FOSTERING AMERICAN INNOVATION: INSIGHTS INTO SBIR AND STTR PROGRAMS

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FOSTERING AMERICAN INNOVATION: INSIGHTS INTO SBIR AND STTR PROGRAMS

WEDNESDAY, FEBRUARY 26, 2025

HOUSE OF REPRESENTATIVES,
COMMITTEE ON SMALL BUSINESS,
Washington, DC.

The Committee met, pursuant to call, at 10:01 a.m., in Room 2360, Rayburn House Office Building, Hon. Roger Williams [chairman of the Committee] presiding.

Present: Representatives Williams, Stauber, Meuser, Alford, LaLota, Finstad, Wied, Jack, Downing, King-Hinds, Velázquez, McGarvey, Scholten, Cisneros, Morrison, Latimer, Tran, Simon, Olszewski, and Goodlander.

Also Present: Representatives Moolenaar and Krishnamoorthi.

Chairman WILLIAMS. Before we begin, I will ask Mr. Stauber to open us in prayer.

Mr. STAUBER. Dear Lord, thanks for this wonderful day that you have given us to provide wisdom to each and every one of us to live this day in your name. And we also pray for our families that are back home. We pray for their safety.

We pray for our staff and for our colleagues on both sides of the aisle. As we work today on behalf of the American people, know that the United States of America is a great country when we work together.

In your name we pray, Amen.

Please join me in the pledge of allegiance.

I pledge allegiance to the flag of the United States of America, and to the Republic for which it stands, one nation, under God, indivisible, with liberty and justice for all.

Chairman WILLIAMS. Good morning, everyone.

And I now call the Committee on Small Business into order.

Without objection, the Chair is authorized to declare a recess of the Committee at any time.

And prior to opening statements, I ask unanimous consent to enter a letter into the record from the House Select Committee on the Chinese Communist Party requesting to waive on today's hearing.

Without objection, so ordered.

Pursuant to the rules of the House and the rules of the Committee, I ask unanimous consent that Members of the House Select Committee on the Chinese Communist Party be waived on to the Committee for the purpose of making an opening statement and asking questions.

And without objection, that is so ordered.

I now recognize myself for my opening statement.

I want to welcome everybody today to the hearing, Fostering American Innovation: Insights into SBIR and STTR Programs.

I want to thank our witnesses today for being here. And many of you traveled a long way to get here, and we are interested in your perspectives and your experiences, and we deeply value your time and your voice.

Small businesses are the backbone of innovation and economic prosperity in America. The ability to take an idea, develop it into a product, and bring it to the market drives innovation and economic growth, strengthening our nation's competitiveness.

For over four decades, the SBIR and the STTR programs have fueled American innovation by providing early stage funding to small businesses, allowing them to develop cutting-edge technologies that strengthen our economy and support our military. From lifesaving medical advances to next-generation defense capabilities, these programs have empowered main street to turn ideas into reality for the government and the private sector.

The SBIR and the STTR programs channel federal R&D dollars in phases to small business, enabling the development of innovative ideas that align with the needs of federal agencies. These agencies can offer SBIR and STTR awards through two avenues. First, through targeted solicitations where the agency requests a product that meets specific requirements, or through open topics where small businesses propose innovative solutions to meet an agency's mission.

Prominent companies, including Qualcomm, 23andMe, and Bose, began as small businesses that leveraged the SBIR program to become industry leaders demonstrating the program's power to drive innovation and economic growth.

Our responsibility right here in Washington is to ensure that these programs continue to foster groundbreaking advancements while remaining free from foreign exploitation. In today's hearing, we will examine these programs' challenges and addresses and propose unresolved solutions from the last reauthorization.

SBIR and STTR have long supported American ingenuity, yet these vital programs still face growing threats. The CCP continues to exploit the SBIR and the STTR programs, siphoning taxpayer-funded research back to China. This undermines American innovators' intellectual property rights and jeopardizes our nation's national security.

