

Veteran Tech Entrepreneurial Ecosystems

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About the Military, Veterans, and Society Program

The Military, Veterans, and Society program addresses issues facing America's service members, veterans, and military families, including the future of the All-Volunteer Force, trends within the veteran community, and civil-military relations. The program produces high-impact research that informs and inspires strategic action; convenes stakeholders and hosts top-quality events to shape the national conversation; and engages policymakers, industry leaders, Congress, scholars, the media, and the public about issues facing veterans and the military community.

Cover Art

Melody Cook/CNAS

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Introduction and Executive Summary

Veterans played a significant role in the entrepreneurship boom that took place after World War II. While veterans are more likely to be self-employed than their civilian counterparts, the veteran population as a whole is shrinking.¹ Likewise, entrepreneurship has generally been on the decline in the United States.² Despite this overall decline, the success of many technology startups has inspired renewed focus on entrepreneurship among policymakers, educators, and the business community. The military and veteran community has been no exception, and since 2012 the military has offered an introduction to entrepreneurship as part of its training program for service members leaving the military.³

This report builds on the 2017 Center for a New American Security (CNAS) report “Lost in Translation,” which examined the veteran hiring and retention process, and the 2016 CNAS report “Onward and Upward,” which examined veteran retention and performance in the workforce. Through in-depth research on the landscape for veteran-founded tech startups, this report explores popular current ecosystems for veterans and simultaneously examines similarities and differences with the startup ecosystem more broadly.

Existing research has largely been positive about the capability of veterans to succeed as entrepreneurs and suggests that veterans may have the personal characteristics or experience that contribute to successful entrepreneurship. However, research also suggests that these traits alone are not sufficient for success in the challenging world of entrepreneurship, particularly in the high-stakes world of technology-based startups. Pairing a unique dataset of veteran-founded companies with extensive interviews, this report adds to our insight of veteran entrepreneurs by mapping out veteran-founded companies nationwide and examining veterans’ pathways to entrepreneurship in the context of existing entrepreneurial ecosystems.

Overall, there is great potential for veteran entrepreneurs, but making the leap to entrepreneurship immediately following military service can be especially risky. Veterans must be strategic about choosing the right ecosystem for a new startup. Location is important for anyone launching a technology company, but it may be especially so for veterans, who need not only a place where a startup can grow but, often, a supportive ecosystem to help them fill the gaps in their networks, technical skills, and knowledge of the industry they are working in.

Recent years have seen the creation of supportive ecosystems around veteran entrepreneurship broadly paralleling support structures for civilian entrepreneurs, ranging from national programs by the Small Business Administration to state and local efforts. These initiatives include introductory courses, boot camps, pitch competitions, and incubators specifically tailored to help veterans navigate the basics of business and startup culture. Spread nationwide, these incubators and courses support veterans at the local level and often reflect the business characteristics of the cities in which they are hosted.

However, many veterans still lament the difficulty of making the leap from early-stage, or “angel,” funding to venture capital.⁴ Overcoming this gap will take time as veteran networks further expand into the venture capital and private equity space. Related to this challenge is the fact that veterans tend to start companies in physical locations that they are familiar with, but that may not provide the most supportive ecosystems for success. However, the best ecosystems for veterans are not necessarily located in traditional startup hubs. Veterans seeking to build successful technology startups may find pathways to success in a handful of veteran-heavy ecosystems that offer unique synergies between the federal government, local businesses, and technological innovation.

Two standout ecosystems for veterans are Washington, D.C., and Austin, Texas. While not normally seen as an entrepreneurial hub, the Washington region is the location of choice for many veterans starting new businesses. The area, long dominated by government contracting companies, has developed one of the strongest ecosystems in America for the cybersecurity subsector and offers a pathway to entrepreneurship uniquely suited to veterans with experience and expertise in this field. Austin, by contrast, is already a well-established destination for entrepreneurs, and although it lags behind coastal hubs in the development of a tech-specific ecosystem, its high concentration of veterans and veteran-support networks, combined with the potential for the newly established Army Futures Command to drive military-specific innovation, makes it a compelling ecosystem for veteran entrepreneurs.

Methodology

Although there has been significant attention paid to the potential success of veteran entrepreneurs, there is still much to be learned about the ecosystems surrounding them. Building on past work on veteran employment and entrepreneurship, the authors identified and interviewed key stakeholders, practitioners, and supporters of veteran entrepreneurship to identify key challenges

and opportunities. The individuals interviewed were entrepreneurs, investors, academics, and supporters in Austin; Baltimore; Charlotte, North Carolina; Chicago; Washington, D.C.; Houston; Nashville, Tennessee; New York City; San Francisco; and Syracuse, New York, among others. The authors completed site visits to Austin, New York City, and Washington, D.C., to speak with stakeholders and visit incubators and veteran-specific entrepreneurship-support efforts. Interviews were assessed for consistent themes and responses, with many individuals reporting similar experiences, viewpoints, and recommendations.

This study also uses data on 1,014 veteran-founded startups compiled in the Moonshots Capital Database. This unique dataset of growth-oriented companies was compiled from analysis and cross-referencing of the two primary public databases on startups and growing companies, PitchBook and Crunchbase, and then conducting an in-depth examination of founder biographies and external information from LinkedIn to identify veteran entrepreneurs. This dataset is one of the most comprehensive listings of veteran-founded companies in existence; it enables the mapping of both service-specific networks and physical location, allowing for an unparalleled overview of ongoing veteran entrepreneurial efforts. These data have been combined with veteran and active-duty population reports to help map out entrepreneurial communities and identify those that may be especially appealing to the veteran population. To assess how veteran-founded companies compare with their civilian counterparts, this report also drew an additional random sample of 1,760 non-veteran-founded companies from the PitchBook database.

Veteran Entrepreneurship Literature

Existing research on the transition of service members to civilian life has been heavily focused on veteran employment. More specifically, past work has examined the status of veteran unemployment and job-training options. This research was largely conducted in response to high veteran unemployment rates in the aftermath of the financial crash of 2008 and often sought to counter misconceptions around the suitability of veterans for civilian employment. This research does, however, provide some indicators of trends in services and programs provided, the overall market, and veteran traits that may correlate positively with entrepreneurship.

Prior reports by researchers at CNAS have examined the veteran experience in the U.S. marketplace, most notably the November 2016 report “Onward and Upward,” which examined veteran transition and retention in civilian careers, and the June 2017 report “Lost in Translation,” which examined the civil-military gap’s impact on

veteran employment. Both reports found discrete trends in the post-service employment experiences of the veteran population.⁵

“Onward and Upward” sought to understand veteran retention and performance in the civilian marketplace and found that veterans often struggle with fit in their first position. The report found that “[m]ost veterans will leave their first job after service within one year. However, most of these veterans leave their jobs for positive reasons, such as a move for more money, more responsibility, or a better location.”⁶ Overall, veteran retention rates are similar to those of the civilian workforce, but veterans experience lower position turnover once they have found a good professional fit. In comparison, “Lost in Translation” examined the impact of the public’s general lack of understanding of the military on the experiences of transitioning service members. The report highlighted that “both veterans and employers may struggle to translate military experience into comparable civilian credentials.”⁷ Taken together, these CNAS reports highlight the cultural and professional hurdles to veteran employment—hurdles that can be even higher when moving from military service to entrepreneurship.

Building on these and other studies of veteran employment, several works have delved directly into the world of veteran entrepreneurship. Among the key studies in this area are those from the Institute for Veterans and Military Families (IVMF) at Syracuse University and the work of Bunker Labs, a nonprofit that seeks to empower veteran and military spouse entrepreneurs. These studies have largely concluded that many veterans have entrepreneurial traits and possess many of the skills of successful entrepreneurs. However, among the major findings of these studies is that despite the fact that one-quarter of veterans transitioning out of active duty are interested in starting a business, only 4.5 percent of post-9/11 veterans are actually pursuing entrepreneurship.⁸

Among the potential reasons for this disparity are some common challenges that veterans face in entrepreneurship, including access to capital, difficulty finding mentors, and a lack of appropriate networks.⁹ While these are challenges common to all entrepreneurs, they are often exacerbated among those transitioning out of military service.¹⁰ The general conclusion of these studies is that veterans may need additional support and that an ecosystem-building approach is best suited to helping veterans make the leap to entrepreneurship. The present report therefore looks to build on these studies by examining veteran entrepreneurship beyond the individual level, mapping out existing veteran entrepreneur ecosystems, and comparing them with the broader civilian startup ecosystem.

