent funding

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<sup>165</sup> Dempwolf, Auer, and D'Ippolito, "Innovation Accelerators," 9, 10, 13.

<sup>166</sup> Paula Andruss, "What to Look for in an Accelerator Program," *Entrepreneur*, January 30, 2013, <https://www.entrepreneur.com/article/225242>.

<sup>167</sup> SBA, *The Growth Accelerator Fund Competition: Program Overview*.

levels from year to year, no organization should rely on the program as a major funding source. One survey commenter explained it well:

I find it challenging to consider other accelerators, with limited funding, relying on the GAFC as a sustainable source of funding, if that is the case. The money is incredibly helpful for items that are not within the scope of work for our current grant funding available through the FDA [U.S. Food and Drug Administration] to help build our infrastructure and mature into a larger program, but we would not rely on it year after year as a main source of funding.

## Opportunities

Opportunities for the further development of the GAFC program were provided by respondents to the FRD survey. These remarks primarily address the size of the GAFC award and whether the program should be revised in some way.

***Size of the award.*** The OII, which sponsors and manages the GAFC prize, consulted with a number of accelerator and industry experts on what an appropriate award size might be. Having noticed that many agencies were giving large awards to few efforts across the United States, the OII opted for a “let a thousand flowers bloom approach,” providing small prizes to a large number of awardees. The office feels “it [has] worked out well and helped us evangelize to [a] greater number of folks across the [country].”<sup>168</sup>

When asked about the size of the award, the GAFC winners were fairly evenly split between thinking that it should be kept as is, made larger, or scaled in some way. No respondent thought that the award should be made smaller. Additionally, more than three-quarters of the winners thought that the number of GAFC awards should not be capped.

However, there was a slight preference for scaling the award versus making it larger or keeping it as is. Most winners thought that if the award were to be scaled, it should be by the planned use of funds. Respondents offered other criteria for scaling the award, including:

- Number of startups served,
- Number of startups receiving follow-on funding,
- Accelerator’s return on investment,
- Accelerator’s track record of achieving goals,
- Success of the organization,
- Quality of the program,
- Length of time the applicant has been in business,
- Size of the applicant’s organization,
- Service to an underserved demographic,
- Impact made on underrepresented communities, and
- Significance of the need being addressed in the community.

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<sup>168</sup> Nagesh Rao (Chief Technologist and Entrepreneur in Residence, SBA Office of Investment & Innovation), email message to project manager, September 27, 2017.

The majority of the awardees believed that the SBA should require GAFC applicants to provide funds that match the award. This requirement, they believed, would help weed out organizations that are not financially sound or those that would not take the prize seriously. More than two-thirds of the winners believed that a 1:1 matching requirement was manageable, and slightly more than half believed that a 4:1 matching requirement was manageable. Most winners stated that neither a 1:1 nor a 4:1 matching requirement would be a deterrent to applying for the award. In fact, most respondents appreciated the idea of a matching requirement:

- “When a grant program like the SBA's GAFC requires organizations to get matching funds, this creates a critical sense of urgency and major incentive with potential public/private-sector matching partners. Please keep this as a requirement.”
- “We believe that demonstrating a 4:1 match makes [sense] to see if the accelerator has the capacity to fund raise [sic] in order to stay operational and be an effective organization.”
- “I think it essential that an accelerator/incubator provide matching funds to the SBA GAFC grant in order to incentivize the organizations to plan and execute a successful sustainability strategy so that their impact continues well after the grant funds are gone.”

Many remarked, however, that raising matching funds can be problematic for relatively young accelerators. For example, one respondent noted:

We find our startups and entrepreneurs [are] much more serious and engaged, if they have some 'skin in the game' and think the same holds true for entrepreneurial support organizations applying for the GAFC. The 4:1 might be a bit high for some, especially new, organizations. Maybe a 1:1 or 2:1 would be more achievable. It depends on if the SBA thinks new and emerging organizations that may not have proper funding yet are more likely to produce the desired outcome or if more established organizations that may have more established and sustainable funding are more likely to produce the desired outcomes. Based on this, the SBA can set the bar to apply higher or lower.

***Continue/increase funding.*** Not surprisingly, the GAFC award is very popular with its recipients. They overwhelmingly support the program and its benefits, and want it to continue and expand. The range of comments speaks to this observation:

- “Great program, should not only continue but should be expanded. Very impactful.”
- “This program should not only receive continued federal funding, but the funding amount should be increased.”
- “We are grateful for the SBA's support and wholeheartedly recommend that the program continues to receive federal funding.”
- “I think it's a good stepping stool for a program to launch from, however, programs that are more in an infancy stage need further funding to truly expand and engage.”
- “Without the funding, our program would not have made [a] direct impact and yes, the program is much deserving for continued federal funding.”



- “The SBA Growth Accelerator grant truly made all the difference for our organization. Such a huge help in our early years! We look forward to the continued support.”
- “This is an extremely valuable program. It seems like a no-brainer to support accelerators and incubators because of the multiplying effect on economic development.”
- “Please continue this funding. [It is] difficult to receive direct economic development funding like this for programs that is both easy to apply for and not invasive to the organization to support operations.”
- “The GAFC is critical to our ongoing success and growth. It is VERY difficult to raise funds. The GAFC dollars go a long way and make a significant impact. We hope to see it continue and we also hope we can continue to receive support.”

More than once the survey respondents recommended that any messaging about the program be targeted to different categories of businesses to reduce the volume of irrelevant information:

It might be helpful to organize award-winners into different categories to share resources. Many of the emails I have received about the tech area are not relevant to work we do and vice versa[;] it would be helpful to hear from other projects in the urban agricultural arena.

Others suggested expanding offerings to participants that show improved metrics:

- “For award winners that are able to demonstrate success and growth from the award, consider new funding opportunities to expand these programs with proven metrics.”
- “The GAFC program is a fantastic tool to find untapped talent in your community. Vetting their knowledge of the existing funding resources beforehand would definitely help gauge their ability [for] success. It’s a huge challenge to learn while trying to build and run successful programming.”
- “[GAFC should] award organizations that grow industries left out by venture capital—no need for more funding for tech/high-growth startups. We need funding to support other industries, like main street businesses, farm & food businesses, creatives, and other B2B [business-to-business] support companies that provide the majority of jobs, but aren't in the limelight like tech.”
- “We strongly support for the GAFC program to continue! We hope that the outcomes achieved thus far will be reviewed and analyzed. If there are tweak[s] to be made to the program for more impact, please do so. As far as I know, this is the only federal program directly supporting accelerator[s] and incubators in the [United States] and as far as I can tell, the outcomes of the program have been worthwhile.”

## Threats

The biggest threat to the GAFC program is reduced funding. This could come about for several reasons, including:

- The SBA's overall funding is cut and it no longer has the funds to support the program.
- The GAFC's inclusion of non-accelerator programs creates a redundancy with other federal programs.
- The required reporting shows a low return on investment for the program.
- Due to the lack of accurate reporting, the program is unable to prove a worthwhile return on investment.
- The program or funding is abused in some way.

However, several members of Congress have been supportive of legislation seeking federal funding for accelerator grants. In February 2013, for example, Techstars cofounder and Colorado Rep. Jared Polis and other congressional members (see table 10) introduced bills titled "Startup Act 3.0" (H.R. 714 and S. 310), which sought to set aside 0.15 percent of certain federal agencies' extramural research budgets for "commercialization accelerator grants" and "commercialization capacity building grants." The legislation has earned broad support from entrepreneurs and the technology industry. Provisions of the bill have been scored by economists as considerable vehicles of economic growth, and it has had bipartisan support in both chambers. Yet, as of September 2017, no further action has been taken.<sup>169</sup>

**Table 10. Congresspersons Supportive of Accelerator Initiatives**

Congressperson	Reason
Rep. Jared Polis (D-CO)	Cofounder of TechStars; cosponsor of Startup Act 3.0 (H.R. 714)
Rep. Steve Chabot (R-OH)*	Cosponsor of Startup Act 3.0 (H.R. 714)
Rep. Judy Chu (D-CA)*	Cosponsor of Startup Act 3.0 (H.R. 714)
Rep. Gerald Connolly (D-VA)	Cosponsor of Startup Act 3.0 (H.R. 714)
Rep. Blake Farenthold (R-TX)	Cosponsor of Startup Act 3.0 (H.R. 714)
Rep. Alcee Hastings (D-FL)	Cosponsor of Startup Act 3.0 (H.R. 714)
Rep. Jared Huffman (D-CA)	Cosponsor of Startup Act 3.0 (H.R. 714)
Rep. Peter King (R-NY)	Cosponsor of Startup Act 3.0 (H.R. 714)
Rep. Devin Nunes (R-CA)	Cosponsor of Startup Act 3.0 (H.R. 714)
Rep. David G. Valadao (R-CA)	Cosponsor of Startup Act 3.0 (H.R. 714)
Rep. Kevin Yoder (R-KS)	Cosponsor of Startup Act 3.0 (H.R. 714)
Sen. Christopher Coons (D-DE)	Cosponsor of Startup Act 3.0 (S. 310)
Sen. Jerry Moran (R-KS)	Cosponsor of Startup Act 3.0 (S. 310)
Sen. Mark Warner (D-VA)	Cosponsor of Startup Act 3.0 (S. 310)

\* Member of the House Small Business Committee.

<sup>169</sup> Startup Act 3.0, H.R. 714 § 8, 113th Cong., 1<sup>st</sup> sess. (2013), <https://www.congress.gov/bill/113th-congress/house-bill/714/text>.