The due diligence program established in the last reauthorization continues to face limitations in effectively preventing CCP infiltration. At the same time, small businesses participating in these programs face significant barriers in transitioning from research to commercialization, lacking access to capital.

With SBIR and STTR set to expire in September 2025, we have a critical opportunity to make changes to ensure these programs operate efficiently and support small businesses' growth to ultimately accomplish the program's goal of fulfilling R&D needs.

Ensuring these programs are awarded by merit after rigorous competition will continue driving the best innovations to the top. Innovators thrive in an environment where competition reigns su-

preme, where they are free from limitations or caps on their success.

Working alongside the Trump administration, we will continue to prioritize policies that protect our innovators, cut bureaucratic red tape, and create an environment where Main Street America can survive and thrive.

With that, I would yield to our distinguished Ranking Member, my friend from New York, Ms. Velázquez.

Ms. VELAZQUEZ. Thank you, Mr. Chairman, for calling this hearing to discuss one of our most important priorities of the 119th Congress: reauthorization to small business innovation research and small business technology transfer programs. The timing could not be more critical.

SBIR and STTR are among the federal government's most effective engines for driving innovation. These programs channel just a small percentage of extramural R&D budgets into highly competitive awards that fuel cutting-edge discoveries, create new industries, and drive economic growth.

At just under $5 billion annually, these programs have had an outside impact on our economy, helping to launch companies like iRobot, Sonny Care, 23andMe, and Qualcomm. They have played a role in game-changing advances. From second-generation LASIK eye surgery to critical mineral recycling that reduces our dependence on foreign sources, to advancement that helps us investigate the inner workings of the human brain, to studying disorders like Alzheimer's and Parkinson's.

More recently, an SBIR-backed company, Boom Aerospace, whose CEO testified in this room 3 years ago, conducted a test flight that broke the sound barrier over the Mojave Desert. With the help of SBIR and the private capital it has helped attract, our countries' innovators are one step closer to bringing supersonic passenger jet travel into reality.

Yet despite its overwhelming success, these programs are among the only core SBA programs that are not permanently authorized. If Congress fails to act before its expiration on September 30, a lapse in the program will have severe implications for American entrepreneurs. Even a short-term disruption would deliver a substantial setback for America's innovation pipeline.

Meanwhile, China is aggressively investing in its own R&D ecosystem. Just last month, the release of the DeepSeek AI model rattled global markets, exposing the complacency of the dominant U.S. firms that have grown too comfortable with their market power.

The SBIR program is uniquely positioned to counter this stagnation, funding nimble, emerging businesses to challenge entrenched tech giants and restore competition to the innovation economy.

In many ways, Mr. Chairman, our task this year should not just be about a simple extension of the programs but, rather, a bipartisan collaboration to making SBIR and STTR stronger than ever before. It is my greatest hope that we can work together to grow the programs in several ways.

First, we must work to make the program permanent, giving small innovators operating on the cutting edge of their industries more certainty and stability to invest their time, money, and staff into competing for SBIR or STTR awards.

Second, we must expand the programs, allowing for greater agency allocation over time and growing the volume of small business grants and contracts available. This will bring more competition to our economy and our industrial defense base.

Third, we must work to help participating companies overcome the valley of death by expanding commercialization services and growing Phase III of the program.

Finally, we must continue protecting small business firms from foreign threats that seek to undermine our national security.

These are just a few of many priorities we can consider.

Thank you to all the witnesses for appearing before us today, and thank you to the Chair and Ranking Member of the Select Committee on the Chinese Communist Party for joining us. I look forward to your testimony.

I yield back.

Chairman WILLIAMS. The gentlelady yields back.

I now recognize the distinguished Chair of the House Select Committee on the Chinese Communist Party, Chairman John Moolenaar from the great State of Michigan, for his opening remarks.

Mr. MOOLENAAR. Thank you, Chairman Williams and Ranking Member Velázquez, for holding today's hearing on the small business innovation research, as well as the small business technology transfer programs.