Civilian Entrepreneurship Literature and Determinants of Success

To better understand the challenges and opportunities associated with existing ecosystems for veteran tech entrepreneurs, it is helpful to understand the components that facilitate successful entrepreneurship in technology generally. Loosely defined, a technology startup is a young, growth-oriented company organized to (a) bring new technology products or services to market or (b) deliver existing technology products or services in new ways.¹¹ While this general definition can apply to companies in multiple industry sectors, this study limits focused analysis to those companies categorized within the information technology (IT) sector within PitchBook.

Individual-Level Determinants of Successful Civilian Entrepreneurship

There are a few individual characteristics typically associated with successful entrepreneurship. First, despite the popular notion of the 20-year-old college dropout who founds a transformative tech venture, researchers have recently shown that the average age for starting highly successful technology companies is closer to 40.¹² For example, the founding chief executive officers of CrowdStrike, Palantir Technologies, and Slack Technologies were all in their mid-30s to early 40s when they co-founded these companies.

The research shows that founders have usually accumulated almost 20 years of industry knowledge and networks before their successful launches. These founders often gain experience as employees at tech companies before leaving to start their own ventures.

“Every scaling company’s biggest problem is the need for good leadership. But my primary advice to every transitioning vet: Don’t go to a small startup as your first job. The perfect role is at an established high-growth company.... There are very few people to learn from in a startup environment.”

—Don Faul, United States Marine Corps veteran and CEO of Athos

Research has also shown that the best work experience that successful entrepreneurs can obtain may come from working at other startups.¹³ In fact, the founders of each of the previous mentioned companies, as well as others such as Uber and Dropbox, were people with previous experience working in or founding startups. Together, these points shed light on the primary keys to successful civilian entrepreneurship: deep industry experience and strong networks, often gained from first working at other startups.

Second, successful tech entrepreneurs usually have either strong technical skills or sufficient experience to evaluate and manage those who do. These technical skills are not necessarily achieved through formal education. In fact, while many tech entrepreneurs have tech back-

“Veteran entrepreneurs running commercial product startups are more likely to understand the problem and how to solve it with technology if they’ve had the chance to work on it as a consultant or service provider before starting their own company.”

—Ron Gula, Air Force veteran and co-founder of Tenable Network Security

grounds, others do not have computer-related degrees even at companies whose key product is software. Whereas the founder of Uber has a degree in computer engineering, the founding CEOs of CrowdStrike, Palantir, and Slack do not have technical degrees. However, entrepreneurs without technical degrees still tend to have the ability to program or code. In many cases, the entrepreneur must be a truly innovative software developer to be successful, but in other cases the entrepreneur simply needs to be skilled enough to evaluate, hire, manage, and retain top technical talent.

Deep industry experience and the ability to manage technical talent are especially important in getting the angel funding required to get a company started. Academic research on angel investors has shown that it is easier for them to predict the long-run success of a venture from information about the founders than from information about the idea per se.¹⁴ The corollary to this is that many investors claim ideas that build on the founder’s background, experience, or expertise are more likely to be successful.¹⁵

Ecosystem-Level Determinants of Successful Civilian Entrepreneurship

Even entrepreneurs with industry experience, strong networks, technical skills, and an idea that builds on experience still require healthy ecosystems to successfully launch and grow their companies. Broadly speaking, a thriving entrepreneurship ecosystem is made up of a set of key interconnected components that substantially improve the formation and growth of entrepreneurial ventures. These key components include resource providers, talent, and existing industries.

Resource Providers are those who give critical investments in the form of financial capital, professional services, and education. With respect to financial capital, a healthy ecosystem provides resources at every stage of a startup, from launch to “exit.”¹⁶ Angel investors play an important role, often investing in entrepreneurs with little information on the viability of their business ideas. These riskier investments allow the entrepreneurs to demonstrate the value of their business ideas and justify further investment. In a healthy ecosystem, angel investors are part of a self-reinforcing cycle where an entrepreneur (1) receives funding from an angel investor, (2) uses that funding to successfully start a business, (3) experiences a successful exit and becomes wealthy, then (4) redeploys part of his or her wealth by becoming an investor and advisor to future entrepreneurs.¹⁷ In other words, in healthy ecosystems successful entrepreneurship produces angel investors, who in turn foster and support the next generation of entrepreneurs.

Venture capitalist firms (VCs) invest in startups that are usually beyond the earliest stages, with the purpose of rapidly growing startups that have successfully used angel investments to prove out their business concepts. In addition to financial resources, VCs in healthy ecosystems have vast networks that they can use on a startup’s behalf and are also a source of advice for the entrepreneur. A VC’s value therefore goes beyond financing. The prestige of a VC can add substantial value to the startup, because affiliation enhances the reputation of both the entrepreneur and startup.¹⁸

Finally, healthy ecosystems typically have strong universities, additional sources of technical education (such as community colleges), and entities such as incubators and accelerators where a set of startups are co-located and given the space, time, and advice needed to launch their businesses. Not only do universities train people in critical thinking, technical skills, and business skills, they also serve as magnets for the types of talented people who can potentially serve as employees or advisors to startups. Universities become sources

of new ideas, new ways of solving problems, potential co-founders, and experienced advisors. In addition, universities in healthy ecosystems often have active entrepreneurship clubs, pitch competitions, seed funding, and opportunities to incubate entrepreneurial ideas in a supportive environment.

Talent, while often an outcome of educational institutions, also has a distinct meaning with respect to healthy tech ecosystems. In particular, talent refers to the concentration of high-performing workers, whether they are produced by a local university or have migrated from elsewhere. Without a sufficient number of engineers, designers, business operators, and generalists within an ecosystem, a tech entrepreneur cannot obtain the skilled employees needed to launch and grow a successful business. Moreover, highly skilled and experienced employees provide the startup entrepreneur with insights learned from their previous employment that also benefit the startup.¹⁹

Existing industries and businesses play a large role in defining startup ecosystems. Houston, for example, has a business environment that encourages startups in the medical and energy sectors, New York City facilitates startups in the financial services and marketing sectors, and Los Angeles is fertile ground for startups in the media and entertainment sectors. Not only does the proximity of appropriate industries provide for the talent and expertise required to start related businesses, but larger corporations often fuel successful exits as either investors in, or acquirers of, startups.²⁰

Healthy ecosystems also have social climates that attract and retain young, creative, and talented people. These social climates are usually characterized by the easy flow of professional and social information, the existence of innovation-oriented events, and venues that draw a wide range of talented people. These are also climates that tend to encourage risk-taking, support entrepreneurial attempts, and have a general appreciation for innovation.

New Tech Landscape

While the above elements of successful entrepreneurship and supportive ecosystems hold true for all startups, the evolution of technology has led to what some describe as the “third wave” of the internet revolution.²¹ Whereas the first wave built the foundation of the internet and the second wave built massive, blockbuster products for using the Web, such as social media and search engines, the third wave moves beyond the internet by bringing technologies such as cybersecurity, artificial intelligence, and robotics into industries with “real-world” applications.

This evolution in the technology landscape requires founders with deeper knowledge and extensive experience in existing industries.²² (As a result, they will likely also be older and more educated than previous generations of tech entrepreneurs.) This situation heightens the hurdle to entry for potential veteran entrepreneurs, who will generally have to make up for lack of deep experience in specific industry subsectors.

As for ecosystems, the third wave brings with it the potential for an expansion of supportive and competitive ecosystems beyond Silicon Valley and such traditional entrepreneurial hubs as New York and Boston.²³ This does not mean that other ecosystems can compete with Silicon Valley across the board, but they can become competitive by bringing new technology to specific industries. For example, veterans have great potential to work in technologies, and areas, that have direct interaction with the defense industry and federal government.

Veteran Entrepreneurship and Determinants of Success

Stepping up to the challenges of this startup environment is a new generation of veterans. There are just under 19 million veterans in America, comprising about 8 percent of the population of Americans aged 18 or over.²⁴ Of those, over 4 million have served in the military in the Post-9/11 era.²⁵

Demographics

Each year, more than 230,000 service members transition out of the military. Nearly one-fifth of these service members are retiring after careers consisting of at least 20 years of service.²⁶ Veterans who have served long enough to retire are more likely to report being self-employed than other veterans.²⁷ These retiring veterans are typically in their 40s and have a depth of experience related to their military occupational specialties. The majority of these veterans have a bachelor's degree, with many also possessing a postgraduate degree along with extensive military schooling. They also have the advantage of a measure of financial security via military retirement benefits, and, given their age, they are also more likely to be married and supporting a family than service members who transition out before retirement.