However, there have been signs of promise for the GAFC program. For example, in a memo released ahead of a congressional hearing on empowering small businesses, the House Small Business Committee acknowledged the power of accelerators:

The accelerator model is an increasingly important resource for entrepreneurs and startups as they seek critical early investments . . . As the committee continues to look at methods and models to help create an environment where budding entrepreneurs and the nation's 29.6 million small businesses can flourish and grow, accelerators will play a critical role.<sup>170</sup>

In another positive development, in October 2017, Senator Cory Booker (D–NJ) introduced the Startup Opportunity Accelerator Act, legislation that will invest in startup accelerators and incubators to spur ecosystems of entrepreneurship in new and underserved areas. It is built upon the GAFC program and proposes to provide:

- Funding offered through a competitive prize program for organizations supporting early-stage startups, including new and existing accelerator programs, incubators, and universities;
- Targeted focus on encouraging growth accelerators that address key demographic and geographic gaps, including women, veterans, and minority entrepreneurs, individuals with disabilities, and rural communities;
- Increased funding which will allow the SBA to continue expanding the strength of growth accelerators across the country; and
- Oversight and transparency of the GAFC program.<sup>171</sup>

Citing research conducted by the Massachusetts Institute of Technology on the impact of accelerators in areas the private capital market doesn't serve well, Booker's office notes that "areas in which an accelerator opens see a 97 percent increase in the number of distinct venture capital investors compared to similar areas without an accelerator." A companion initiative was also introduced in the U.S. House of Representatives by Reps. Lisa Blunt Rochester (D–DE) and Brian Fitzpatrick (R–PA).<sup>172</sup>

## CONCLUSION

This study by FRD evaluates the SBA's GAFC program—its administration, structure, and impact—in order to assess its value to the growing community of accelerators and startups within the United States.

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<sup>170</sup> U.S. House of Representatives, Committee on Small Business, "Memorandum: Hearing; 'Empowering Small Businesses: The Accelerator Model,'" May 1, 2017, 5, [https://smallbusiness.house.gov/uploadedfiles/5-3-17\\_hearing\\_memo.pdf](https://smallbusiness.house.gov/uploadedfiles/5-3-17_hearing_memo.pdf).

<sup>171</sup> "Booker Introduces Startup Accelerator Bill," *Cory Booker* (Senate website), October 17, 2017, [https://www.booker.senate.gov/?p=press\\_release&id=680](https://www.booker.senate.gov/?p=press_release&id=680).

<sup>172</sup> "Booker Introduces Startup Accelerator Bill."

At the heart of determining the value of the program is the federal government's role in supporting entrepreneurship. According to a report by the Global Accelerator Network, since 2007–8 particularly, people have come to rely less on large organizations or governments as job creators. Instead, they have begun looking to entrepreneurship "as a primary driver of sustainable economic growth."<sup>173</sup> Federal support to entrepreneurs is, therefore, key to spurring this growth.

To stimulate innovation and economic growth, the GAFC program has aimed to provide effective support structures to entrepreneurs who are underserved by the private investment market by financing accelerators. These accelerators, in turn, become force-multipliers—providing startups with mentorship and access to capital and networks, and enabling environments that foster innovation and new or better job opportunities, especially in economically disadvantaged urban, rural, and semi-rural areas, where poor infrastructure (both physical and commercial) is a major barrier for small businesses to entering the marketplace.

In general, public funding has come to play a significant role in supporting the relatively young accelerator community worldwide. According to the 2015 Global Accelerator Report by Gust:

Governments around the world are increasingly seeing innovation as a key factor for maintaining economic competitiveness. One way of doing so is to create their own public programs and funds or reinforce existing programs so that they can have a bigger impact on the ecosystems they serve. . . . In the USA and Canada, 36% of accelerators reported that they either received a mix of private and public funding or are 100% publicly funded. Public funding typically comes in the form of government grants and subsidies.<sup>174</sup>

However, several practitioners in the startup community have cautioned that while the goal of the government can be supporting entrepreneurs, it should not attempt to manage or direct the sector. In his book *Startup Communities*, for example, TechStars cofounder Brad Feld notes that "it is impossible to control a startup community. . . . government shouldn't play a leadership role."<sup>175</sup> Moreover, Feld argues that for government to be beneficial to the community, it needs to understand the rapid pace of entrepreneurship—which stands in sharp contrast to the hierarchical, slow pace of government—and how the two can best work together.

The responses to FRD's survey of the 2014•16 GAFC winners also provide insight into the important role played by government, in this case the SBA's GAFC program, in supporting entrepreneurship as seen from the accelerator perspective:

- "I think this program has been an important experiment in shifting government funding toward startups and startup support organizations. In our community,

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<sup>173</sup> Mike Herrington and Penny Kew, *Global Entrepreneurship Monitor 2016/2017 Global Report* (London: Global Entrepreneurship Research Association, 2017), 36, <http://www.gemconsortium.org/report>.

<sup>174</sup> Gust, "USA & Canada Accelerator Report 2015," accessed October 5, 2017, <http://gust.com/usa-canada-accelerator-report-2015/>.

<sup>175</sup> Feld, *Startup Communities*, 145.

this type of funding is almost nonexistent and without federal support, many communities cannot bridge the gap.”

- “Seeding creative, high-risk approaches is a critical role played by the SBA. The growth accelerator program is especially important since it supports organizations that are themselves catalytic.”
- “This grant really force amplifies into helping many startup companies all at once.”

## Observations

Over the course of the study, the FRD researchers observed the following concerning the GAFC program:

- It is widely supported by those who have participated in the program as well as experts in the entrepreneurship field.
- It is complementary to other federal entrepreneurial support initiatives, although the potential for overlap is present.
- For many awardees, the GAFC funding made it possible for them to cover their operating expenses in the very early stages of developing their business until their first startup had graduated.
- The required 4:1 match for the \$50,000 prize incentivizes winners to diversify their funding sources and discourages them from being too dependent on the GAFC prize for basic operations.
- The evidence suggests that accelerators and other similar startup-support organizations can complement regional-level mechanisms that are aimed at increasing startups' access to capital.
- The GAFC prize has reached regions that are underserved by the private venture capital community.
- The GAFC program's support to accelerators has had a catalytic impact on multiple startups.
- Unfortunately, the program's current outcome-related data is insufficient for a true impact evaluation of the program.

## Feedback and Suggestions from Outside Experts

To supplement its own research and survey findings, FRD solicited the input of government, nonprofit, and accelerator experts to provide their perspectives on the GAFC program. These experts included Mason Ailstock, president of the Association of University Research Parks; Jason Bossie, the director of the Office of Performance Management, which sits within the SBA's Office of the Chief Financial Officer; Michael Ehst, a senior private-sector specialist at the World Bank; Emily Reichart, the chief executive officer (CEO) of Greentown Labs (a 2015 GAFC winner); and Dr. Stephen Tang, the president and CEO of the University City Science Center (a 2015 and

2016 GAFC winner). The following discussion is drawn from their general remarks (which have been lightly edited for consistency and clarity) as well as their responses to the following questions:

- Do you think that the GAFC program is an effective mechanism for supporting innovation and entrepreneurship?
- Is it duplicative of other public or privately sponsored programs?
- The GAFC awards prizes of \$50,000. Is this an appropriate size for such assistance?
- Should different size prizes be awarded based on different factors (size of accelerator, structure of the accelerator, market accelerator is serving, etc.)?
- What is the value of allowing the prize to be used for general operating expenses?
- How could one measure the impact of the program?
- Should this program be continued and, if so, at what level of funding?

**The GAFC program as an effective mechanism for supporting innovation and entrepreneurship.** All of the peer reviewers agreed that the GAFC program is a unique and important tool in supporting innovation and entrepreneurship, particularly its contribution to balancing the distribution of capital across the country—giving support to underserved geographic areas and populations that can lead to economic growth, providing and leveraging federal support to the startup community, and as an endorsement and validation of the organizations that win the award.

**Feedback: GAFC as an Effective Mechanism of Support**

The GAFC [Program] allows for thoughtful and well-balanced investments in projects and geographies that have been vetted, ensuring the greatest likelihood of success with a balance of distribution in equity. For many, GAFC offers the opportunity for validation and proof-of-concept modeling.

*Mason Ailstock, Association of University Research Parks*

The GAFC Program helps address a market distortion and serves a policy goal of helping to create healthy entrepreneurial ecosystems that spur innovation. . . . the accelerators help underrepresented groups gain access to resources that may not have been available or . . . at an affordable cost.

*Jason Bossie, U.S. Small Business Administration*

Given the diversity of entrepreneurship support programs and varying local economic conditions in the United States, GAFC can target a range of important innovation and entrepreneurship goals.

*Michael Ehst, World Bank*

Given all of the programs the federal government deploys to help support startups, it is only fitting that a federal program should exist to support startup support organizations. Supporting GAFC is an important component to a comprehensive innovation support strategy by the federal government.

*Emily Reichart, Greentown Labs*

The SBA grants serve as an endorsement and validation that has only helped to strengthen these initiatives through the development of more partnerships and stronger applications from innovators.

*Dr. Stephen Tang, University City Science Center*

**Duplication of other public or privately sponsored programs.** The peer reviewers unanimously agreed that the GAFC program fills an important niche supporting the growth of the nation's startup communities. These experts confirmed that, from their point of view, it is unique in that it successfully and efficiently leverages a small amount of flexible financial assistance to support a large number of accelerators and similar organizations, which have been proven to give startups a better chance of success.

**Feedback: GAFC as a Duplication of Other Programs**

GAFC is unique in its structure, metrics, and application. The program fills an important gap for funding and awareness of resources. The connection to university matching funds and programs, where success is statistically proven to be higher than the private-sector market, is an opportunity to leverage other program funding sources and stack capital resources for awardees.

*Mason Ailstock, Association of University Research Parks*

The program does not seem duplicative other public or privately sponsored programs . . . While it can be broadly defined as an entrepreneurial development program, the program targets resources to a specific group (accelerators) that then leverage resources to help spur innovation. The model is unlike other federal programs.

*Jason Bossie, U.S. Small Business Administration*

From the evaluation, the GAFC [Program] seems to have its own niche. Overlap would seem [to be] something for the program managers to keep in mind rather than for a policy decision at this point.

*Michael Ehst, World Bank*

While a wide range of funding opportunities exist for innovators and entrepreneurs, far fewer exist for the organizations that support them. The GAFC [Program] is unique in its nonprescriptive approach to providing funding. Giving recipients the ability to use the award money as they need it allows for true innovation to occur. In that sense, it is very unlike most other "seed funding" opportunities from traditional government or [venture capital] investments and programs.

*Emily Reichart, Greentown Labs*

GAFC is a one-of-a-kind program in that it provides seed resources to support a broad range of accelerator models. It may be the only federal program specifically dedicated to accelerator programs without [a] focus on a particular business vertical. . . . There are other public and private programs designed to accelerate companies in particular verticals, but very few that are sector-agnostic like the GAFC [Program]. The GAFC [Program] is able to focus squarely on the fundamentals that are universal across sectors, creating a stronger foundation than other programs.