And I want to thank you for allowing Raja Krishnamoorthi and I to waive on to this important meeting.

The SBIR and STTR programs have long been instrumental in fostering American innovation, allowing small businesses to development cutting-edge technologies that serve both the public and the private sectors. These programs are critical to maintaining America's technological edge, particularly in industries vital to our national security.

That being said, as we examine the effectiveness of these programs today, we must also acknowledge the serious threats they face; most notably, the Chinese Communist Party's persistent efforts to exploit these programs for its own military and economic gain.

China has systematically targeted American innovation using tactics like talent recruitment programs, state-sponsored investments, and university partnerships to siphon off U.S. taxpayer-funded research. This is not just a matter of intellectual property theft. It is a direct national security risk.

Some U.S. firms that have received SBIR awards have later partnered with CCP-linked entities or established Chinese subsidiaries, effectively transferring sensitive technology into the hands of our foremost adversary.

The CCP is actively seeking to integrate advanced U.S. research into its military modernization efforts, including through artificial intelligence, quantum computing, and next-generation defense technologies.

As the September 30 reauthorization deadline approaches, we must close the gaps that allow China to take advantage of the SBIR and STTR programs. At the same time, we must not lose sight of the core mission of SBIR and STTR supporting American

small businesses. Instead of limiting opportunities for small businesses, we should focus on strengthening safeguards against foreign exploitation while preserving a merit-based system that rewards innovation.

The United States cannot afford to let China turn our most successful small business research and development program into a tool for its own strategic advancement. We must take decisive action to protect SBIR and STTR from CCP infiltration and ensure that taxpayer dollars are used to support American innovation, not our adversary's.

And I am confident that under Chairman Williams and Ranking Member Velázquez's leadership, this Committee will be successful in doing just that. And the Select Committee on China stands ready to support the Small Business Committee's important efforts to protect American innovation, strengthen our economic security and counterthreats posed by the Chinese Communist Party.

And with that, Mr. Chairman, I yield back. Thank you.

Chairman WILLIAMS. The gentleman yields back.

And I now recognize the distinguished Ranking Member of the House Select Committee on the Chinese Communist Party, Ranking Member Raja Krishnamoorthi—but I know him better as the Raj—from the great State of Illinois for his opening remarks.

Mr. KRISHNAMOORTHI. Well, thank you, Mr. Chairman.

And by the way, when I first—on my first day of college, I introduced myself. I said, Hi, my name is Raja. And the person said, What part of Boston are you from, Roger?

So in any case, wonderful to be with you. Thank you, Ranking Member Velázquez, my good friend. And, of course, my good friend and colleague and the leader of our Committee, Chairman John Moolenaar, thank you for your leadership.

I want to take this opportunity to speak on the Small Business Committee about the SBIR and STTR programs. In full disclosure, as a former small business person, my former company actually benefited from SBIR programs.

And I lived in the valley of death frequently. And so it is not a pleasant place to be. And SBIR, thanks to the work of this Committee and this government, we were allowed to benefit from those programs, and we have developed technology for night vision, both for space and for military applications, and it is helping the warfighter today.

For decades, these programs have served as the backbone of U.S. research and development, empowering small businesses by turning new ideas into real technology. They have helped advances in defense, energy, and medicine. And in a study from 1995 to 2018 revealed that these programs have created a whopping 1.5 million jobs, averaging over 65,000 jobs annually. These investments have led to breakthrough technology, such as advanced prosthetics for wounded veterans, revolutionary medical imaging systems, and cutting-edge cybersecurity solutions.

I want to say I echo the sentiments of Chairman Moolenaar. Our adversaries do know the strengths and weaknesses of our innovation ecosystem and, on occasion, they have taken advantage of it and targeted some of the beneficiaries of these SBIR and STTR programs for intellectual property theft.

One notable example was a U.S. company that was a former SBIR awardee that lost $1 billion in shareholder value and 700 American jobs after an employee stole wind energy technology for a Chinese firm.