The majority of transitioning veterans, though, have served fewer than the 20 years required for a standard retirement.²⁸ Separation from the military is highest at the end of an individual's first contract term, usually after four to six years, depending on the service. This cohort is typically younger, and therefore less likely to have families that they need to support financially—which may give them a higher degree of risk tolerance than older veterans. However, they are also likely to have less military expertise and less formal education. They also

“In early stage investing, the only factor you can control for at the time of investment is the quality of the leadership. We believe the best leaders are military-trained or trial-by-fire entrepreneurs who have the ability to motivate others to action, inspire trust, and plan heuristically.”

—Kelly Perdew, Army veteran and Co-Founder of Moonshots Capital

do not have access to retirement pay and family health coverage, though they may have access to individual health care via the Department of Veterans Affairs. One key resource that most do have, however, is access to the Post-9/11 GI Bill, which not only covers tuition for higher education but also provides a living stipend to support the veterans during their time in school. This is a tremendous benefit that, if used properly, can help veterans not only obtain relevant degrees but also explore specific industries, expand their professional networks, and become familiar with resources designed to support new businesses.

Aside from the differentiation between those who retire from the military and those who leave prior to serving 20 years, the transitioning veteran population is further split between officers and enlisted personnel. Although being an officer is not directly relevant to successful entrepreneurship, officers are more likely to report being self-employed after transitioning to civilian life.²⁹ Officers are required to have a higher level of education upon entering service. Education can be valuable in and of itself, but in the world of entrepreneurship, it more directly leads to supportive networks that are able to assist with fundraising and building a business. Officers and enlisted service members are equally likely to have access to the GI Bill, but those who already have a bachelor's degree have the freedom to use those benefits at graduate programs, which are likely to have stronger networks that are more tailored for specific career fields.

Officers, particularly those engaged in government contracting, are also more likely to have had interaction with the civilian business world, at least as it relates to the defense industry. In regard to technology-based startups, officers in specialized career fields may have experience managing service members and contractors with technical talent. However, enlisted troops in these fields often have a degree of hands-on experience with technology that officers may not.

As other reports have noted, this population overall brings unique experiences to the workforce and world of entrepreneurship. Across all of the interviews for this study, respondents were quick to highlight the ability of veterans to effectively lead and to promote a results-driven culture. Many also noted, however, that these skills often require time and experience to translate into the culture of the civilian business world. As is the case with employment retention rates, which show that veterans are more likely to remain at their second jobs than at their first, the implication is that veterans should plan for an adjustment period as they learn the nuances of the business world.³⁰

Paradoxically, veterans must also adjust themselves to financial risk. Uniformed-service members are trained to deal with physical risk, but they do so in an environment where health care, pay, and benefits are built into the system. Veterans may be accustomed to risking their own physical well-being, but there is a different calculus when putting personal and family finances at risk.

Physical Location

Given the inherent risk in starting a new business, the need for an effective transition period is especially important for entrepreneurship. This makes the choice of location when leaving the military a key decision for aspiring entrepreneurs. After initial training and assignment to various military bases, and possibly overseas deployments, veterans may either want to “go home” following military service or decide to stay near one of their previous duty stations. These are natural tendencies, but options for education, employment, and particularly entrepreneurship are all heavily determined by geography.³¹

It is therefore useful to look at the duty stations veterans are transitioning from as they make the leap to the civilian world. Figure 1 shows the density of the veteran population by county at locations across the United States in proximity to major military bases. There are nearly 200 military installations distributed across America and around the world; about 70 percent of the active-duty population is assigned to installations and clusters of bases in 30 distinct areas.³² Over 55 percent are assigned at one of the 15 locations listed in Figure 2.

Large and comparatively isolated installations such as Fort Bragg, Fort Benning, and Fort Drum do not attract large populations of veterans, and service members who leave the military from these installations tend to settle elsewhere.³³ In fact, there are only a few clearly popular clusters of installations and cities that host large populations of both active-duty service members and veterans. These areas include Seattle, San Diego, and the corridor from Fort Hood to the cluster of bases in the San Antonio area. The D.C. metro area particularly stands out as being among the top assignment locations for active-duty troops and also having an exceptionally high number of veterans.

Veteran Ecosystems

The geographic distribution of service members and veterans provides a starting point for assessing the most popular ecosystems for veteran entrepreneurs. There are 1,014 veteran-founded companies in the Moonshots Capital Database. Given that information on these

FIGURE 1: NATIONWIDE VETERAN AND ACTIVE-DUTY MILITARY DISTRIBUTION

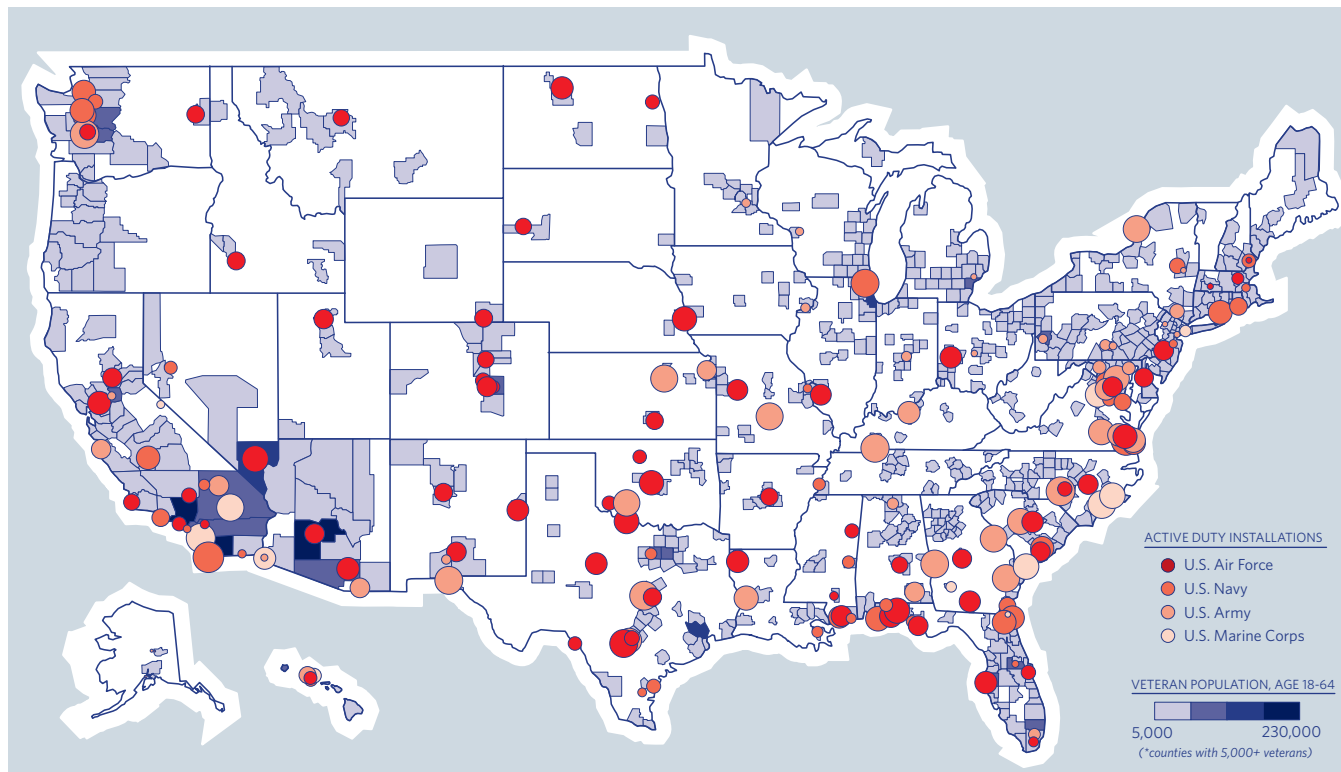
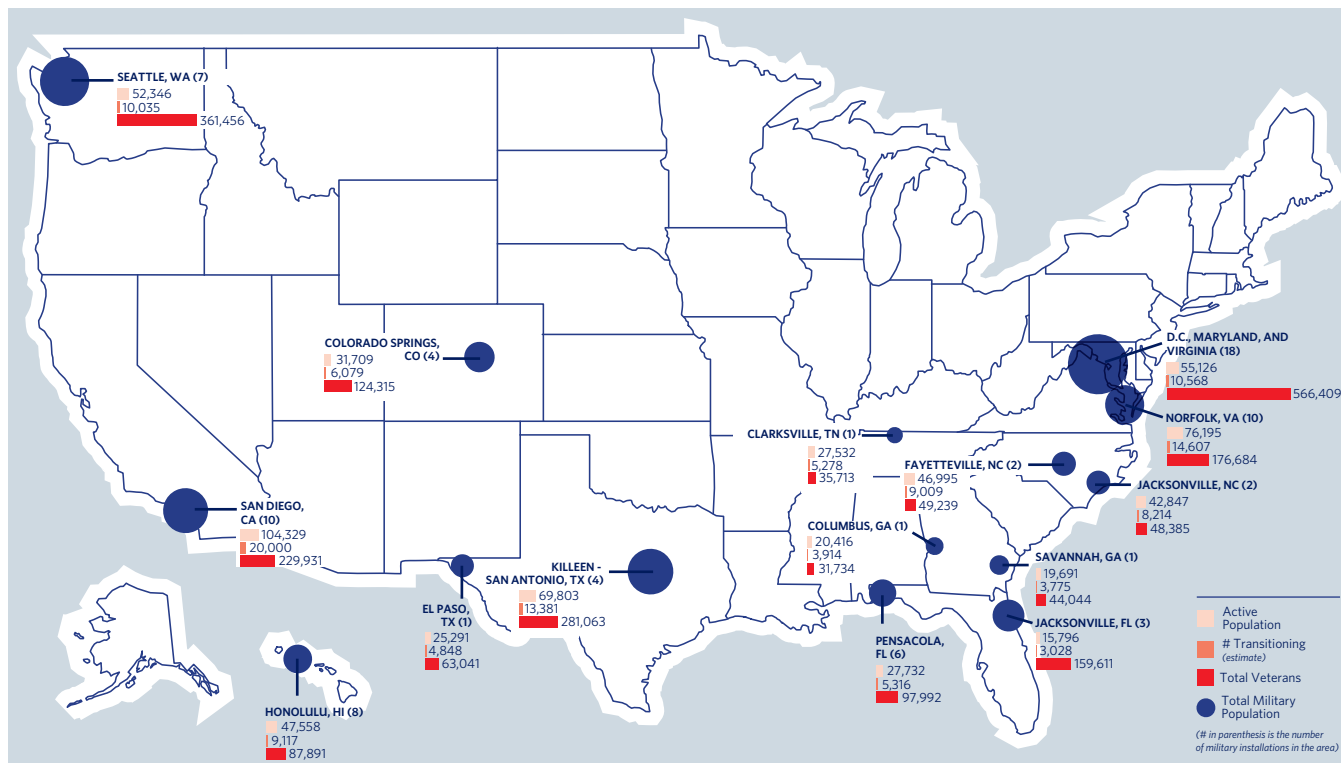