*Dr. Stephen Tang, University City Science Center*

**The appropriate size for the GAFC prizes, which are currently \$50,000 each.** Some of the experts that FRD contacted felt the \$50,000 award was adequate to provide meaningful support to accelerators and emphasized the value of the matching requirement to discourage future dependence on the award and to encourage seeking diversified funding. Others suggested that the award be increased to somewhere between \$75,000 and \$100,000 or scaled based on some specific criteria (e.g., location, specific high-cost needs, size of the accelerator, greatest potential economic impact, development stage of the accelerator or the startups, etc.).



**Feedback: Appropriate Value of GAFC Prize**

Consider making the awards larger and focusing on core areas where the program can provide the greatest benefit. For example, the program may not be as relevant in locations across California, Massachusetts, and New York.

*Jason Bossie, U.S. Small Business Administration*

It could be scaled up to \$100,000 for some larger programs. Beyond that, the risk of reliance on the grant would be risky.

*Michael Ehst, World Bank*

I would love to see the prize become larger or scaled in subsequent years according to additional criteria like serving a larger number of startups.

*Emily Reichart, Greentown Labs*

The award amount of \$50,000 is a large enough sum to make an impact, and . . . it acts as a validation to attract other potential funders. But the amount is not large enough to sustain a program that receives the award, thus forcing the awardee to develop a diverse portfolio of funding sources to maintain longer-term sustainability. . . . Keeping the funding amount smaller, relative to other federal programs that support accelerators, will continue the unique nature of GAFC while encouraging awardees to responsibly develop pathways to financial sustainability.

*Dr. Stephen Tang, University City Science Center*

The reviewers also provided several suggestions for structuring the prize differently:

- Use the initial prize funding of \$50,000 to leverage larger funds for any subsequent prizes.
- Use the amount of cash the organizations are able to raise as a match (not just funds or in-kind donations) to serve as a guide for how much funding they would receive.
- Create a SBIR II-type program (i.e., GAFC II) for different levels of support organizations.
- Provide additional funds for organizations that support startups that are more capital intensive, such as hardware and health-related startups, as well as remotely located organizations.

**Recommendations regarding differently sized prizes based on different factors.** One particular expert noted, importantly, that the size of the prize depends on what the SBA wants to accomplish with the GAFC program. All of the reviewers felt that the prize amount should vary according to factors such as need, past success, proven metrics, location, opportunity to leverage state resources, number of startups served, size of the accelerator, and economic impact. They also provided recommendations on how to monitor use of the award:

- Require applicants to justify their need for the award with details and data projecting its impact.

- Restructure the award so that it will be granted to a select set of states to fund accelerator growth via cooperative agreements, which in turn will achieve better cooperation for reporting and determining the program's impact on communities.
- Base the award on a specific, quantifiable goal such as the expected number of ventures served, and follow up to ensure that this goal is met before all funds are dispersed.
- Offer awards in multiple amounts, and distribute them according to the scale of potential impacts.

**The value of allowing the prize to be used for general operating expenses.** One unique feature of the GAFC prize is that it can be used by the award winners to cover their general operating expenses. This flexibility was applauded by all of the peer reviewers because of the value of being able to rely on stable day-to-day operations when starting a new venture. Additionally, one reviewer pointed out that the more restrictions that are introduced on using the funds, the greater the administrative burden to the prize recipient, which may be unreasonable compared to the size of the grant or awardee.

**Feedback: Using Prize for General Operating Expenses**

Operations are not the sexy costs of a project, but they are absolutely necessary in order to de-risk initiatives and provide a runway for success.

*Mason Ailstock, Association of University Research Parks*

World Bank funding for such programs generally covers such operating expenses, though it is limited as a percentage of the overall budget.

*Michael Ehst, World Bank*

Allowing awards to be used for general operating expenses is essential, in our view. Many grant programs require that grant funds be dedicated towards specific expenses or line items, which has merit in certain instances, but often leaves a void in the ability for resources to be dedicated to the day-to-day organizational support that is critical to running an accelerator. The flexibility of this award enables accelerators to fill funding gaps in support of key operating functions that are often not eligible to be funded by other programs.

*Dr. Stephen Tang, University City Science Center*

**How best to measure the impact of the program.** Accurate performance metrics based on specific stated policy goals are crucial to any government program wishing to sustain itself. As stated in the program evaluation, the GAFC program is so young and the metrics so weakly developed that it could use some support in this area. The reviewers provided several ideas on how to measure and evaluate the impact of the GAFC program, some of which the SBA and FRD have attempted to measure with existing data. These suggestions include:

- Improving the accuracy of the data, including clearly defining the metrics requested.
- Providing consistent data definitions.

- Calculating the number of patents approved from startups impacted by GAFC funding.
- Conducting greater communications outreach.
- Comparing revenues, profits, and jobs created against a control group of ventures.
- Participating in startup community actions, such as becoming an angel investor or inspiring another venture.
- Creating a “where are they now” report card of past awardees.
- Enlisting university research parks that are hosting industry/academia and researchers to gather data and report on the impacts of the program.
- Using administrative data available through the U.S. Census Bureau or Internal Revenue Service to compare communities that do and do not have an SBA-funded accelerator to determine the impacts on unemployment and income growth.
- Collecting data beyond the grant period.
- Providing more dedicated staff time for developing and evaluating metrics.

**Should this program be continued and, if so, at what level of funding?** The outside experts consulted by FRD all support continuing funding for the GAFC program in the range of \$3.5 million to \$10 million per year.

**Feedback: Continuing the GAFC Program**

Without question the GAFC Program should be continued. Funding levels of \$5–10 million with a continued focus on matching funds is ideal in order to capitalize on opportunities and diversify the types of projects.

*Mason Ailstock, Association of University Research Parks*

Based on the data presented in the analysis, the program could be continued in a more effective and efficient manner that may provide greater benefits to small businesses and innovation. The SBA needs to provide greater oversight of the accelerators to determine their effectiveness, which requires more thorough reporting. The intermediary of the state is often removed from the equation, but the state may be better [at] identifying where the accelerator should be placed. Consider restructuring the program if additional funding is received.

*Jason Bossie, U.S. Small Business Administration*

From my vantage point (as both a professional working on entrepreneurship support globally and a U.S. taxpayer), I feel strongly that this is a useful and important program. Twenty-five grants on a yearly basis (so perhaps \$2 million between grants and administration costs) seems both impactful and manageable. I can imagine additional program activities that could seed new types of entrepreneurship support organizations (some yet to be dreamed up). I could also envision a larger and more hands-on SBA team to administer the program given some of the comments on the very light touch currently provided from [the] SBA.

*Michael Ehst, World Bank*

The GAFC [Program] has been an important signal of federal support for accelerators as a proven model to catalyze innovation. Accelerators play a significant role in increasing effectiveness and efficiency in the startup community by forcing companies to succeed or fail more quickly, and this increase in speed to market enables successful small businesses to grow, and to drive local economies. The GAFC [Program] not only provides a unique mechanism of support for accelerators but—more so than many other federal programs—[it] has been successful in spurring company formation and job growth across a wide and diverse footprint of geographies and sectors. The program should absolutely be continued and funded in the range of \$3.5–5 million annually.

*Dr. Stephen Tang, University City Science Center*

**Recommendations**

The FRD project team's analysis of the GAFC awardees' survey responses and review of the existing literature about the industry yields the following recommendations to the SBA:

- Develop more statistically sound reporting metrics.
- Improve the collection, monitoring, and maintenance of reporting metrics.
- Enforce mandatory reporting requirements.
- Hire dedicated staff to develop, collect, and monitor program metrics.
- Provide a follow-on evaluation that is based on improved reporting metrics and collection to focus on program impacts.

- Use logic models to establish the parameters of what the GAFC program is to achieve and how best to achieve it.
- Place greater effort into differentiating applicants based on their size, the sector (e.g., geographic, demographic, or industrial) in which they operate, the support model they operate (e.g., accelerator or incubator), their near-term and long-term growth prospects, and their proposed use of funds; consider adjusting the size of the prize according to these factors.

FRD survey participants also provide these insights into the most effective use of GAFC funds going forward:

- "I think this depends on the goals of the SBA. If tax revenue from employment is desired, then investment match and past success of organization may be more important; if access to opportunities is the goal, then location and number of cohorts may more important. Pending on the various goals of the SBA, maybe there can be ranges of funds and "or" criteria. [For example]: funds available from \$50,000–\$150,000 and criteria are: access for minorities OR focus on specific industries OR matching investment raised by applicant."
- If the emphasis is to be on supporting high-growth entrepreneurs, "build a generation of robust, engaged entrepreneurs. Innovation-based businesses . . . still create the majority of net new jobs in an economy. Government should create special dispensation for these . . . enterprise[s], for example, providing special funding vehicles, and funding for business development services."<sup>176</sup>
- "I think GAFC could now fund successful accelerators to support other nascent accelerators to improve their programs. In other words, GAFC could consider taking 'best of' accelerators and offering a pool for those to apply for support in helping selected (by GAFC) startup accelerators. The quality of accelerators is declining and this will undercut the whole movement."

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<sup>176</sup> Herrington and Kew, *Global Entrepreneurship Monitor 2016/2017 Global Report*, 36.

## APPENDIX I. Examples of SBA Quarterly Reporting Surveys

### 2016 Growth Accelerator Fund–Q1 Metrics Survey

Please complete the below by January 16, 2017. You are required to complete all fields that are applicable to your organization. When not applicable, please write "N/A" in the space provided.

All questions should be answered/data provided as of [the] INCEPTION of your accelerator. NOT receipt of [the] SBA prize.

- Name of organization
- Name of person submitting form
- Email address of person submitting form
- What year was your accelerator launched?
- Number of jobs created by your startups
- Number of individuals employed by your accelerator
- Dollars raised by your accelerator from outside investors (excluding the \$50,000 you received from the SBA)
- For the above dollars raised, please check any applicable boxes below to indicate where the money came from:
  - Family/friends/angels
  - Professional venture capital
  - Corporation(s)
  - Federal government
  - State government
  - City government
  - Other
- Dollars raised by your startups from outside investors
- Dollars invested in your startups by your accelerator
- Number of startups graduated and/or exited from your accelerator
- Number of startups in your current cohort
- Number of startup applications received
- Please list any sponsorships or partnerships obtained by your accelerator and what those entail.
- Please list any sponsorships or partnerships obtained by your startups and what those entail.
- Is someone from your team undergoing the SBIR [Small Business Innovation Research] Train the Trainer Initiative?<sup>177</sup>
  - Yes
  - No

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<sup>177</sup> This question was introduced in 2016; it does not appear on the 2014 or 2015 surveys.

