

**Testimony of**  
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**Before the U.S. Senate Committee on Small Business and Entrepreneurship**  
**Hearing on "The Golden Age of American Innovation: Reforming SBIR-STTR for the 21st Century"**  
**5 March 2025**

Chair Ernst, Ranking Member Markey, and Members of the Committee,

Good Afternoon, and thank you for the opportunity to testify. I am a Principal of Investments at Shield Capital, where we have invested in over forty early-stage startups building technology at the intersection of national security and commercial innovation—colloquially known as dual-use technology. Prior to joining Shield Capital, I spent over a dozen years on active duty as an Air Force Acquisition Officer, with assignments at Peterson Air Force Base (AFB), CO; Hanscom AFB, MA; Macdill AFB, FL; at Defense Innovation Unit in Mountain View, CA; and the Pentagon. I deployed with Special Operations Command in 2014 to Bagram Air Base, Afghanistan as part of the GHOST program. In addition to my time at Shield Capital I am a reservist in the Pentagon under the Air Forces Senior Acquisition Executive.

Before joining the military through ROTC, I learned the power of small business growing up in Cincinnati, OH,—my parents were both small business owners. My mother spent 40 years in independent financial services, and my father recently sold his water heating business after 30 years of operation. I know firsthand that small businesses are the backbone of the American economy, and they always will be.

But competing with foreign adversaries requires a new class of American business—one that didn't exist when the SBIR program was first authorized in 1982: the venture-backed startup. These companies now drive the top of the S&P 500, driving a disproportionate share of private-sector research and development (R&D) funding and building compelling technology of the future.

***Overview of Shield Capital***

Founded in 2021, Shield Capital, a venture capital firm, is investing in early-stage companies building technologies that matter across artificial intelligence, autonomy, cybersecurity, and space. Shield Capital's team consists of founders, investors, and national security leaders. We

invest in mission-focused entrepreneurs addressing the convergence of commercial technology and national security. At Shield Capital, the MISSION MATTERS!<sup>1</sup>

### ***The Value of Private Capital in Defense Technology Development Ecosystem***

Private capital plays a crucial role in accelerating the development and deployment of next-generation defense technologies. VC provides more than just funding; it brings expertise, networks, and a culture of speed and iteration that is essential in a world where technological superiority is contested. Unlike traditional defense contractors, venture-backed startups thrive on rapid innovation cycles, allowing them to develop, test, and scale disruptive technologies efficiently.

In recent years, venture investment in defense technology has surged, growing from \$8 billion in 2016 to over \$42 billion in 2024 as highlighted by Pitchbook. This trend is driven by various factors, including the more dangerous world we live in today, efforts from organizations like DIU and AFWERX, and a growing recognition that the private sector must play a greater role in national security. While federal R&D funding remains critical, it cannot match the agility, size, and market-driven discipline of the venture ecosystem.

Private capital also enables startups to overcome funding gaps that often plague government procurement processes. Many of the most promising defense technologies struggle to transition from prototype to production because of bureaucratic hurdles and inconsistent funding. Venture investment helps bridge this "Valley of Death" by sustaining companies through critical phases of product development and commercialization.

Moreover, private investors actively seek to build companies with long-term commercial viability. This dual-use approach strengthens supply chain resilience and ensures that America's defense industrial base remains competitive in both defense and commercial markets. Technologies developed with venture capital backing—such as artificial intelligence, autonomous systems, and cybersecurity—are already reshaping national security.

The value of integrating private capital into the defense innovation ecosystem cannot be overstated. If we do not continue to incentivize innovation and competition, then we risk ceding the advantage to adversaries who are aggressively investing in emerging technologies. By aligning SBIR with the strengths of venture-backed startups, we can create a more dynamic and effective pathway for deploying breakthrough technologies to the warfighter.

The Golden Age of American Innovation will not be won by government funding alone. It requires unlocking our most powerful asset—America's private capital system.

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<sup>1</sup> <https://shieldcap.com/>

### ***The Challenge: America's Technological Edge is Eroding***

We sit at a pivotal moment for American competitiveness. While the U.S. maintained technological dominance in Iraq and Afghanistan, the People's Republic of China presents an entirely different challenge. Our defense and commercial technology ecosystems continue to operate in parallel universes, making it harder to field cutting-edge capabilities at scale. If we are going to win the Global Power Competition, we must unleash the full force of America's private capital markets backing our best founders and entrepreneurs.

### ***SBIR Should Be a Launchpad, Not an Obstacle***

The SBIR program was created as America's seed capital for innovation, as an avenue for non-dilutive funding to develop technologies with commercialization potential. SBIR and STTR funding have contributed to major breakthroughs, including regenerative wound healing therapies, biometric sensor technology, and more.

As we discuss reauthorization, we must address the fact that SBIR has become an obstacle course favoring entrenched companies—so-called SBIR Mills.

A Naval Postgraduate School report found that of nearly 5,000 SBIR companies, the top 25 alone secured 18% of all DoD Phase I and II funding—over \$2.3 billion between 2012 and 2021. Many of these firms focus on securing grants rather than fielding operational capabilities.

Meanwhile, true high-growth startups—the ones building the technology of the future, structured to scale, employing thousands, and attracting billions in private capital—are often locked out.

We must ask: Shouldn't America's government-backed seed capital be an entrepreneur's first step, not a bureaucratic bottleneck?