FIGURE 2: AREAS WITH HIGHEST ACTIVE-DUTY MILITARY POPULATIONS



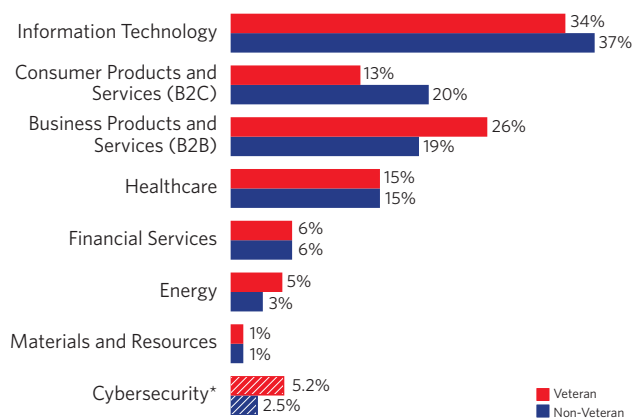
companies was drawn primarily from PitchBook data, these are generally companies designed for high growth and are of potential interest to venture capital, private equity, and those seeking mergers and acquisitions.³⁴ To assess how these veteran-founded companies compare with their civilian counterparts, this report drew an additional random sample of 1,760 non-veteran-founded companies from the PitchBook database.

In terms of the types of companies founded by veterans, the distribution across industry sector generally tracks the same as that of nonveteran companies, with the exception of a significantly greater proportion of veteran-founded companies that are in the business products and services sector. As seen in Figure 3, businesses in the IT sector constitute a plurality, 34 percent, of veteran-founded companies, similar to 37 percent among nonveteran companies. Looking deeper into one specific industry vertical: veterans are twice as likely to start companies in the cybersecurity field as nonveterans.

The majority of these veteran-founded companies are fairly young: 75 percent of companies were founded in 2001 or later, with 2008 being the median year of founding. Within the IT sector specifically, 83 percent of companies were founded in 2001 or later, with 2010 being the median year of founding. These dates are similar to founding timelines for nonveteran companies.

In terms of service representation, a plurality of founders, 41 percent, are Army veterans, followed by 40 percent who are veterans of the Department of the Navy (including the Marine Corps) and 19 percent who

FIGURE 3: INDUSTRY SECTOR DISTRIBUTION OF VETERAN-FOUNDED COMPANIES



*Cybersecurity is not a separate business sector like information technology or energy, but can be listed as a focus within an industry vertical. Companies with this focus are therefore counted twice in this table, both as a cybersecurity company and in another sector (most often within the IT sector).

Source: Moonshots Capital Database

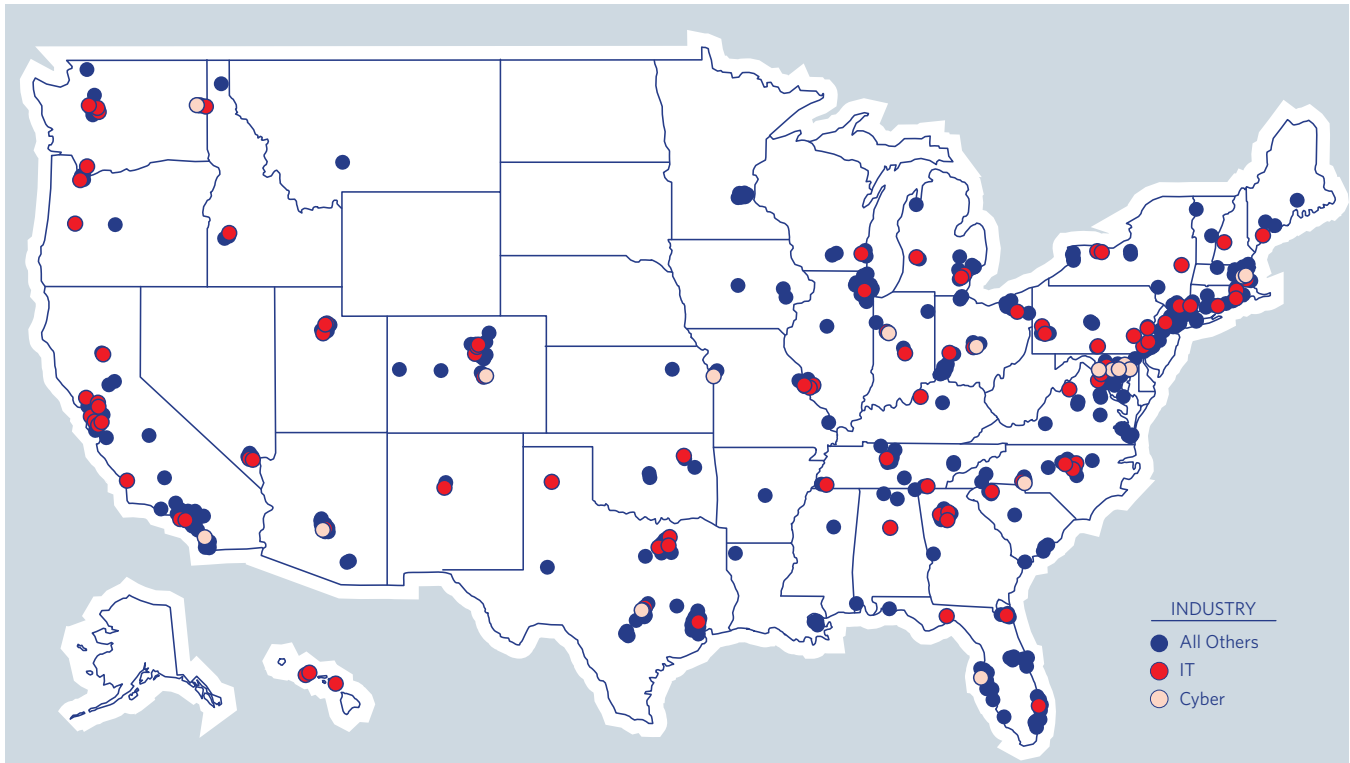
are veterans of the Air Force. These proportions generally track with the comparative sizes of the military services, although there appears to be a slight underrepresentation of Air Force veterans and a slightly higher proportion of Army veterans in entrepreneurship. The numbers are more evenly aligned within the IT sector, with the founders from each service represented in close proportion to overall service sizes. While data on gender were incomplete, the data available suggest that 95 percent of veteran founders are male. This is in keeping with previous studies suggesting significant underrepresentation of women both in the military and in entrepreneurship generally.³⁵

