



by Jenn Walters

What is AFVentures?

Andreesen Horowitz. Alpha Bridge. Lux. Expanse. Structure Capital. Atomic.

Welcome to the small, exclusive enclave of venture capital (VC) nestled along the California coastline. MBA students and entrepreneurs alike would clamor at the chance for a warm introduction, much less a direct conversation, with the leadership teams of these companies. For the lucky few who have been selected to participate in the [AFVentures Fellowship Program](#), this is a reality. Matched for their unique operational and innovation experience, each Fellow embeds with a firm for eight weeks. Through the lens of VC partners, they learn about risk, investment strategy, portfolio management and perhaps most importantly, the organizational values and ethos they strive to embody.

In my two months with AFVentures during the summer of 2020, we enjoyed unbridled access to the rarefied upper ranks of VC. This immersion into the unfamiliar world of Silicon Valley broadened our thinking and showed us where intersections between investment, technology development and the warfighter exist. Even more importantly, AFVentures is growing a cohort of service members who possess a basic fluency in a foreign language - the language of tech, VC, and startup. We need this fluency to transparently articulate our pain points and the solutions we envision for our fighting formations. Acceleration of the DoD's innovation trajectory requires a careful balance of today's priorities and modernization for tomorrow. However, this much is clear: without communication between the designers and operators of technology, this trajectory flat-lines.

The Cost

For commanders, allowing Airmen to focus their energy away from their primary duties for eight weeks may seem like a high near-term cost, but it is a small investment that will pay immense dividends in the long-term. This upfront cost may offer limited immediate dividends for the commander who sends his/her Airman to this Fellowship; however, it is a high-impact investment in the Air Force as an enterprise. Enmeshing the profession of arms into the VC ecosystem, home to cutting-edge technology investment, enables a vital cross flow of ideas and inspiration that can incubate in private and governmental sectors. Simply put, innovation is a long-game, and AFVentures is building the playbook.

The program, solidly grounded in the objectives to broaden mindsets and demonstrate the power of collaboration across areas of expertise, forges uncommon alloys of experience as SEALs, pilots, and cyber operators pair with CEOs, general partners, and founders. Between the sleek pitch decks and projected valuations, venture capitalists deftly pull the levers of investment that will shape the technological landscape of our national security. Airmen - the end-users and operators of the technology - should be a part of this process.

The Benefit

For decades, the technology “primes” (e.g. Lockheed, Northrop, Raytheon, Boeing, and General Dynamics) and select individuals at the top of the decision-making pyramid have shaped the Air Force’s technological landscape. However, those relationships have failed to link two key groups: the developers of defense technology and operators. [“We like to talk about flying something before we buy, but we don’t do that very often.”](#) said Dr. Will Roper, Assistant Secretary of the Air Force for Acquisition, Technology and Logistics. [“We like to commit to buy something, and then we go make it and fly it and hope it works well.”](#) This acquisition process demands re-orientation, and AFVentures is a strong step in that direction. Efforts to reform the traditional acquisitions process involve a renewed focus on rapid prototyping and software development operations, or “dev ops.” The goal with both efforts is to quickly incorporate feedback from operators to iteratively enhance the effectiveness of any given weapons system.

While you don’t need to be an AFVentures Fellow to participate in that feedback process, we need AFVentures Fellows to advocate for this process, especially as they rise to the ranks of senior Air Force leadership.

Often we become too acclimated to our environment and lose the sensitivity to identify our own strengths and weaknesses. AFVentures provides the opportunity to immerse in a contrasting ecosystem and gain a heightened appreciation of how technology is evolving to support future warfare. This program builds a bridge between Silicon Valley and the DoD -

a bridge we can use to engage in the evolution of our technology and, if necessary, provide course correction. Fellows learn a foreign industry-specific vocabulary and navigate entirely unfamiliar landscapes.

These skills may be nascent and imperfect, but the marginal difference between no fluency and elementary proficiency is the difference between [zero and one](#), absence and presence, silence or communication. AFVentures corrects an insidious communication issue, that is, a dearth of people who can communicate in military and investment circles. Currently, not enough people speak DoD and VC, which makes it challenging to find paths forward for collaboration. The Air Force needs a framework for being bi-lingual. We train our Airmen to speak the languages of our friends and adversaries abroad and encourage coding as a language competency due to its critical role in the cyber warfighting enterprise. Airmen who can employ the VC dialect to foster the innovation that our Air Force urgently requires is similarly important.

Venture Capital: The Garden of Innovation

While Fellows now embed with many startups, earlier cohorts of AFVentures Fellows were placed primarily with venture capital companies. VC may not seem like a logical fit for an Air Force officer who only has eight weeks to explore and absorb as much about Silicon Valley as possible, but it is precisely the right environment for two reasons.

The first reason is exposure to investment portfolios with significant breadth. I did my fellowship with AlphaBridge Ventures, a firm that specializes in early stage startups. At any moment, AlphaBridge balances a large and diverse portfolio of companies developing technology in robotics, space, advanced sensors, AI, synthetic biology and even next generation foods. Venture capital is the garden of innovation and technology startups. Only a handful will survive. Even fewer will thrive. Partners running a venture capital firm choose which seeds are nourished with the good soil, sunlight, and water. Beyond the financial

investment, AlphaBridge provides its startups networking and targeted mental health support to founders aimed at preventing burnout. At AlphaBridge, the partners aim to invest in companies that will, in some shape or form, contribute to our national security; therefore, they are drawn to Fellows who can offer perspective from operational battle spaces.