- Do any of your companies receive (or [are] interested in receiving) SBIR/STTR [Small Business Technology Transfer] funding? If “Yes,” please notate which companies (or number of firms) have received SBIR/STTR awards and/or are potential candidates?<sup>178</sup>
- How often does someone from your team visit and/or utilize [www.sbir.gov](http://www.sbir.gov)? Daily, weekly, monthly, etc.? What parts of the platform do you find useful and/or un-useful?<sup>179</sup>
- Which SBIR/STTR funding agencies are of interest to your accelerator portfolio companies? Please select all that are applicable.<sup>180</sup>
  - DoD (Air Force, Army, Navy, DARPA, etc.)
  - HHS (NIH & CDC)
  - DOE
  - NASA
  - NSF
  - USDA
  - DHS
  - DOT
  - DoC (NIST)
  - DoC (NOAA)
  - Dept. of Education
  - EPA
- How often does someone from your team visit and/or utilize [www.sba.gov](http://www.sba.gov)? Daily, weekly, monthly, etc.?<sup>181</sup>
- Are you currently (or in the past) [working] with SBA District Field Offices? How engaged are you with the office? “5” being Strong and Awesome and “1” being Weak and Not Useful. Select “0” if it is a non-existing relationship.<sup>182</sup>
  - 5
  - 4
  - 3
  - 2
  - 1
  - 0
- Are you currently (or in the past) [working] with a Small Business Development Center [SBDC]? How engaged are you with the team? “5” being Strong and Awesome and “1” being Weak and Not Useful. Select “0” if it is a non-existing relationship.<sup>183</sup>
  - 5
  - 4
  - 3
  - 2
  - 1
  - 0
- Any additional specific thoughts and/or experiences your organization has had with either a SBA field office or SBDC?<sup>184</sup>

<sup>178</sup> This question was introduced in 2016; it does not appear on the 2014 or 2015 surveys.

<sup>179</sup> This question was introduced in 2016; it does not appear on the 2014 or 2015 surveys.

<sup>180</sup> This question was introduced in 2016; it does not appear on the 2014 or 2015 surveys.

<sup>181</sup> This question was introduced in 2016; it does not appear on the 2014 or 2015 surveys.

<sup>182</sup> This question was introduced in 2016; it does not appear on the 2014 or 2015 surveys.

<sup>183</sup> This question was introduced in 2016; it does not appear on the 2014 or 2015 surveys.

- OPTIONAL: If applicable, please report how many of your startups are led/owned\* by members of underserved\*\* groups?
  - \*"Led" here means in any of the positions of leadership in the organization
  - \*\*"Underserved" here means racial minority, veteran, or disabled
- OPTIONAL: If applicable, please report how many of your startups are led\* by women?
  - \*"Led" here means in any of the positions of leadership in the organization
- How many startups is your accelerator supporting which exist in "low income" areas?
  - To determine if they fit in the definition of "low income," follow the 4 steps below:
    1. Visit this website: <https://geomap.ffiec.gov/FFIECGeocMap/GeocodeMap1.aspx>
    2. Type in a startup's address at the top and hit "search"
    3. Click the "census demographic data" button
    4. Count here if the first line under "tract income level" reads "low"
- Below please record any qualitative impact your accelerator has had on your neighborhood/ community; especially those which have taken place due to announcement of SBA prize.

### 2016 Growth Accelerator Fund–Q2 Metrics Survey

Please complete the below by April 21st. You are required to complete all fields that are applicable to your organization. When not applicable, please write "N/A" in the space provided.

All questions should be answered as of Q1 (December 31, 2016) of your accelerator. NOT receipt of [the] SBA prize. WE ARE LOOKING FOR THE "DELTA" SINCE YOUR LAST REPORT.

REMEMBER: ROUND TO THE NEAREST DOLLAR (NO PUNCTUATION NEEDED). IF "ZERO," PLEASE PUT ZERO.

- Name of organization
- Name of person submitting form
- Email address of person submitting form
- What year was your accelerator launched?
- Number of jobs created by your startups
- Number of individuals employed by your accelerator
- Dollars raised by your accelerator from outside investors (excluding the \$50,000 you received from the SBA) (NO PUNCTUATION NEEDED)
- For the above dollars raised, please check any applicable boxes below to indicate where the money came from:
  - Family/friends/angels
  - Professional venture capital
  - Corporation(s)
  - Federal government
  - State government
  - City government
  - Other

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<sup>184</sup> This question was introduced in 2016; it does not appear on the 2014 or 2015 surveys.



- Dollars raised by your startups from outside investors
- Dollars invested in your startups by your accelerator (NO PUNCTUATION NEEDED)
- Number of startups graduated and/or exited from your accelerator
- Number of startups in your current cohort
- Number of startup applications received
- Please list any sponsorships or partnerships obtained by your accelerator and what those entail.
- Please list any sponsorships or partnerships obtained by your startups and what those entail.
- Please provide any updates on engagements and/or value-add activities with SBA, SBDCs, and/or Federal Agency Partners?<sup>185</sup>
- Please provide any further updates on engagements and/or value-add activities regarding the SBIR Train the Trainer Program and general SBIR/STTR efforts.<sup>186</sup>
- OPTIONAL: If applicable, please report how many of your startups are led/owned\* by members of underserved\*\* groups? Please reply with [the] number of companies, not a percentage of the total. (Ex: 3)
  - \*"Led" here means in any of the positions of leadership in the organization
  - \*\*"Underserved" here means racial minority, veteran, or disabled
- OPTIONAL: If applicable, please report how many of your startups are led\* by women? Please reply with [the] number of companies, not a percentage of the total. (Ex: 3)
  - \*"Led" here means in any of the positions of leadership in the organization
- How many startups is your accelerator supporting which exist in "low income" areas? Please reply with [the] number of companies, not a percentage of the total. (Ex: 3)
  - To determine if they fit in the definition of "low income," follow the 4 steps below:
    1. Visit this website: <https://geomap.ffiec.gov/FFIECGeocMap/GeocodeMap1.aspx>
    2. Type in a startup's address at the top and hit "search"
    3. Click the "census demographic data" button
    4. Count here if the first line under "tract income level" reads "low"
- Below please record any qualitative impact your accelerator has had on your neighborhood/community; especially those which have taken place due to announcement of SBA prize.

### 2016 Growth Accelerator Fund–Q3 Metrics Survey

Please complete the below by 11:59 EDT August 1st. You are required to complete all fields that are applicable to your organization. When not applicable, please write "N/A" in the space provided.

All questions should be answered since [the] inception of your accelerator as a winner of the 2016 SBA Growth Accelerator Fund Competition (receipt of SBA prize).

REMEMBER: ROUND TO THE NEAREST DOLLAR (NO PUNCTUATION NEEDED). IF "ZERO," PLEASE PUT ZERO.

<sup>185</sup> This question was introduced in 2016; it does not appear on the 2014 or 2015 surveys.

<sup>186</sup> This question was introduced in 2016; it does not appear on the 2014 or 2015 surveys.

- Name of organization
- Name of person submitting form
- Email address of person submitting form
- Has your accelerator raised capital from international investors?
- If "Yes" to the above question, how much? Please round to the nearest dollar.  
(NO PUNCTUATION NEEDED)
- Have your startups raised capital from international investors?
- If "Yes" to the above question, how much? Please round to the nearest dollar.  
(NO PUNCTUATION NEEDED)
- Are your startups doing business overseas?
- If "Yes" to the above question, what percentage of all your companies? (NO PUNCTUATION NEEDED)
- How many people in total are employed by your accelerator? (NO PUNCTUATION NEEDED)
- How many people in total are employed by your startups? (NO PUNCTUATION NEEDED)
- Below please record any qualitative impact your accelerator has had on your neighborhood/ community; especially those which have taken place due to [the] announcement of SBA prize.

### **2016 Growth Accelerator Fund–Q4 Metrics Survey**

Please complete the below by November 1st, 2017. You are required to complete all fields that are applicable to your organization. When not applicable, please write "N/A" in the space provided.

All questions should be answered/data provided as of the receipt of the SBA prize (ONE YEAR TIME FRAME).

- Name of organization
- Name of person submitting form
- Email address of person submitting form
- What year was your accelerator launched?
- Number of jobs created by your startups
- Number of individuals employed by your accelerator
- Dollars raised by your accelerator from outside investors (excluding the \$50,000 you received from the SBA)
- For the above dollars raised, please check any applicable boxes below to indicate where the money came from:
  - Family/friends/angels
  - Professional venture capital
  - Corporation(s)
  - Federal government
  - State government
  - City government
  - Other

- Dollars raised by your startups from outside investors
- Dollars invested in your startups by your accelerator
- Number of startups graduated and/or exited from your accelerator
- Number of startups in your current cohort
- Number of startup applications received
- Please list any sponsorships or partnerships obtained by your accelerator and what those entail.
- Please list any sponsorships or partnerships obtained by your startups and what those entail.
- OPTIONAL: If applicable, please report how many of your startups are led/owned\* by members of underserved\*\* groups?
  - \*"Led" here means in any of the positions of leadership in the organization
  - \*\*"Underserved" here means racial minority, veteran, or disabled
- OPTIONAL: If applicable, please report how many of your startups are led\* by women?
  - \*"Led" here means in any of the positions of leadership in the organization
- How many startups is your accelerator supporting which exist in "low income" areas?
  - To determine if they fit in the definition of "low income," follow the 4 steps below:
    1. Visit this website: <https://geomap.ffiec.gov/FFIECGeocMap/GeocodeMap1.aspx>
    2. Type in a startup's address at the top and hit "search"
    3. Click the "census demographic data" button
    4. Count here if the first line under "tract income level" reads "low"
- Below please record any qualitative impact your accelerator has had on your neighborhood/ community; especially those which have taken place since receiving the SBA prize.

## APPENDIX II. FRD Survey of GAFC Winners, 2014–16

### Introduction

The Office of Investment and Innovation (OII) of the U.S. Small Business Administration (SBA) commissioned the Federal Research Division (FRD) of the Library of Congress to evaluate the Growth Accelerator Fund Competition (GAFC) as to its scope and value as a federal government-sponsored means of spurring innovation as well as small business and economic growth across the United States. GAFC prizes were awarded to 50 organizations in 2014, 88 in 2015, and 85 in 2016. This study is intended to help the SBA better understand how to best operate the GAFC program and help U.S. lawmakers assess its impact.