As another anecdote, I should just mention, Chair and Ranking Member, when I was running this company in the private sector that I mentioned before, we were actually the victims of an attempted theft of intellectual property by CCP-controlled entities as well. So I know this firsthand. It happens. And so we have to do whatever we can to help small businesses ward it off, prevent it, empower them to avoid being victims of CCP intellectual property theft.

Congress and the executive branch have taken steps to address and mitigate many of these threats. For example, the SBIR and STTR Extension Act of 2022 was an important step forward, requiring greater disclosure of foreign ties and participation in talent recruitment programs. These efforts have proven effective in increasing awareness and bolstering protections, but we cannot afford to be complacent when it comes to competing with the CCP.

As the SBA Inspector General's 2024 advisory makes clear, our current system still relies heavily on self-reporting from companies, which can lead to resource constraints for the government to verify these reports. We must continue to support resources for due diligence so that we can see the results we enacted back in 2022.

Finally, and above all, we must recognize that federal funding for research and technology development is not just an investment in the present; it is a commitment to our nation's future.

And actually, Chairman Moolenaar and I just met with Condoleezza Rice yesterday of Stanford, who heads the Hoover Institution, who brought a number of researchers to our office to talk to us about the technology competition and the fact that the only way that we are going to win this competition is for the federal government to invest in basic research and development, supplemented by these additional investments in SBIR and STTR, which build upon progress, the blue sky research, in the private and public sector.

I just want to say thank you so much, Chairman Roger. And thank you, Chairwoman Velázquez and Chair John Moolenaar, for your leadership, your partnership, your collaboration. Together we are going to win this competition, this strategic competition against the CCP.

Thank you, and I yield back.

Chairman WILLIAMS. The gentleman yields back. Thank you for that.

And I will now introduce our witnesses.

Our first witness here with us today is Dr. Bill Marinelli. Dr. Marinelli is the president and CEO of Physical Sciences Inc., located in Andover, Massachusetts. Dr. Marinelli joined Physical Services Inc in 1983, and has been involved as a scientist and program manager in a diverse range of technical areas.

In 2006, he was named executive vice president for defense systems. In 2018, he became chief operating officer for the company and was named to the board of directors in 2021. Dr. Marinelli then assumed the title of president and CEO in 2022.

Dr. Marinelli has made numerous contributions in the fields of chemical kinetics, gas service interactions, space physics, and advanced diagnostics.

Dr. Marinelli received his MS and Ph.D. degrees in physical chemistry from the University of California at Berkley. He is also a graduate of Brown University where he earned a degree in chemistry.

I want to thank you for being with us today, and looking forward to your conversation.

Our next witness here with us today is Ms. ML Mackey. Ms. Mackey is the CEO of Beacon Interactive Systems located in Waltham, Massachusetts. Ms. Mackey has co-founded Beacon Interactive in 1994 and, along with her partner, has grown the business into a valued nontraditional defense contractor.

And throughout her time, Ms. Mackey has won multiple awards, such as the WES Leadership Award, the Tibbetts Award, Small Business Executive of the Year, Small Business Advocate of the Year, and Champion of Small Business Innovation.

Ms. Mackey serves as the ExCom of NDIA's board and is the Chair of the Small Business Division. She is past Chair of NSBA and a current member of SBA's innovation advisory committee and the National Academy of Sciences, Army S&T Roundtable.

Ms. Mackey is a graduate of Lehigh University with a Bachelor's of Science in Electrical Engineering.

I want to thank you for being here also today.

Our next witness here today is Mr. Cyrus Miryekta. Mr. Miryekta is the founder and CEO of Ravelin US, located in Fairfax, Virginia. Mr. Miryekta founded Ravelin in 2023 to serve as a strategic consulting firm for the USG-inclined innovators. And prior to Ravelin, he was with the Air Force Office of Special Investigations and spearheaded the Department of Defense counterintelligence in Silicon Valley.