Where there is obvious overrepresentation is in the prevalence of graduates from the three largest military service academies (the U.S. Military Academy at West Point, the U.S. Naval Academy in Annapolis, and the U.S. Air Force Academy in Colorado Springs) in entrepreneurship.³⁶ Graduates of these three academies typically constitute about 20 percent of the officer corps in their respective services and only about 4 percent of the overall service population. Yet academy graduates are 27 percent of veteran founders overall and 37 percent of veteran founders of IT companies in the Moonshots Capital Database. Some of this overrepresentation is likely the result of data availability and the ways veteran-founded companies were found in existing databases; it is almost certain that the database undercounts veteran entrepreneurs who did not enter service through one of the academies.³⁷ That said, the data and concentrations of academy graduates serve as valid proxies for veteran entrepreneurs generally, as well as highlighting the nuances within veteran entrepreneur networks.

As expected, Figure 4 shows that veteran-founded companies can be found nationwide but are clustered in and around traditional entrepreneurial hubs. There are also a few trends that highlight the unique nature of the veteran experience. Sixty-five percent of veteran-founded companies overall and 70 percent of veteran-founded companies in the IT sector are located in 15 metropolitan areas. Only four of these areas are also on the list of the top 15 locations for active-duty service members, reinforcing the idea that veterans interested in entrepreneurship may not be able to stay in the vicinity of their last duty stations if they want to maximize their chances of success.

Several of these hubs are dominated by veterans from one service or another, and service representation increases in proximity to military bases belonging to that service. Figure 5 shows that Austin, Dallas, Houston, and Atlanta all have an overrepresentation of Army veterans in entrepreneurship, likely because of the large active-duty

FIGURE 4: NATIONAL DISTRIBUTION OF VETERAN-FOUNDED COMPANIES



Army populations in Texas and Georgia. In terms of the Navy and Marine Corps, the Seattle, San Diego, and San Francisco areas all see an overrepresentation of companies founded by Department of the Navy veterans. And while Army veterans make up a plurality of founders in the Denver area, Air Force representation is slightly higher than it should be proportionally to service size, likely due to the proximity to the United States Air Force Academy.

Los Angeles also sees a disproportionate number of companies founded by Air Force veterans. The Raleigh-Durham area sees a high proportion of Department of the Navy veterans, likely the result of the proximity of Naval and Marine Corps bases along the North Carolina coast. The outliers to this trend of service proximity are Chicago and Philadelphia. Chicago has a preponderance of Army founders, despite the fact that the only large military base in the area is the Great Lakes Naval Station, and the Philadelphia area is dominated in equal measure by Army and Department of the Navy veterans.

In terms of how this distribution of veteran-founded companies overlaps with broader startup ecosystems, many of these hubs—such as Boston, Los Angeles, San Francisco, and New York—are popular among nonveteran entrepreneurs, and nearly all are typically ranked among the top U.S. cities for entrepreneurship. Among

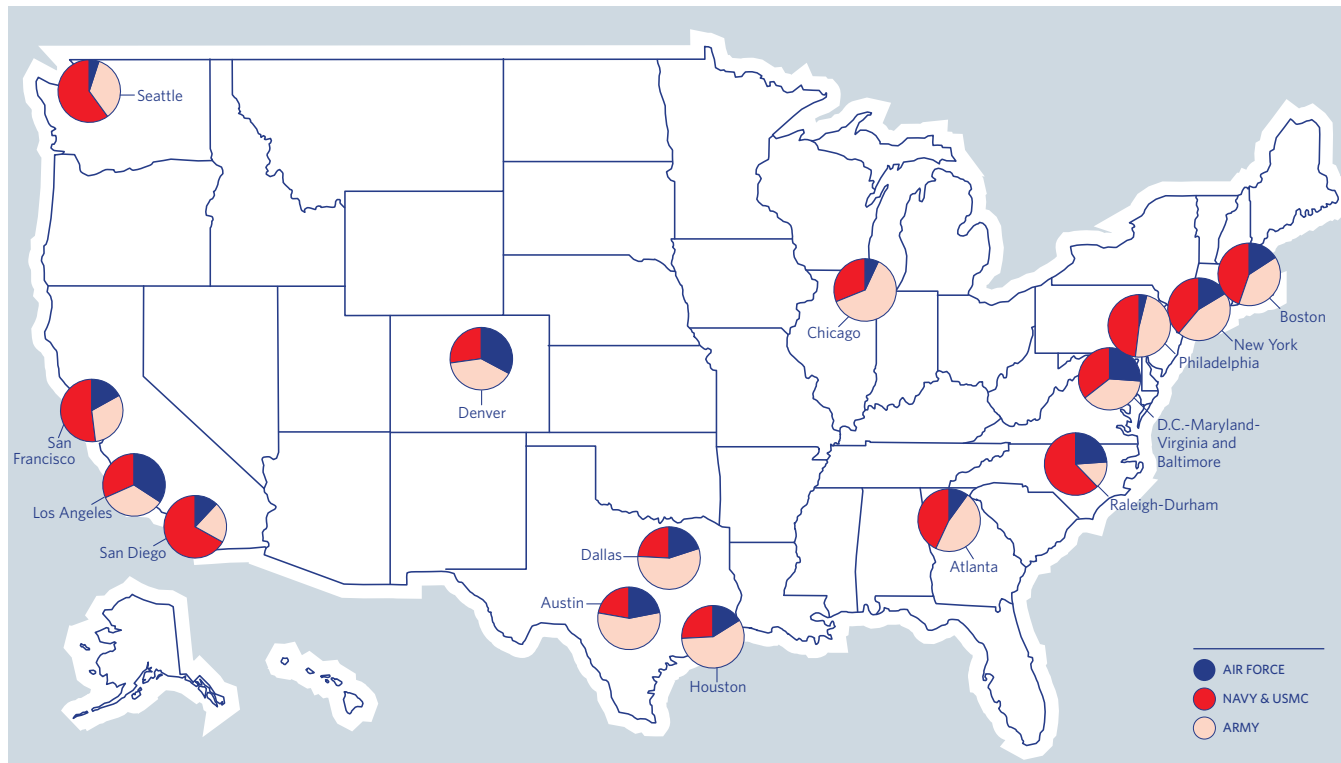
the nonveteran sample, the San Francisco–San Jose area clearly dominates, with a full one in five companies based in that area. The proportion jumps to 29 percent of IT companies, making it the clear ecosystem of choice among nonveteran entrepreneurs. In a distant second through fourth are New York, Boston, and Los Angeles, respectively, with the Washington, D.C.–to–Baltimore corridor a fairly distant fifth.

Veteran-founded companies are therefore exceptional in two ways. For this population, the Washington, D.C.–to–Baltimore corridor (illustrated in Figures 6 and 7) is the clear leader, and whereas the distribution of nonveteran companies trails off fairly quickly beyond the top four ecosystems, veteran-founded companies have a more even geographic distribution.

This comparatively even geographic distribution among veteran-founded companies may indicate a degree of inertia that sees veterans starting companies in familiar areas rather than moving to more supportive entrepreneurial ecosystems. Company growth and success rates were not part of this study, but this distribution should be examined for its role in the success or failure of veteran-founded companies.