The second reason why VC is an ideal fit for a Fellow is the opportunity to contribute meaningfully and immediately to the decision to invest. As VCs assess the potential of a startup to mature, they want to uncover every detail possible about how the product or service works, competitors, potential shortfalls and deficiencies, and most importantly, what problem does it solve for the consumer? This is where Fellows offer irreplaceable insights and bring their experience to bear. They help to close the experiential information gap that often exists between investors and the makers of the technology. A pilot's perspective on airborne navigation equipment is valuable. A SEAL's perspective on the ergonomics of wearable technologies is valuable. A tank mechanic's perspective on virtual reality-aided technical training is valuable.

Narrowing the gaps between the investors, creators, and users of a technology is a significant mentality shift, but a necessary one. The practice of rapid incorporation of feedback from users - good and bad - allows us to harvest value from our mistakes and accelerate momentum on effective vectors. When operators use a technology, trial and error ensues, limitations become more well-defined, and accidental discoveries and repurposing can emerge. Without accidental discovery, we would not have x-ray technology, the pacemaker, or penicillin.

In 1945, Percy Spencer, an American engineer working on radar equipment emitting high frequency radio waves, noticed a chocolate bar had melted in his pocket. Shortly thereafter, Spencer developed the microwave oven. Maintaining a consistent AF Fellow presence in the VC world cultivates the opportunity to match technologies real-world warfighter problems. As DSD Hicks emphasized recently with the launch of the [Rapid Defense Experimentation](#)

[Reserve \(RDER\)](#), “We’re trying to move from rhetoric to reality, concepts to capabilities.” The Fellowship opens doors and builds bridges that can be entered and crossed to achieve this reality and deliver capabilities as warfighter problems evolve and our strategic environment changes.

For Future Competitive Advantage, Invest in People

In this era of geopolitical uncertainty and dynamic strategic competition, what does the Air Force rely upon to ensure we maintain warfighting superiority and build systems commensurate to that of our global peers? The answer is innovation, and more specifically, the Airmen who generate that innovation. By allowing Airmen to step into Silicon Valley for a short but impactful period, the Air Force is making a direct investment in its most dynamic, versatile asset: its people.

In his CSAF confirmation hearing, General CQ Brown exhorted the value of collaborative innovation efforts that harness governmental and industry partners alike: [“I am an advocate for early and constant collaboration between operators, acquisition professionals and industry partners to unleash innovation and spiral development so that the warfighter has access to the most capable and state of the art assets, sooner than later.”](#)

This sentiment was enthusiastically echoed by former Secretary of the Air Force Barbara Barrett who stated in 2020, [“Innovation and integration across joint and allied forces maintain the Department of the Air Force’s singular defense leadership.”](#) From leadership, the messaging is clear and consistent: innovation is imperative. What is the strategy? The Air Force vision statement succinctly captures the strategic organizational intent: The World’s Greatest Air Force—Powered by Airmen, Fueled by Innovation. Innovation does not just spontaneously happen. We have to invest in people, and the return on investment is innovation.

The Bottom Line

While major milestones in innovation and industry collaboration have been made or are underway, there is untapped space for growth. A tidal wave of [SIBR and STTR](#) programs, the opening of [Kessel Run](#) and [AFWERX](#) centers in Austin and Las Vegas, and the AFVentures Fellows program itself provides clear evidence of the evolution of innovation in the Air Force.

The community that is emerging from the AFVentures Fellowship, however, warrants much greater attention and resources. This, above all other arms of innovation connected to industry, is how the Air Force can strongly align its intention to action. If we are an organization with leaders who celebrate innovation and execute a strategy that relies upon it, we must prioritize the competencies that AFVentures confer to our Airmen.

Fellows forge relationships with the small coterie of people who invest in the companies that will develop and control the technologies the Air Force needs to deter, and if necessary, fight and win wars. The [interim National Security Strategy](#), released in March 2021, outlines the President's priorities for achieving American security goals. The demand for innovation is repeatedly ("innovation" is mentioned 7 times) emphasized: "We will sustain America's innovation edge to improve the lives of all Americans. We will double down on science and technology investments."

For over half a century, the United States has structured its military capabilities to "offset" adversary threats. The first offset came to fruition when the U.S. harnessed deterrent power through nuclear weapons. Then, unable to match the Soviets "tank for tank," the U.S. asserted the second offset with its superior quality weapons against the larger but lower-capability Soviet arsenal. The third offset strategy, put forth in 2014, stresses the need for modern ISR. As the pace of change rapidly accelerates, identifying the next offset is essential. If innovation powers our warfighting ascendancy, then it is people - not machines alone - that comprise the fourth offset.

Ultimately, AFVentures sets the conditions to fight future wars. Currently, we are serving in an Air Force molded by the decisions of Generals Jumper, Moseley, and Schwarzkopf. In twenty years, we will operate the Air Force set into motion by Generals Welsh, Goldfein, and Brown. In 2040, the new leaders of the Air Force will employ weapons purchased decades prior, rely on Airmen who are now mostly toddlers and, most importantly, will cash out the personal currency and relationship capital they built with future leaders of industry in programs like AFVentures. Not unlike VC, the Air Force must make decisions in the face of uncertainty with imperfect information, but we must remember that we are playing a long game. To rely on Airmen who will exemplify our culture of innovation and shape the future Force, a singular and resounding imperative emerges: we must invest in our people today.

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