He enlisted in the U.S. Army in 2000 and served as an airborne fire team leader in Afghanistan and in Iraq, where he was decorated for actions under fire and for saving a civilian from an IED.

He serves as board member for the BlackStar Orbital and Tigercat Cyber, as well as board advisor for TerraSpace. He also has worked as a volunteer to set up medical clinics in rural Guatemala where over 1,000 children have been treated a week.

He holds a Master of Arts Degree in Statecraft and National Security from the Institute of World Politics. He is also a graduate of the National Security Space Institute and California State University where he received a bachelor degree in political science and government.

I want to thank you for being with us today, and I am looking forward to all of the testimony.

And I now recognize our Ranking Member from New York, Ms. Velázquez, to introduce our last witness appearing before us today.

Ms. VELAZQUEZ. Thank you, Mr. Chairman.

Our final witness today is Mr. Jere Glover, the Executive Director of the Small Business Technology Council, a trade association of small, high-tech companies, most of whom are involved in the Small Business Innovation Research program. As counsel to the House Small Business Committee, he directed and organized a set

of hearings on small business and innovation that laid the groundwork for the program in 1978. Throughout the law's existence, he has been one of its most active supporters.

Mr. Glover has a unique blend of public and private sector experience. For more than 6 years, he was the federal government lead defender of small businesses in the regulatory process. In the private sector, he has been the CEO or principal of a biotech company and medical technology company and a group of medical clinics.

He obtained his undergraduate and law degrees from the University of Memphis and an L.L.M. in Administrative Law and Economic Regulation from George Washington University.

Thank you, Jere. We look forward to your testimony.

Thank you, Mr. Chairman.

Chairman WILLIAMS. The gentlelady yields back.

Before recognizing the witnesses, I would like to remind them that oral testimony is restricted to 5 minutes in length. If you go over 5 minutes, you will hear the gavel a little bit, and you need to bring it to a close. If you see the light turn red in front of you, it means your 5 minutes has concluded, and you should wrap it up quickly.

Also, I would like to add, periodically, you will see some of us moving in and out. It is no reference on your testimony or anything, but some will have other places they have got to be real quick and come back. You may see the Ranking Member and myself do that, but we will be back. Okay? So that means nothing.

So I now recognize Mr. Marinelli for his 5-minute opening remarks.

STATEMENTS OF MR. BILL MARINELLI, PRESIDENT AND CEO, PHYSICAL SCIENCES INC.; MS. ML MACKEY, CEO AND CO-FOUNDER, BEACON INTERACTIVE SYSTEMS; MR. CYRUS MIRYEKTA, CEO, RAVELIN US; AND MR. JERE GLOVER, EXECUTIVE DIRECTOR, SMALL BUSINESS TECHNOLOGY COUNCIL

STATEMENT OF MR. BILL MARINELLI

Mr. MARINELLI. Good morning, Chairman Williams, Ranking Member Velázquez, and Members of the House Committee on Small Business. It is an honor to testify here today on behalf of Physical Sciences Incorporated, a small business headquartered in Andover, Massachusetts. I want to thank you for the opportunity to talk about our experience with the SBIR program.

Our company was founded in 1973, with a mission to develop technical solutions for national priorities in defense, security, energy, environmental, healthcare, and industrial markets. The company is 100 percent owned by an employee stock ownership trust, has no foreign ownership interest, and takes active measures to prevent foreign technology transfer.

Our company embraces the key intent of the SBIR legislation to meet federal research and development needs while identifying commercial applications for those highly specialized technologies. Four examples include: One, advanced Lithium-ion battery technology to support two Navy programs of record where their operational requirements exceed commercial standards.

Two, rare earth extraction from coal ash to provide a secure domestic supply of these critical elements. We developed and patented that technology under SBIR and non-SBIR programs. And funding for a $30 million pilot plant has now been awarded to Pennsylvania's Winner Water Systems in conjunction with the southern company.