As previously noted, in simplest terms the fundamental keys to startup success are having the right idea and the ability to execute it. Finding both can be

FIGURE 5: SERVICE REPRESENTATION IN MAJOR METROPOLITAN AREAS



challenging for veterans; they often lack both deep knowledge of an industry and the relevant professional networks for success in that industry. Military service can provide a unique set of leadership skills, but those are merely one piece of a successful company. Missing from the résumés of most veterans is a unique skill set or knowledge base with direct applicability to building a business.

Fortunately, there are areas and sectors where veterans can take advantage of technical skills acquired through service. Furthermore, as robust subsector ecosystems develop outside of such traditional hubs as Silicon Valley, veterans can take advantage of uniquely veteran-friendly hubs to build successful businesses. The case of the high number of veteran-founded companies in the Washington-to-Baltimore corridor, particularly, may highlight ways veterans can build successful technology startups without flocking to Silicon Valley.

FIGURE 6: DISTRIBUTION OF VETERAN-FOUNDED AND CIVILIAN COMPANIES—ALL SECTORS

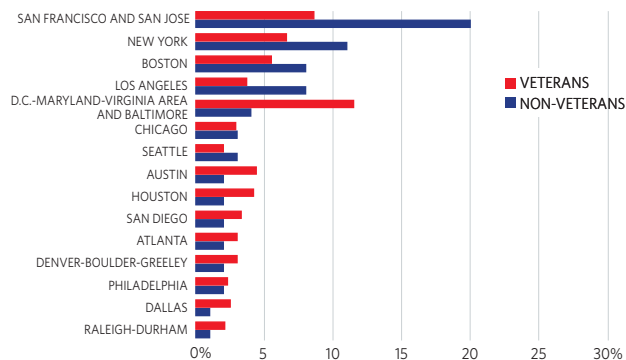
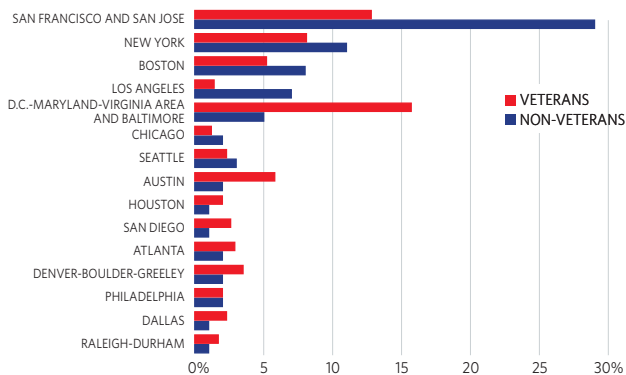


FIGURE 7: DISTRIBUTION OF VETERAN-FOUNDED AND CIVILIAN IT COMPANIES



Ecosystem Case Studies

While veteran-founded companies are located in ecosystems across the country, this study focuses on two ecosystems of particular relevance to veteran entrepreneurs. The Washington-to-Baltimore area is an obvious choice for closer examination, not only due to the high number of veteran-founded companies in the area but also due to the powerful synergies that these companies have with the federal government. The second ecosystem included in this report is Austin, which was chosen for study because of its large veteran population, its ties to more traditional civilian startup ecosystems, and for its overall potential as a supportive environment for veteran entrepreneurs.

Established Government Synergies: The Washington, D.C.-to-Baltimore Corridor

The Washington, D.C., area has traditionally been thought of as a “government town,” with high concentrations of law firms, lobbyists, and government contractors. As such, it has generally not been viewed as an entrepreneurial hub. However, it has long hosted nearly 50,000 active-duty service members across a large cluster of military bases. The composition of this active-duty population also differs from those of other locations with many service members in that it includes relatively more senior officers and careerists working at places like the Pentagon. The D.C. area is also unique in the propensity of members of the military to settle nearby after taking off the uniform. There are over half a million veterans living between Alexandria, Va., and Baltimore, making this corridor one of the nation’s most popular areas for veterans to live.³⁸

Given the heavy footprint of the federal government in the area, the natural path for most transitioning veterans has been to continue to work with the government as civilian employees or contractors. In an extension of this trend, the preponderance of those seeking to be self-employed establish government contracting businesses. These endeavors often follow a similar pattern, in that a retired veteran with deep knowledge of the specific needs of government and an extensive network in a specific niche leaves service and uses that network to land an initial government contract. Typically, a veteran will be able to use the advantages conferred on veteran-owned small businesses and service-disabled-veteran-owned small businesses to effectively compete with larger, more established civilian contractors. The veteran will then begin hiring and pursuing further contracts.

Veterans running contracting businesses describe the knowledge bar as fairly low but assert that networks are vital for building successful businesses. As a result, the government contracting space tends to constantly regenerate as newly transitioning veterans enter the workforce with more relevant contacts in the federal government. Success in the competitive contracting space requires hustle and the ability to execute, and in many ways this is one of the purest paths for using networks gained in service directly for business, but is not typically viewed as an endeavor requiring a lot of innovation. In this way, it can be seen as more similar to starting a small business than to tech entrepreneurship.

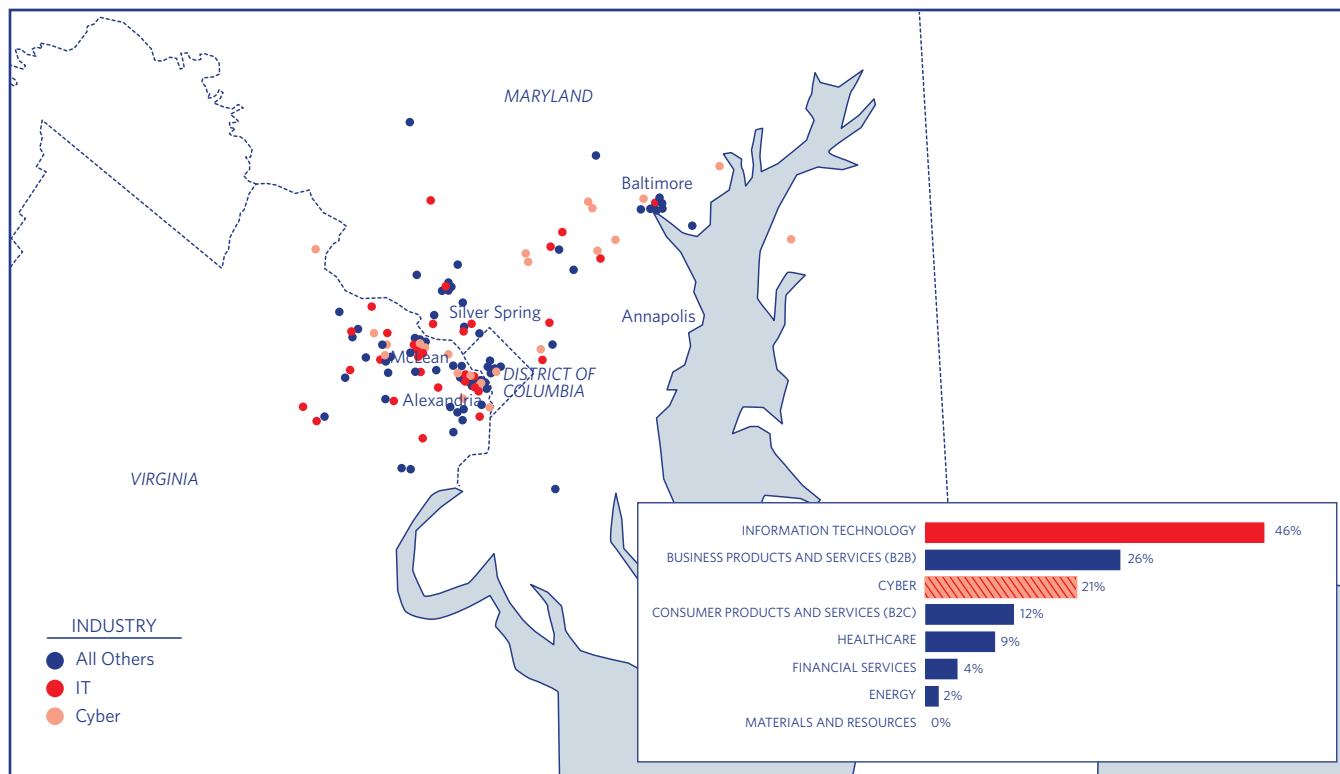
However, both the nature of contracting and the Washington, D.C., area have changed dramatically over the last two decades, with a massive influx of spending and business growth related to the wars in Iraq and Afghanistan. This transformation has coincided with the shift in the landscape of technology ecosystems discussed at the beginning of this report. As the third wave of the internet revolution expands technologies to specific industry sectors, this area is primed for innovation, particularly in the cybersecurity subsector.