The federal government's express objective in authorizing financial support in the form of "additional resource capital" to the GAFC program is to stimulate the growth and development of corporate or nonprofit startups across the United States. The SBA does this by investing in a widely diversified range of organizations that can speed the launch, growth, and scale-up of promising startups, which will then create jobs, and ultimately build and strengthen communities.

A note about terminology used in this survey: For the purposes of this survey, the term "organization" refers to the organization receiving the GAFC award (your organization), whether it be an accelerator, incubator, or other qualifying startup assistance organization that won any GAFC award.

In developing and testing this survey, FRD analysts have endeavored to not replicate your existing reporting requirements in connection with accepting the GAFC award. The purpose of this report is to acquire statistically reliable information that is not available from any other source. If you observe questions similar to those you have already reported to OII, note that important qualifying factors may have been added in order to collect statistically comparable data. Additionally it is important to note that for the purposes of evaluating the GAFC program, OII made available to the FRD research team data from GAFC award winners but not applicant materials.

Your responses will be aggregated so complete confidentiality will be maintained.

As carefully selected recipients of this award, your feedback into the GAFC process and its effectiveness is extremely valuable. Thank you for taking the time to provide your input.

## Survey

### 2014–16 GAFC Application and Evaluation Process

1. Please indicate all of the years that your organization applied for and/or won a GAFC award.

- |   | Applied | Won |
|---|---------|-----|
| – | 2014    |     |
| – | 2015    |     |
| – | 2016    |     |

2. How did your organization learn about the GAFC competition? (Please select all that apply.)

- Challenge.gov
- Entrepreneurial development support organizations (e.g., women's or veterans' business centers, etc.) (Please specify below.)
- Federal Register notice
- SBA newsletters sent out via GovDelivery (subscription required)
- SBA regional or district offices, events, or other SBA programs (Please specify below.)
- Social media (Please specify below.)
- Word of mouth (i.e., other startups or accelerators) (Please specify below.)
- Other (Please specify below.)

Please provide specific information regarding how your organization learned about the GAFC competition. [text]

3. Please evaluate the following as concerns the application process: Difficulty of the application process.

1 Easy 5 Hard

---

4. Please evaluate the following as concerns the application process: Ease in preparing application materials.

1 Easy 5 Hard

---

5. Please evaluate the following as concerns the application process: Experience applying by video.

1 Easy 5 Hard

---

6. Please evaluate the following as concerns the evaluation process: Transparency.

1 Easy 5 Hard

---

7. If your organization applied for a GAFC award but did not win one, what changes did you make to your organization and/or to your application that you feel contributed to your subsequent success in winning one? [text]

8. Please use this space to provide any constructive positive or negative comments on the application or evaluation process. [text]

2014–16 GAFC Awardee's Organization

9. Please briefly describe your organization's mission and indicate any market gaps that your organization fills. [text]

10. As of January 2017, how many months has your organization been in business? [text]

11. What model best describes your organization?

- Accelerator
- Incubator
- Co-working startup community
- Shared tinker/maker space
- Hybrid/Other (Please describe.) [text]

12. Which of the following terms best describe(s) your organization? (Please select all that apply.)

- Demographic-focused
- Industry-focused
- Location-focused
- Product-centric
- Service-centric
- Social enterprise
- Technology-focused

Please provide specific information regarding which demographic, industry, location, etc., your organization targets. [text]

13. What services does your organization provide to participating startups? (Please check all that apply.)

- High-growth, tech-driven startup mentorship and commercialization assistance
- Introductions to customers, partners, suppliers, advisory boards, and other players
- Opportunities to pitch ideas and startups to investors along with capital formation avenues (e.g., demo days)
- Regular networking opportunities
- Resource sharing and co-working arrangements
- Selective process to choose participating startups
- Services to underserved communities, such as women, veterans, minorities, and/or economically disadvantaged groups or locations
- Shared working environment focused on building a strong startup community
- Small amounts of angel money or seed capital
- Specialized and/or structured loans

14. Each year the GAFC awards \$50,000 to each winner in order to "fund their operation costs and allow them to bring startup companies to scale and new ideas to life." What specifically did your organization use these GAFC funds for? (Please select all that apply.)

2014                      2015                      2016

- General operating expenses (e.g., rent, utilities, etc.)
- Hiring personnel
- Providing personnel benefits
- Buying/renting office equipment
- Buying/renting special equipment for your startups
- New/additional space (including mobile space and/or popups)
- Investing in cohort startups
- Providing loans to startups
- Not a GAFC winner this year

Other (Please specify.) [text]

15. For the year(s) that your organization won the GAFC award, roughly what share of your organization's operating budget did the award comprise?

- |                 | 2014 | 2015 | 2016 |
|-----------------|------|------|------|
| – 0%            |      |      |      |
| – Less than 10% |      |      |      |
| – 10%           |      |      |      |
| – 20%           |      |      |      |
| – 30%           |      |      |      |
| – 40%           |      |      |      |
| – 50%           |      |      |      |
| – 60%           |      |      |      |
| – 70%           |      |      |      |
| – 80%           |      |      |      |
| – 90%           |      |      |      |
| – 100%          |      |      |      |

16. For the year(s) in which your organization won the GAFC award, which of the brackets below best describes the total number of full-time-equivalent (FTE) persons employed by your organization?

- |                                     | 2014 | 2015 | 2016 |
|-------------------------------------|------|------|------|
| – 1–5                               |      |      |      |
| – 6–10                              |      |      |      |
| – 11–15                             |      |      |      |
| – 16–20                             |      |      |      |
| – 21–25                             |      |      |      |
| – 26–30                             |      |      |      |
| – 31–35                             |      |      |      |
| – 36–40                             |      |      |      |
| – 41–50                             |      |      |      |
| – More than 50                      |      |      |      |
| – Not a GAFC award winner this year |      |      |      |

17. Please provide an annual estimate for the number of jobs your organization has created (exclusive of your cohort startups) that could be directly or indirectly attributed to the GAFC award.

- |                                     | 2014 | 2015 | 2016 |
|-------------------------------------|------|------|------|
| – 0–1                               |      |      |      |
| – 2–3                               |      |      |      |
| – 4–5                               |      |      |      |
| – 6–7                               |      |      |      |
| – 8–9                               |      |      |      |
| – 10–11                             |      |      |      |
| – 12–15                             |      |      |      |
| – 16–20                             |      |      |      |
| – 21–25                             |      |      |      |
| – 26–30                             |      |      |      |
| – 31–35                             |      |      |      |
| – 36–40                             |      |      |      |
| – 41–50                             |      |      |      |
| – 51–60                             |      |      |      |
| – 61–70                             |      |      |      |
| – 71–80                             |      |      |      |
| – 81–90                             |      |      |      |
| – 91–100                            |      |      |      |
| – More than 100                     |      |      |      |
| – Not a GAFC award winner this year |      |      |      |

18. Have you obtained important entrepreneurial assistance from any of the following:

Yes

- SBA's District or Regional Centers
- SBA's Emerging Leaders program
- SBA's Regional Innovation Clusters
- SBA's ScaleUp America program
- SBA's Small Business Development Centers (SBDCs)
- SBA's Small Business Technology Transfer Centers (STTRs)
- SBA's Veterans' Business Outreach Centers
- SBA's Women's Business Centers
- SCORE
- Other federal programs
- Other local development centers
- Other small business development centers
- None

Please list the names of the organizations you have found to be the most helpful. [text]

19. Please briefly describe how your organization measures success for the following entities:

Your organization [text]

Your startups [text]

Your community [text]

20. Please briefly describe the biggest risk factors your organization faces. [text]

#### 2014–16 GAFC Awardee's Startups

21. Between January 1 and December 31 of the year that you won the GAFC award:

2014

2015

2016

- How many cohorts did/will your organization conduct? [text]
- How long (in months) was/is each cohort session? [text]
- How many startups applied? [text]
- How many startups did your organization accept? [text]
- How many startups dropped out before completing the program? [text]
- How many startups graduated from the program? [text]
- How many startups are still in business one year after graduating from the program? [text]
- How many startups are thriving two years after graduating from the program? [text]
- How many startups were provided seed or angel funding? [text]
- How many startups were able to secure supplemental funding upon graduation from your organization? [text]
- Not a GAFC winner this year

22. For the year(s) in which your organization won the GAFC award, which of the brackets below best describes the total number of full-time-equivalent (FTE) persons employed by your startups?

2014

2015

2016

- 1–5
- 6–10
- 11–15
- 16–20
- 21–25
- 26–30
- 31–35
- 36–40
- 41–50
- More than 50
- Not a GAFC award winner this year



23. For the year(s) in which your organization won the GACF award, in what industries did your startups operate? (Please select all that apply.)

- |                                     | 2014 | 2015 | 2016 |
|-------------------------------------|------|------|------|
| – Agriculture                       |      |      |      |
| – Education                         |      |      |      |
| – Energy                            |      |      |      |
| – Food, Beverage, Hospitality       |      |      |      |
| – Healthcare/Medical                |      |      |      |
| – Information Technology            |      |      |      |
| – Manufacturing                     |      |      |      |
| – Non-IT Technology/Science         |      |      |      |
| – Tourism                           |      |      |      |
| – Not a GAFC award winner this year |      |      |      |

#### 2014–16 GAFC Awardees' Support to Traditionally Underserved Populations

24. For the year(s) in which your organization received the GAFC award, was your organization led or owned by any of the following traditionally underserved populations? (Please select all that apply.)

- |   | 2014 | 2015 | 2016 |
|---|------|------|------|
| – American Indian, Alaska Native, or Native Hawaiian      |      |      |      |
| – Disabled  |      |      |      |
| – Have limited access to capital from traditional sources |      |      |      |
| – Located in rural area                                   |      |      |      |
| – Located or serving an economically disadvantaged area   |      |      |      |
| – Racial minority   |      |      |      |
| – Veteran   |      |      |      |
| – Woman   |      |      |      |
| – Not a GAFC winner this year                             |      |      |      |

25. For the year(s) in which your organization received the GAFC award, were any of your startups led or owned by any of the following traditionally underserved populations? (Please select all that apply.)