### ***Bridging the "Valley of Death"***

Even when startups win SBIR awards, too few transition to Phase III procurement contracts. The same Naval Postgraduate School report found that only 16% of SBIR companies transitioned beyond Phase II, leaving most stuck in perpetual R&D.

Programs like TACFI and STRATFI in the Department of the Air Force and Catalyst in the Department of the Army provide a model for bridging this gap. As a former acquisition officer, these are the types of programs that incentivize a program office to engage the SBIR program rather than leaving it to the whims of R&D labs. Without clear transition pathways, startups struggle to gain traction, and investors hesitate to back them.

At Shield Capital, the SBIR program is often a first step in a company's journey working with the federal government. Four of our startups have successfully transitioned from SBIR Phase II to STRATFI contracts, integrating into emerging Programs of Record. It is unlikely those startups will need to leverage SBIR again, creating a true onramp to scalable, operational technology. This is the paradigm we need to solve for.

### ***Recommendations to Improve SBIR for Venture-Backed Startups***

Beyond limiting SBIR Mills and expanding STRATFI-like programs, additional reforms would make SBIR more accessible to venture-backed startups. As reauthorization discussions arise leading up to the September 30, 2025 deadline, I also ask the Committee to consider the following:

- Make SBIR contracts firm-fixed price by default and cost-reimbursement by exception. Expecting startups to build government-unique accounting systems for contracts between \$50K - \$750K is a major barrier to entry and generally discourages companies who are not predominantly focused on the government as their sole customer and generally discourages companies who are not predominantly focused on the government as their sole customer.
- Provide additional financing to first-time recipients to meet the NIST-mandated Cybersecurity Maturity Model Certification (CMMC) standards. Good cyber hygiene is critical, but compliance costs money and can operate as a barrier to entry.
- Increase resources for ‘authority to operate’ (ATO) and ‘facility clearance’ (FCL) approvals. These are typical barriers preventing commercial companies from working with DoD and generally stand in the way of moving from a Phase I/Phase II SBIR/STTR into a Phase III or other program/contract structure. Additional solutions to formalizing a Phase III SBIR program can be found in the National Venture Capital Association’s letter, alongside coalition partners.<sup>2</sup>
- Institute and enforce a “shot clock” for award notification and contract award. Speed in execution is often the difference between winning and losing and our adversary is moving quickly.
- Create an avenue for due process and require agency feedback to companies that were passed over for the program.
- Implement and maintain a standard set of proposal formats for the SBIR/STTR program, so that individual agencies do not implement individual requirements that discourage young firms from participating.
- Strictly enforce use of open interoperability standards.

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<sup>2</sup>[Joint Innovation Coalition Comments re- SBIR Reauthorization 2024-10-03 - National Venture Capital Association - NVCA](#)

## *Addressing Common Concerns*

Lastly, to provide some additional clarity on some key considerations:

- *“VCs and startups only exist in a few regions. How do we ensure access across the U.S.?”*

Startups naturally expand operations nationwide as they scale. For example, Anduril Industries began in California but has since expanded into Rhode Island, Massachusetts, Georgia, and Ohio, creating thousands of jobs for defense manufacturing.

The National Venture Capital Association has partnered with Pitchbook to highlight state-specific data on how VC investment is transforming communities far beyond traditional hubs like Silicon Valley.<sup>3</sup>

- *“Most startups fail. How can the warfighter depend on venture-backed startups?”*  
While not all startups succeed, their technology and intellectual property often persist—either through M&A or tech transitions. A startup achieving product-market fit does not simply vanish.
- *“SBIR Mills conduct critical research. Why shift focus to venture-backed startups?”*

Innovation thrives in a competitive market, where the best ideas rise to the top. Not every solution needs to come from a venture-backed startup, but SBIR Mills are exploiting a market inefficiency—one that allows them to exist indefinitely without meaningful growth, acquisition, or transition.

In a healthy market, a small business with a promising innovation would scale, get acquired, or pivot. If it stopped innovating, it would fail and make room for new entrants. But SBIR Mills have mastered the art of proposal writing, not product development, using the program as a funding treadmill rather than a launchpad. The system incentivizes staying small, rather than scaling technology for real operational impact.

Instead of continuing to fund perpetual small businesses, much of this bespoke, non-scalable research could be handled by FFRDCs, UARCs, and taxpayer-funded government labs, which are already designed for early-stage R&D. Meanwhile, the SBIR program should refocus on what it was meant for—launching groundbreaking startups that can scale.

Venture capital financing is a small but mighty force—just like SBIR within federal R&D. These two should not operate separately. By integrating them, we can:

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<sup>3</sup> Venture Across America - National Venture Capital Association - NVCA

- Ensure SBIR is a launchpad, not a dead end.
- Give venture-backed startups a real onramp into government markets.
- Enable private capital and federal investment to co-fund critical technologies.

In conclusion, I want to thank all members of the Small Business Committee. I recognize my position as a military veteran, now turned venture capitalist, is a unique perspective for these types of hearings. Venture capital, and this new generation of defense tech startups are new to our national security arsenal. Now is the time to modernize SBIR—as a bridge between government needs and America’s private capital system. The *Golden Age* of American Innovation will not be won by government funding alone—it will be secured by unlocking the full potential of our free-market system, ensuring economic prosperity and national security resiliency. I look forward to being a resource and welcome any questions.