The Washington-to-Baltimore corridor is by far the most popular ecosystem for veteran entrepreneurs. Figure 8 shows that the dominant industry sector is IT, with business products and services a distant second, and consumer products and services an even-more-distant third. A plurality of founders are Army veterans (38 percent), but the proportional representation of each service is in line with service sizes. The services are all equally represented in IT, indicating a slight overrepresentation of Air Force veterans in this sector.

Beyond being the top destination for veteran entrepreneurs overall, the big story of the D.C. area is the predominance of the cybersecurity subsector. Five percent of all veteran-founded companies nationwide mentioned cybersecurity in their industry vertical description, compared with only 2.5 percent of non-veteran-founded companies. Even more interesting is that of these veteran-founded cybersecurity companies, 45 percent are located in the D.C. area. This mirrors the dominance of the Silicon Valley area among nonveteran entrepreneurs, where one can find nearly half (48 percent) of the non-veteran-founded cybersecurity companies.

This makes sense when one looks at the U.S. government, and specifically government agencies such as the Department of Defense and the National Security Agency, as the area’s anchor tenant. The research organization Startup Genome defines anchor tenants as “major

FIGURE 8: D.C., MARYLAND, AND VIRGINIA COMPANIES AND INDUSTRY FOCUS



*Cybersecurity is not a separate business sector like information technology or energy, but can be listed as a focus within an industry vertical. Companies with this focus are therefore counted twice in this table, both as a cybersecurity company and in another sector (most often within the IT sector).

institutions that serve as local hubs for knowledge creation and talent—bringing people to the ecosystem, training them, and releasing them in the community.” Furthermore, “cybersecurity has the distinction of being a sub-sector where the government, local or national, can be an anchor tenant.”³⁹ In much the same way that Tel Aviv is noteworthy as a cybersecurity ecosystem because of synergies with the Israeli military, the Washington area, with its massive U.S. military infrastructure, plays a major role in this burgeoning subsector.

With the maturing of cybersecurity as a subsector, the Washington-to-Baltimore corridor already has a

number of government and corporate initiatives under way to further build out the cybersecurity ecosystem.⁴⁰ At least four major local universities offer bachelor’s and master’s degrees specifically in the cybersecurity field, serving as sources of the talent that is vital for sustaining a growing ecosystem. As shortages of trained cybersecurity professionals grow nationwide, this area will have a competitive advantage in local talent.⁴¹

All of these efforts have combined to make the Washington-to-Baltimore corridor a dominant cybersecurity hub, second only to Silicon Valley in overall growth and success. Forty-nine area cybersecurity companies are listed in the

CyberSecurity Ventures list of the top 500 companies of 2018, with at least six of those companies founded by veterans.⁴²

The success of veterans in cybersecurity thus far should not be a surprise, because the field offers veterans the

“The DMV area is going to become an equal of Silicon Valley in cyber and data science. People see this area as the crucible of cybersecurity due to the massive government funding, massive cyber workforce, and universities pushing out the most cyber-related graduates. The commercial ecosystem will take time to develop as it plays catchup.”

—Mike Janke, Navy veteran and co-founder of DataTribe

rare opportunity to easily translate military experience and skill sets directly to the civilian marketplace. It is also an area where veterans, by virtue of having had the legal authority to oversee and implement offensive cyber capabilities, have skills and experiences that are rare in the civilian marketplace. But as the market continues to mature, the bar for success will continue to rise.

Fortunately, there are a host of entrepreneurial support systems in the area that cater to veterans, with a balance of traditional startup incubators and support tailored to individuals pursuing government business. While many still view venture capital funding within the area as scarce, the success of many local companies is starting to attract more outside interest, and some veterans are now in a position to establish their own venture capital firms with a specific focus on nurturing and empowering veteran talent in cybersecurity and other fields. In this, instead of waiting for outside capital, veterans in the area are building the kind of self-reinforcing funding cycles that are a key part of successful ecosystems.

The Washington-to-Baltimore corridor may still have some of the stigma attached to its reputation as a “government town” and may not fit the idealized visions of a startup ecosystem, but for veterans the area provides the ideal venue for translating military experience into entrepreneurship. In this respect it also harks back to the founding of Silicon Valley, which was originally anchored by government research and technology.

“We’re fortunate here in D.C. because most of the resources a veteran needs are here except for a “true raise” [i.e., a larger seed round for those who have already exhausted the market of local angel investors], and that’s OK. The benefit, though, is that we can connect folks to a larger investor pool nationally.”

—Emily McMahan, Army veteran and city leader, Bunker Labs, D.C.

Innovation in an Army Town: Austin, Texas

Each year Austin, Texas, becomes the center of the startup world during the annual South By Southwest (SXSW) festival; it also increasingly garners attention year-round with its strong and growing entrepreneurial ecosystem. Austin is regularly ranked among the best-performing American cities on economic indices, with consistent job creation, overall business growth, and a steadily growing population. In 2018 it was ranked third in the Milken Institute’s Best-Performing Cities index for 2018, which noted its robust high-tech culture, its large student presence, and a number of major technology companies relocating to the area.⁴³ Startup Genome likewise featured Austin in its 2018 ecosystem report, noting how SXSW exposure, high-profile incubators, and comparatively low taxes and real estate costs made for a solid foundation for startups.⁴⁴ There are a host of longstanding incubators and co-working spaces in Austin, along with several veteran-specific support systems, leading many to view the city as the nation’s best ecosystem for veterans.⁴⁵

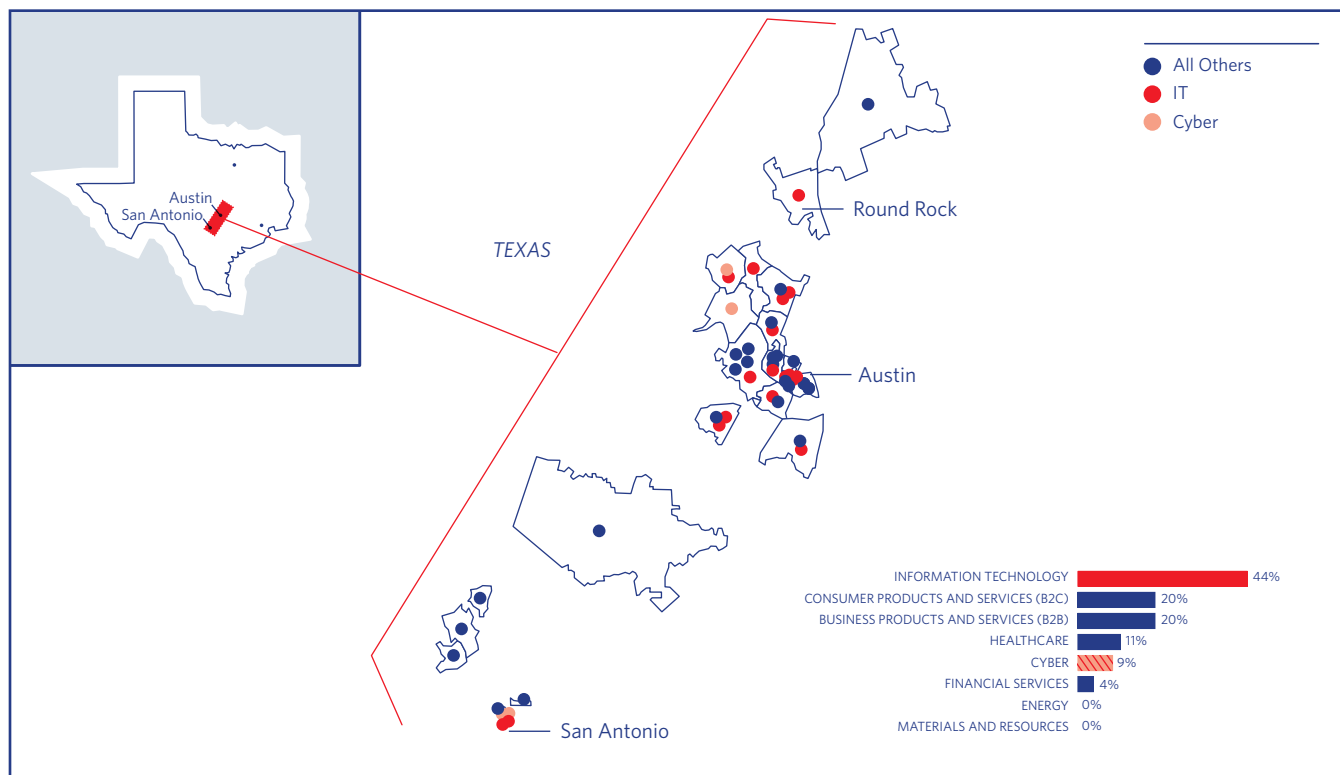
Although there are no military bases in Austin, it is bracketed by Fort Hood, home to two Army divisions, in Killeen to the north and Joint Base San Antonio and Lackland Air Force Base in San Antonio to the south, with a total of nearly 70,000 service members stationed at local bases. This places it above the D.C. metro area in active-duty population, but Austin and San Antonio host only about half the D.C. area’s number of retirees, with about 281,000 settled in the area.