- |   | 2014 | 2015 | 2016 |
|---|------|------|------|
| – American Indian, Alaska Native, or Native Hawaiian      |      |      |      |
| – Disabled  |      |      |      |
| – Have limited access to capital from traditional sources |      |      |      |
| – Located or serving an economically disadvantaged area   |      |      |      |
| – Located in rural area                                   |      |      |      |
| – Racial minority   |      |      |      |
| – Veteran   |      |      |      |
| – Woman   |      |      |      |
| – Not a GAFC winner this year                             |      |      |      |

#### Financial Information

26. In 2014, SBA required organizations applying for the GAFC award to provide a 1:1 match for the \$50,000 prize. In 2015 and 2016, this increased to a 4:1 match for the prize. Please answer the following as it pertains to the matching requirement.

- |  | Yes | No | No opinion |
|--|-----|----|------------|
| – Should SBA require applicants to provide funds to match the GAFC award?                    |     |    |            |
| – Was the 1:1 match a manageable requirement?  |     |    |            |
| – Was the 4:1 match a manageable requirement?  |     |    |            |
| – Was either requirement (1:1 or 4:1) a deterrent to your organization applying in any year? |     |    |            |

27. Please use this space to provide any constructive positive or negative comments on the SBA requirement to provide matching funds. [text]

28. For the year(s) in which your organization won the GAFC award, which of the brackets below best describes your organization's operating budget?

- |                                     | 2014 | 2015 | 2016 |
|-------------------------------------|------|------|------|
| – Up to \$100,000                   |      |      |      |
| – \$100,001–\$200,000               |      |      |      |
| – \$200,001–\$300,000               |      |      |      |
| – \$300,001–\$400,000               |      |      |      |
| – \$400,001–\$500,000               |      |      |      |
| – \$500,001–\$750,000               |      |      |      |
| – \$750,001–\$1,000,000             |      |      |      |
| – More than \$1,000,000             |      |      |      |
| – Not a GAFC award winner this year |      |      |      |

29. For the year(s) in which your organization won the GAFC award, which of the brackets below best describes your startups' average operating budget?

- |                                     | 2014 | 2015 | 2016 |
|-------------------------------------|------|------|------|
| – Up to \$100,000                   |      |      |      |
| – \$100,001–\$200,000               |      |      |      |
| – \$200,001–\$300,000               |      |      |      |
| – \$300,001–\$400,000               |      |      |      |
| – \$400,001–\$500,000               |      |      |      |
| – \$500,001–\$750,000               |      |      |      |
| – \$750,001–\$1,000,000             |      |      |      |
| – More than \$1,000,000             |      |      |      |
| – Not a GAFC award winner this year |      |      |      |

30. In the year(s) in which your organization won the GAFC award, what percentage of your operational budget came from non-GAFC award sources? (Please provide percentages for all that apply.)

- |                                  | 2014 | 2015 | 2016 |
|----------------------------------|------|------|------|
| – Angel investors [text]         |      |      |      |
| – Family/friends/self [text]     |      |      |      |
| – Corporations [text]            |      |      |      |
| – Private venture capital [text] |      |      |      |
| – Other federal funding [text]   |      |      |      |
| – State government [text]        |      |      |      |
| – Local government [text]        |      |      |      |
| – Loans/debt financing [text]    |      |      |      |

Please specify the name of other federal, state, and/or local government funding, and/or any other source(s) of financial support. [text]

31. Is your organization aware of or has it made use of any other grant funds that could be used for your organization's operational expenses?

- Yes
- No

If the answer was "Yes," please name the funding source. [text]

32. In a typical accelerator model, the accelerator often provides seed funding to its startups in exchange for an equity stake. Does your organization:

Yes                      No

- Provide such funding?
- Take an equity stake in exchange for such funding?
- Provide any other financing instruments at beneficial terms to your startups?

Please specify any other financial instruments that your organization provides to startups. [text]

33. If your organization takes an equity stake in exchange for seed funding, what percentage equity stake does your organization typically take?

- 0%
- 1–2%
- 3–4%
- 5–6%
- 7–10%
- 11–20%
- 21–30%
- 31–40%
- 41–50%
- More than 50%

34. Does your organization provide such seed funding to:

- all startups
- some startups
- only the most promising startups
- no startups

35. From 2014–16, what share of your organization's startups has your organization invested in for an exchange of equity?

2014                      2015                      2016

- 0%
- 10%
- 20%
- 30%
- 40%
- 50%
- 60%
- 70%
- 80%
- 90%
- 100%
- N/A

36. From 2014–16, what is the total dollar amount your organization has invested in your startups? (Please enter a whole number.) [text]

#### Benefits of the GAFC Program

37. In your organization's experience, which of the following tangible and intangible benefits of the GAFC program have you observed? (Please select all that apply.)

For your organization

For your startups

For the community

**Tangible Benefits:**

- Better access to investors
- Better access to markets
- Companies stay in region
- External capital raised
- Faster market entry
- Jobs created
- Startups launched

**Intangible Benefits:**

- Federal financial award boosts credibility
- Federal financial award attracts capital
- Federal financial award supports groups/regions not typically served by the venture capital community
- Improvements in the local entrepreneurial culture
- Increased participation in the entrepreneurial community
- Not a GAFC winner this year

Other tangible or intangible benefits (Please specify.) [text]

38. Based on your organization's experience, which phrase best describes the impact to your organization of the GAFC award?

- A drop in the bucket (too little to make a meaningful difference)
- A step stool (any financial assistance is welcome)
- A game-changer (allowed us to operate long enough to start bringing in revenue)
- Other (Please explain.) [text]

39. Based on your experience, would a smaller, larger, or scaled (different size awards based on some defined criteria) GAFC award be more beneficial?

- Smaller
- Larger
- Scaled
- Keep as is

40. If the GAFC award should be scaled, how should it be scaled? (Please select all that apply.)

- Amount of investments raised by applicant
- Length of time an applicant has been in business
- Location of applicant
- Number of cohorts and/or startups served by applicant organization
- Planned use of funds
- Size of the applicant organization (in terms of jobs or revenue)
- Type of industry
- Award should not be scaled

Per other measure (Please specify.) [text]

41. Should the GAFC number of awards received be capped?

- Yes, per accelerator
- Yes, per entrepreneur
- No
- Yes, per other measure (Please specify.) [text]

42. Would you like to provide any testimonials to describe your experience with the GAFC program and whether it should or should not receive continued federal funding? [text]

43. Please use this space to provide any other constructive positive or negative comments you would like to submit about the GAFC program. [text]

**APPENDIX III. GAFC Winners, 2014–16 (listed alphabetically by name)****Class of 2014 (50 total)**

712 Innovations (Topeka, KS)  
Accelerator for the Commercialization of Technology (Columbia, MD)  
AlphaLab Gear (Pittsburgh, PA)  
Arizona Center for Innovation (Tucson, AZ)  
Bioscience & Technology Business Center (Lawrence, KS)  
Break Fast & Launch (San Antonio, TX)  
Bridgeworks Enterprise Center (Allentown, PA)  
Center for Innovation and Entrepreneurship (Wilmington, NC)  
Center for Unique Business Enterprises (Reno, NV)  
City Startup Labs (Charlotte, NC)  
Coolhouse Labs (Harbor Springs, MI)  
Cumberland Business Incubator (Crossville, TN)  
Dirt Works Incubator Farm (Charleston, SC)  
DreamIt Ventures (Austin, TX)  
EatsPlace (Washington, DC)  
Edson Student Entrepreneur Initiative (Scottsdale, AZ)  
Good Food Business Accelerator (Oak Park, IL)  
GVS Transmedia Accelerator (Kailua-Kona, HI)  
Iowa Startup Accelerator (Cedar Rapids, IA)  
James E. Hogge Technology and Entrepreneurial Center (Nampa, ID)  
Jump Start Incubator (Reading, PA)  
Jumpstart Foundry (Nashville, TN)  
Launch Box Growth Accelerator (Kenosha, WI)  
Manufacture New York (Brooklyn, NY)  
mystartupXX (La Jolla, CA)  
Neo Lab: Fast Track to Inclusiveness (Pittsburgh, PA)  
Park Forest Maker Space (East Hazel Crest, IL)  
Peninsula Technology Incubator "E-64 Project" (Hampton, VA)  
Piloto 151 (San Juan, PR)  
Portland State University Business Accelerator (Portland, OR)  
Prosper Women Entrepreneurs Startup Accelerator (St. Louis, MO)  
RevTech Labs (Charlotte, NC)  
Rocket City Launch (Madison, AL)  
Rutgers Food Innovation Center—Rutgers Food Accelerator (Bridgeton, NJ)  
SDTBC Business Launch Boot Camp and Accelerator (Sioux Falls, SD)  
Smarter in the City (Boston, MA)  
Southern Tier Hardware Accelerator (Ithaca, NY)  
Start Co. Integration Accelerator (Memphis, TN)  
Starter Studio (Orlando, FL)  
Sunshine Labs (Longwood, FL)  
SURGE Accelerator (Houston, TX)  
Sustainable Startups (Salt Lake City, UT)  
Sustainable Valley Technology Accelerator (Medford, OR)  
Telluride Venture Accelerator (Telluride, CO)  
The Brandery (Cincinnati, OH)

The Refinery (Westport, CT)  
UpTech, Inc. (Covington, KY)  
Venture Hive (Miami, FL)  
Vetransfer (Milwaukee, WI)  
XLerateHealth (Louisville, KY)

**Class of 2015 (88 total)**

406 Labs (Bozeman, MT)  
Alaska Small Business Incubator, LLC (Homer, AK)  
CO.LAB (Chattanooga, TN)  
Coalition for Queens (Long Island City, NY)  
Codetrotters Academy/Accelerator (San Juan, PR)  
CPLC Pickle House (Phoenix, AZ)  
Creative Startups Accelerator (Albuquerque, NM)  
E2Tech—Environmental & Energy Technology Council of Maine (Portland, ME)  
Eastern Foundry (Arlington, VA)  
EMERGE powered by Tech Wildcatters (Dallas, TX)  
EnterPRize Accelerator (San Juan, PR)  
Entrepreneurial Development Center, Inc. (Cedar Rapids, IA)  
Equita (San Francisco, CA)  
First Batch (Cincinnati, OH)  
First Flight Venture Center (Durham, NC)  
FirstWaVE Accelerator (Tampa, FL)  
Flagship Accelerator Program (Anderson, IN)  
FOCUS Incubator (Atlanta, GA)  
Fraunhofer TechBridge (Boston, MA)  
Fresh Future Farm, Inc. (North Charleston, SC)  
Fulton-Carroll Center (Chicago, IL)  
Great Turning Advisors Social Business Accelerator (Ironia, NJ)  
Greentown Labs (Somerville, MA)  
Greenville Chamber Minority Business Accelerator Program (Greenville, SC)  
GVS Transmedia Accelerator (Kailua-Kona, HI)  
Halcyon Incubator (Washington, DC)  
Hannah Grimes Center (Keene, NH)  
Hera Labs (San Diego, CA)  
IDEA Food Accelerator (Reading, PA)  
Idea Village (New Orleans, LA)  
Ignite Northwest (Spokane, WA)  
Impact Engine (Chicago, IL)  
Impact Hub Oakland (Oakland, CA)  
InciteHealth (Boston, MA)  
Inge's Place (Battle Creek, MI)  
Iowa Startup Accelerator (Cedar Rapids, IA)  
I-Start (Champaign, IL)  
KiiLN—Keystone for Incubating Innovation in Life Sciences Network (New York, NY)  
LACI (Los Angeles, CA)  
Launch Alaska (Anchorage, AK)  
Launch Pad (Washington, DC)

LaunchPad for Impact (Hartford, CT)  
Lighthouse (Richmond, VA)  
Live Work Unit Accelerator (San Antonio, TX)  
Local Works (Charleston, SC)  
LVL1, Inc. (Louisville, KY)  
Maine Center for Entrepreneurial Development (Portland, ME)  
Makervillage (Rome, GA)  
Manos Accelerator (San Jose, CA)  
Manufacture New York (Brooklyn, NY)  
Maui Food Innovation Center—Maui Accelerator Program (Kahului, HI)  
MergeLane (Boulder, CO)  
Mess Hall (Washington, DC)  
Minority Venture Partners Accelerator (New York, NY)  
mystartupXX at University of California, San Diego (La Jolla, CA)  
Native Entrepreneur in Residence Program (Albuquerque, NM)  
NextEnergy (Detroit, MI)  
ONABEN (Portland, OR)  
Oregon BEST StartSpace (Portland, OR)  
Passenger to Pilot: Empowering Women Entrepreneurs (Ithaca, NY)  
Peninsula Technology Incubator (Hampton, VA)  
Pioneer Business Incubator (Fort Pierce, FL)  
PowerMoves.NOLA (New Orleans, LA)  
Propeller: A Force for Social Innovation (New Orleans, LA)  
Prosper Startup Accelerator (St. Louis, MO)  
RedSky (El Paso, TX)  
Relevant Health (Rockville, MD)  
RevTech Labs & QC FinTech (Charlotte, NC)  
San Luis Valley Local Foods Coalition (Alamosa, CO)  
SEED SPOT (Phoenix, AZ)  
Social Enterprise Greenhouse Accelerator (Providence, RI)  
SouthWorks MakerLab in Park Forest (Park Forest, IL)  
Start Co. Integration Accelerator (Memphis, TN)  
Startup Junkie Consulting (Fayetteville, AR)  
Sustainable Startups (Salt Lake City, UT)  
Sustainable Valley Technology Group (Medford, OR)  
Warehouse Business Accelerator (Loveland, CO)  
University City Science Center Digital Health Accelerator (Philadelphia, PA)  
Unreasonable Institute (Boulder, CO)  
Velocity (Birmingham, AL)  
VentureScaleUp (Orlando, FL)  
VictoryStart (Cleveland, OH)  
WERCBench Labs (Milwaukee, WI)  
West Virginia Hive (Beckley, WV)  
XLerateHealth (Louisville, KY)  
XLR8UH (Honolulu, HI)  
Year of the Startup (Omaha, NE)  
ZeroTo510 (Memphis, TN)

**Class of 2016 (85 total)**

406 Labs (Bozeman, MT)  
ABQid (Albuquerque, NM)  
AccelerateHER™, Inc. (Williamsburg, VA)  
AlphaLab (Pittsburgh, PA)  
Authentically Confederated Tribes of Warm Springs (Portland, OR)  
Autonomous Alley (Grand Forks, ND)  
Ben Franklin Techcelerator (Harrisburg, PA)  
BIG Accelerator (Atlanta, GA)  
BioAccel (Phoenix, AZ)  
Bioscience & Technology Business Center (Lawrence, KS)  
BioSTL Fundamentals (St. Louis, MO)  
BoomStartup Online (Salt Lake City, UT)  
Bunker Labs (Chicago, IL)  
Chef Space (Louisville, KY)  
Cherokee Center for Cultural Art and Technology (Cherokee, NC)  
Circular Board (Houston, TX)  
Coalition for Queens (Long Island City, NY)  
Cohab (Shreveport, LA)  
CONNECT (San Diego, CA)  
Creative Startups (Albuquerque, NM)  
EforAll (Lowell, MA)  
Fab Lab ICC (Independence, KS)  
Fannin Innovation Studio (Houston, TX)  
FAST (San Francisco, CA)  
FastForward (Baltimore, MD)  
First Flight Venture Center (Durham, NC)  
Good Food Business Accelerator Incubator Without Walls (Chicago, IL)  
GVS Transmedia Accelerator (Kailua-Kona, HI)  
Harlem Biospace (New York, NY)  
Hera Labs (San Diego, CA)  
Ho'okahua Capacity-Building Accelerator (Waimanalo, HI)  
IGNITE Community Accelerator (Albuquerque, NM)  
Innosphere (Fort Collins, CO)  
Jefferson Education Accelerator (Arlington, VA)  
La Cocina's Business Incubator Program (San Francisco, CA)  
Lansing PROTO (Lansing, MI)  
Launch Chattanooga (Chattanooga, TN)  
Launch Alaska (Anchorage, AK)  
LaunchTN Network (Nashville, TN)  
Local First Delta Spark (Little Rock, AR)  
Local Works (Charleston, SC)  
Los Angeles Cleantech Incubator (Los Angeles, CA)  
Manufacturing Diversity Institute (Milwaukee, WI)  
Massachusetts Biomedical Initiatives (Worcester, MA)  
Maui Food Industry X-celerator (Kahului, HI)  
MedTech Innovator (Los Angeles, CA)  
MergeLane (Boulder, CO)  
Mortar (Cincinnati, OH)



mystartupXX at University of California, San Diego (La Jolla, CA)  
Native American Business Incubator Network (Flagstaff, AZ)  
Native Entrepreneur in Residence (Albuquerque, NM)  
NEON Business Incubator (Minneapolis, MN)  
NeuroLaunch (Atlanta, GA)  
New Biz Launchpad (Wardensville, WV)  
New England Pediatric Device Consortium (Lebanon, NH)  
New Orleans BioInnovation Center (New Orleans, LA)  
NewSchools Ignite/WestEd Research Partnership (Redwood City, CA)  
North Shore InnoVentures, Inc. (Beverly, MA)  
Northeast Indiana Innovation Center (Fort Wayne, IN)  
Phase 1 Ventures at the University City Science Center (Philadelphia, PA)  
Prince William Science Accelerator (Manassas, VA)  
PROPEL at the iBIO Institute (Chicago, IL)  
Propeller (New Orleans, LA)  
Prosper Women Entrepreneurs (St. Louis, MO)  
SCAPE Southwest Colorado Accelerator Program for Entrepreneurs (Durango, CO)  
SEED SPOT (Phoenix, AZ)  
Startup Tucson (Tucson, AZ)  
Tampa Bay WaVE, Inc. (Tampa, FL)  
Texas Health Catalyst (Austin, TX)  
The Mill (Las Vegas, NV)  
Points of Light Civic Accelerator (Atlanta, GA)  
The Refinery (Westport, CT)  
Rosie Network's Military Entrepreneur Center (San Diego, CA)  
The Wedge (Tacoma, WA)  
University of Toledo Launchpad Incubator (Toledo, OH)  
Upstate Accelerator (Buffalo, NY)  
Urban Workshop (Costa Mesa, CA)  
Veteran Incubator (Brooklyn, NY)  
Village Capital (Washington, DC)  
WIN for Life Sciences Entrepreneur Mentoring Program (Seattle, WA)  
Windy City Harvest (Glencoe, IL)  
WiSTEM (Chicago, IL)  
XLerateHealth (Louisville, KY)  
XLR8UH (Honolulu, HI)  
Year of the Startup (Omaha, NE)

**APPENDIX IV. GAFC Winners, 2014–16 (listed alphabetically by state; 187 total)****Alabama**

*Birmingham*: Velocity (2015)

*Madison*: Rocket City Launch (2014)

**Alaska**

*Anchorage*: Launch Alaska (2015, 2016)

*Homer*: Alaska Small Business Incubator, LLC (2015)

**Arizona**

*Flagstaff*: Native American Business Incubator Network (2016)

*Phoenix*: BioAccel (2016); CPLC Pickle House (2015); SEED SPOT (2015, 2016)

*Scottsdale*: Edson Student Entrepreneur Initiative (2014)

*Tucson*: Arizona Center for Innovation (2014); Startup Tucson (2016)

**Arkansas**

*Fayetteville*: Startup Junkie Consulting (2015)

*Little Rock*: Local First Delta Spark (2016)

**California**

*Costa Mesa*: Urban Workshop (2016)

*La Jolla*: mystartupXX/mystartupxx at University of California, San Diego (2014, 2015, 2016)

*Los Angeles*: Los Angeles Cleantech Incubator (LACI) (2015, 2016); MedTech Innovator (2016)

*Oakland*: Impact Hub Oakland (2015)

*Redwood City*: NewSchools Ignite/WestEd Research Partnership (2016)

*San Diego*: CONNECT (2016); Hera Labs (2015, 2016); La Cocina's Business Incubator Program (2016);

Rosie Network's Military Entrepreneur Center (2016)

*San Francisco*: Equita (2015); FAST (2016)

*San Jose*: Manos Accelerator (2015)

**Colorado**

*Alamosa*: San Luis Valley Local Foods Coalition (2015)

*Boulder*: MergeLane (2015, 2016); Unreasonable Institute (2015)

*Durango*: Southwest Colorado Accelerator Program for Entrepreneurs (SCAPE) (2016)

*Fort Collins*: Innosphere (2016)

*Loveland*: Warehouse Business Accelerator (2015)