This heavy military presence combines with a supportive ecosystem to place Austin in the top 10 locations for veteran-founded companies. If one views Austin and San Antonio as a single ecosystem, it moves to fifth, with 45 total companies in the area (11 in San Antonio). This indicates a fairly attractive ecosystem, given the area’s much lower overall population in comparison with the other top entrepreneurial hubs.

Figure 9 shows that, much like the Washington-to-Baltimore corridor, the veteran-founded companies in Austin are mainly information technology companies, and the proportion exceeds the overall average for veteran-founded companies. However, only four of the companies list cybersecurity in their industry vertical, reinforcing the dominance of the D.C. area for the cybersecurity subsector ecosystem.

In interviews, those working with Austin startups described a very supportive and interwoven community for young entrepreneurs. However, although the combination of Austin’s affordability and national prominence attracts a disproportionate number of entrepreneurs,

FIGURE 9: AUSTIN-SAN ANTONIO COMPANIES AND INDUSTRY FOCUS



*Cybersecurity is not a separate business sector like information technology or energy, but can be listed as a focus within an industry vertical. Companies with this focus are therefore counted twice in this table, both as a cybersecurity company and in another sector (most often within the IT sector).

many in the area think it is at a disadvantage compared with the San Francisco and East Coast entrepreneurial systems. Many described an ecosystem where it has grown easier to get seed funding but it remains difficult to grow further, because there are few local funders making large investments prior to demonstrated revenue or growth. Paired with the challenge of having few local companies large enough to serve as initial customers and anchor partners, this constraint means that many Austin companies have to look to other ecosystems for larger investors and customers.

Fortunately, Austin has not only SXSW to increase exposure and build national connections but also the presence of two other major hubs nearby in Texas. Houston has a burgeoning veteran-entrepreneurship scene, with several local private and academic efforts to support veterans starting businesses.⁴⁶ Houston hosts an additional 43 of the veteran-founded companies listed in the Moonshots Capital database. Dallas trails both Austin and Houston in veteran entrepreneurship but still ranks in the top 15 veteran ecosystems and hosts 25 veteran-founded companies. Combined, the number of veteran-founded companies in these three cities exceeds

the number in the Silicon Valley area and nearly matches the number in the Washington-to-Baltimore area. As these Texas ecosystems continue to grow and collaborate, this area will become an increasingly attractive space for veteran entrepreneurs.

Another key factor in Austin’s potential is the newly established U.S. Army Futures Command. Designed to “modernize the Army,” the new command unifies Army

“The introduction of Army Futures Command will bring a whole new set of players to the Austin ecosystem. And while the focus of Army Futures Command is national security, it will no doubt lead to spinoffs with commercial applications we can’t imagine today.”

—Joseph Kopser, Army veteran and co-founder of RideScout

efforts to conceptualize and develop new technologies. The command hosts several cross-functional teams looking at various military capabilities, including everything from new vehicles to navigational and positioning technologies to the networks needed for communications and intelligence.

Most important for Austin, when announcing the new command the Army declared that its headquarters would be “located near innovative and agile industrial and academic institutions to align with these organizations and in a place where the command will inculcate the culture needed to develop the innovation and synergy required to lead the Army’s modernization effort.”⁴⁷ The decision to locate in Austin will likely pull in additional outside funding and interest along with providing a strong partner for innovation and a potential anchor client for new startups.

Next Steps and Conclusion

As the first study of veteran entrepreneurship to identify and map veteran-founded startups, this study lays the groundwork for much deeper research and understanding of the veteran entrepreneur community. Further research will look to expand the pool of known veteran-founded companies by cross-referencing additional datasets and using existing networks to identify companies that may not be currently listed.

With this unique dataset, future studies can include closer examinations of the veteran experience within specific industry sectors, in addition to deeper analysis of other key veteran entrepreneur ecosystems, such as Silicon Valley, New York City, and Boston. With the ability to move beyond convenience samples, these data also allow for extensive investigation of a host of questions related to veteran entrepreneurship, such as the role of veteran networks in funding and supporting new startups.

Paul Graham, the founder and investor, has said that for a startup to be successful the founder needs to be uniquely able to both identify a problem and solve it.⁴⁸ This is a high hurdle for aspiring entrepreneurs, and it will be increasingly difficult as the third wave of the internet revolution requires founders with deeper knowledge of technology and its application within specific industry subsectors.

For veterans who wish to go into businesses not directly related to their service, it means that transition periods from service to startup will likely need to be longer in order for them to acquire the expertise to successfully launch a new company, and heightens

the importance of transition resources for veterans. It also makes decisions about where veterans settle after service more important. Veterans interested in entrepreneurship should carefully evaluate potential ecosystems, both for the availability of the educational and employment opportunities needed to gain necessary expertise and for the potential for new companies to grow within them.

This study reveals a veteran entrepreneur population that is more geographically dispersed than that of non-veteran entrepreneurs, with much less concentration in the top ecosystems—particularly Silicon Valley. Some of this dispersal appears to be influenced by assignment history; veterans may be establishing companies in places they are more familiar with instead of those best suited for growing new businesses.

However, the case of the Washington, D.C.–to–Baltimore corridor shows that veterans can work outside of Silicon Valley in ecosystems that better help them meet Paul Graham’s criteria for success and start technology companies with high growth potential. While the prevalence of companies anchored to government clients does not fit the idealized vision of startups, it does reflect a means by which veteran entrepreneurs can directly leverage their military experience. More important, the prevalence of cybersecurity companies in the area is reflective of ways companies in the third wave can focus on pushing the technologies unleashed by the internet revolution into very specific industries.

As the cybersecurity field has matured, it has created a self-reinforcing cycle whereby successful veteran founders are in turn funding new startups. However, they are investing not solely on the basis of veteran status, but on the unique expertise that veterans bring with them into such fields as cybersecurity. With the growth of additional subsectors—robotics, artificial intelligence—there will be further opportunities for veterans to leverage their unique expertise. Given the addition of the Army Futures Command to Austin’s already supportive ecosystem, that city is primed for synergies between these growing subsectors and military innovation.

What this study demonstrates is that the current pathways for veterans to build technology companies are in many ways distinct from the pilgrimage to Silicon Valley that captures the popular imagination. This is the result of both the unique experiences of veterans and the changing landscape and development of subsector ecosystems. Veterans entering this world must recognize that there are multiple dimensions to consider when transitioning from military service to

entrepreneurship. More than just choosing where they would like to live, aspiring veteran entrepreneurs must think about how their physical location will shape their ability to gain additional, needed expertise and to best utilize their existing skill sets. They must also evaluate potential ecosystems for their strengths and weaknesses around support to specific industries.

As the world of technology matures, so must the services provided to veteran entrepreneurs. Fortunately, a strong cohort of veteran entrepreneurs has already started paving the way and is building out a range of services to support the next generation. With a solid base of introductory courses and overviews of entrepreneurship sufficient to launch a new generation of veteran-founded companies, the next step will be the development of refined funding sources that recognize how to utilize some of the unique skill sets of veterans in the context of a shifting entrepreneurial landscape.

With proper care, the veteran community can make its mark in developing successful companies and new ecosystems that support industry-specific technological innovation. Much as pioneer tech entrepreneurs built the San Francisco ecosystem through a synergistic relationship with government innovation, veteran entrepreneurs can potentially build the technology hubs of the future in places like Washington, D.C., and Austin.

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