*Telluride*: Telluride Venture Accelerator (2014)

**Connecticut**

*Hartford*: LaunchPad for Impact (2015)

*Westport*: Refinery (2014, 2016)

**District of Columbia**

*Washington*: EatsPlace (2014); Halcyon Incubator (2015); Launch Pad (2015); Mess Hall (2015);

Village Capital (2016)

**Florida**

*Fort Pierce*: Pioneer Business Incubator (2015)

*Longwood*: Sunshine Labs (2014)

*Miami*: Venture Hive (2014)

*Orlando*: Starter Studio (2014); VentureScaleUp (2015)

*Tampa*: FirstWaVE Accelerator/Tampa Bay WaVE, Inc. (2015, 2016)

**Georgia**

*Atlanta*: FOCUS Incubator/BIG Accelerator (2015, 2016); NeuroLaunch (2016); Points of Light Civic Accelerator (2016)  
*Rome*: Makervillage (2015)

**Hawaii**

*Honolulu*: XLR8UH (2015, 2016)  
*Kahului*: Maui Food Innovation Center—Maui Accelerator Program/Maui Food Industry X-celerator (2015, 2016)  
*Kailua-Kona*: GVS Transmedia Accelerator (2014, 2015, 2016)  
*Waimanalo*: Ho'okahua Capacity-Building Accelerator (2016)

**Idaho**

*Nampa*: James E. Hogge Technology and Entrepreneurial Center (2014)

**Illinois**

*Champaign*: I-Start (2015)  
*Chicago*: Bunker Labs (2016); Good Food Business Accelerator Incubator without Walls (2014, 2016); Fulton-Carroll Center (2015); Impact Engine (2015); PROPEL at the iBIO Institute (2016); WiSTEM (2016)  
*East Hazel Crest*: Park Forest Maker Space (2014)  
*Glencoe*: Windy City Harvest (2016)  
*Park Forest*: SouthWorks MakerLab in Park Forest (2015)

**Indiana**

*Anderson*: Flagship Accelerator Program (2015)  
*Fort Wayne*: Northeast Indiana Innovation Center (2016)

**Iowa**

*Cedar Rapids*: Entrepreneurial Development Center, Inc. (2015); Iowa Startup Accelerator (2014, 2015)

**Kansas**

*Independence*: Fab Lab ICC (2016)  
*Lawrence*: Bioscience & Technology Business Center (2014, 2016)  
*Topeka*: 712 Innovations (2014)

**Kentucky**

*Covington*: UpTech, Inc. (2014)  
*Louisville*: Chef Space (2016); LVL1, Inc. (2015); XLerateHealth (2014, 2015, 2016)

**Louisiana**

*New Orleans*: Idea Village (2015); New Orleans BioInnovation Center (2016); PowerMoves.NOLA (2015); Propeller: A Force for Social Innovation/Propeller (2015, 2016)  
*Shreveport*: Cohab (2016)

**Maine**

*Portland*: E2Tech—Environmental & Energy Technology Council of Maine (2015); Maine Center for Entrepreneurial Development (2015)

**Maryland**

*Baltimore*: FastForward (2016)  
*Columbia*: Accelerator for the Commercialization of Technology (2014)  
*Rockville*: Relevant Health (2015)

**Massachusetts**

*Beverly*: North Shore InnoVentures, Inc. (2016)  
*Boston*: Fraunhofer TechBridge (2015); InciteHealth (2015); Smarter in the City (2014)  
*Lowell*: EforAll (2016)  
*Somerville*: Greentown Labs (2015)  
*Worcester*: Massachusetts Biomedical Initiatives (2016)

## **Michigan**

*Battle Creek*: Inge's Place (2015)  
*Detroit*: NextEnergy (2015)  
*Harbor Springs*: Coolhouse Labs (2014)  
*Lansing*: Lansing PROTO (2016)

## **Minnesota**

*Minneapolis*: NEON Business Incubator (2016)

## **Missouri**

*St. Louis*: BioSTL Fundamentals (2016); Prosper Women Entrepreneurs Startup Accelerator/Prosper Startup Accelerator/Prosper Women Entrepreneurs (2014, 2015, 2016)

## **Montana**

*Bozeman*: 406 Labs (2015, 2016)

## **Nebraska**

*Omaha*: Year of the Startup (2015, 2016)

## **Nevada**

*Las Vegas*: Mill (2016)  
*Reno*: Center for Unique Business Enterprises (2014)

## **New Hampshire**

*Keene*: Hannah Grimes Center (2015)  
*Lebanon*: New England Pediatric Device Consortium (2016)

## **New Jersey**

*Bridgeton*: Rutgers Food Innovation Center—Rutgers Food Accelerator (2014)  
*Ironia*: Great Turning Advisors Social Business Accelerator (2015)

## **New Mexico**

*Albuquerque*: ABQid (2016); Creative Startups Accelerator/Creative Startups (2015, 2016); IGNITE Community Accelerator (2016); Native Entrepreneur in Residence Program/Native Entrepreneur in Residence (2015, 2016)

## **New York**

*Brooklyn*: Manufacture New York (2014, 2015); Veteran Incubator (2016)  
*Buffalo*: Upstate Accelerator (2016)  
*Ithaca*: Passenger to Pilot: Empowering Women Entrepreneurs (2015); Southern Tier Hardware Accelerator (2014)  
*Long Island City*: Coalition for Queens (2015, 2016)  
*New York*: Harlem Biospace (2016); KiiLN—Keystone for Incubating Innovation in Life Sciences Network (2015); Minority Venture Partners Accelerator (2015)

## **North Carolina**

*Charlotte*: City Startup Labs (2014); RevTech Labs/RevTech Labs & QC FinTech (2014, 2015)  
*Cherokee*: Cherokee Center for Cultural Art and Technology (2016)  
*Durham*: First Flight Venture Center (2015, 2016)

*Wilmington*: Center for Innovation and Entrepreneurship (2014)

## **North Dakota**

*Grand Forks*: Autonomous Alley (2016)

## **Ohio**

*Cleveland*: VictoryStart (2015)

*Cincinnati*: The Brandery (2014); First Batch (2015); Mortar (2016)

*Toledo*: University of Toledo Launchpad Incubator (2016)

## **Oregon**

*Medford*: Sustainable Valley Technology Accelerator/Sustainable Valley Technology Group (2014, 2015)

*Portland*: Authentically Confederated Tribes of Warm Springs (2016); ONABEN (2015); Oregon BEST

StartSpace (2015); Portland State University Business Accelerator (2014)

## **Pennsylvania**

*Allentown*: Bridgeworks Enterprise Center (2014)

*Harrisburg*: Ben Franklin Techcelerator (2016)

*Philadelphia*: University City Science Center (Digital Health Accelerator/Phase 1 Ventures) (2015, 2016)

*Pittsburgh*: AlphaLab Gear/Alpha Lab (2014, 2016); Neo Lab: Fast Track to Inclusiveness (2014)

*Reading*: IDEA Food Accelerator (2015); Jump Start Incubator (2014)

## **Puerto Rico**

*San Juan*: Codetrotters Academy/Accelerator (2015); EnterPRize Accelerator (2015); Piloto 151 (2014)

## **Rhode Island**

*Providence*: Social Enterprise Greenhouse Accelerator (2015)

## **South Carolina**

*Charleston*: Dirt Works Incubator Farm (2014); Local Works (2015, 2016)

*Greenville*: Greenville Chamber Minority Business Accelerator Program (2015)

*North Charleston*: Fresh Future Farm, Inc. (2015)

## **South Dakota**

*Sioux Falls*: SDTBC Business Launch Boot Camp and Accelerator (2014)

## **Tennessee**

*Chattanooga*: CO.LAB (2015); Launch Chattanooga (2016); Launch TN (2016)

*Crossville*: Cumberland Business Incubator (2014)

*Memphis*: Start Co. Integration Accelerator (2014, 2015); ZeroTo510 (2015)

*Nashville*: Jumpstart Foundry (2014); LaunchTN Network (2016)

## **Texas**

*Austin*: DreamIt Ventures (2014); Texas Health Catalyst (2016)

*Dallas*: EMERGE powered by Tech Wildcatters (2015)

*El Paso*: RedSky (2015)

*Houston*: Circular Board (2016); Fannin Innovation Studio (2016); SURGE Accelerator (2014)

*San Antonio*: Break Fast & Launch (2014); Live Work Unit Accelerator (2015)

## **Utah**

*Salt Lake City*: BoomStartup Online (2016); Sustainable Startups (2014, 2015)

## **Virginia**

*Arlington*: Eastern Foundry (2015); Jefferson Education Accelerator (2016)

*Hampton*: Peninsula Technology Incubator "E-64 Project"/Peninsula Technology Incubator (2014, 2015)

*Manassas*: Prince William Science Accelerator (2016)

*Richmond*: Lighthouse (2015)

*Williamsburg*: AccelerateHER™, Inc. (2016)

### **Washington**

*Seattle*: WIN for Life Sciences Entrepreneur Mentoring Program (2016)

*Spokane*: Ignite Northwest (2015)

*Tacoma*: The Wedge (2016)

### **West Virginia**

*Beckley*: West Virginia Hive (2015)

*Wardensville*: New Biz Launchpad (2016)

### **Wisconsin**

*Kenosha*: Launch Box Growth Accelerator (2014)

*Milwaukee*: Manufacturing Diversity Institute (2016); Vettransfer (2014); WERC Bench Labs (2015)

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In addition, the researchers consulted a number of U.S. government websites, such as those for the Federal Register; National Science Foundation; U.S. Departments of Commerce, Energy, Health and Human Services, and Homeland Security; and U.S. Small Business Administration. They also reviewed state government websites, such as those for the New York and Virginia governor's offices, as well as the California Business Portal, New York Digital Health Accelerator, New York eHealth Collaborative, New York City Economic Development Corporation, Ohio Development Services Agency, and North Carolina Small Business and Technology Development Center. Articles published by Montana State University and the University of California further aided the researchers in their work. Lastly, the team analyzed several websites, databases, and blogs, such as AcceleratorInfo.com, CorpVenturing, Crunchbase, Eleven, European Investment Fund, *Feld Thoughts*, GENIUS NY, *Growthology*, Makerspaces.com, RocGrowth, Social Enterprise Greenhouse, Startup Chile, Totem, xconomy.com, and *YesVirginia.org*.