Radiation detection technology to secure our borders against trafficking in this threat. The technology we manufacture currently provides detection capability to several ports of entry along the southern United States, as well as to federal, state, and local law enforcement agencies in the U.S., the U.K., and select overseas locations.

And finally, remote natural gas leak detection technology developed for use by the natural gas industry. Over 7,400 of those systems have been sold under license to PSI.

The key point is that component technology funded by SBIR awards from multiple agencies and facilitated by significant investments by PSI and facilities and select capabilities was employed to meet these needs.

We have reported over $677 million in Phase III academic—economic activity to the SBA, about half of which is actual commercial sales from licensed technology by our partners. Only $5.8 million of those funds are formally listed as Phase III awards, illustrating the erroneous and misleading conclusions that can be drawn by simplistic studies that purport to capture the program's total economic activity.

Looking at reauthorization, we believe the primary SBIR reauthorization challenges is to reduce barriers to entry and not restrict program participation. Reauthorization should reinforce five basic principles, and I think you have heard some of them already today.

First, merit-based awards. Congress should maintain the competitive merit-based fundamentals of the program to ensure that the best technology is developed. The GAO review of the program showed that there were no SBIR mills and that the intent of the program is being met. There should be no arbitrary award caps, submission limits, or forced graduation.

Second, agency discretion. Agencies should have the discretion to shape the program and to find merit consistent with their missions. Multi-award winners should not be penalized for some agencies' lower rate of adoption and commercial potential.

Three, improved communication. Agencies should improve the communication of their needs and opportunities across all topic types to enable companies to tailor their proposals to meet those specific needs, improve their potential for award, and support subsequent technology transition.

Four, application simplification. The largest barrier to participation in the program for new entrants is increased administrative burden and complexity of proposal submission. Per capita, proposal submission rates from underserved regions of the country are some of the lowest in the program reflecting those barriers.

And finally, permanent authorization. The GAO identified investments and dedicated capabilities as key to receiving DOD awards and to being viewed as a reliable supplier by our customers.

Program permanency reduces the concern that those investments will be stranded at the next reauthorization without limiting the ability of Congress to make further adjustments to the program.

In conclusion, there are many pathways for commercial success. The U.S. Government should be open to innovation from all small business sources and not limit participation to certain pathways. Doing so would undermine the ability to secure the very best technology for its priorities.

Thank you very much.

Chairman WILLIAMS. The gentleman yields back.

And, Ms. Mackey, you have 5 minutes.

STATEMENT OF MS. ML MACKEY

Ms. MACKEY. Chairman Williams, Ranking Member Velázquez, and distinguished Members of the Committee, thank you for inviting me to speak today on the importance of the SBIR/STTR programs. My name is ML Mackey. I am the CEO of Beacon Interactive Systems, a nontraditional and unconventional defense contractor delivering innovative, efficiency-improving digital capabilities to our military services.

I am here today in my capacity as the Chair of the Small Business Division of the National Defense Industrial Association, NDIA. I also serve on the executive committee of NDIA's national board of directors.

For over 100 years, NDIA has provided a forum for government and industry leaders to collaborate and address complex defense issues. NDIA and its affiliates represent over 1,700 defense companies of all sizes and sectors, the majority of which are small business.

NDIA has been a longstanding and vocal supporter of the SBIR and STTR programs and regards these programs as some of the nation's most effective tools in bringing cost-effective and valuable innovations to the DOD.

We appreciate your leadership in extending the programs through September 30, 2025, and we strongly endorse your efforts to further extend the programs before the current authorization expires.

The SBIR/STTR programs facilitate and effectively streamline the participation of competitive small businesses to work on agency-specific research and development needs.

Speeding innovations and advanced capabilities to our warfighters is critical to the DOD's efforts to outpace the People's Republic of China and other potential competitors in this era of great power competition.

In my own personal experience as the CEO of Beacon Interactive Systems, we found the SBIR program to be a gateway by which we could enter the defense marketplace. We have delivered multiple programs of record, deployed systems across 200-plus ships, submarines, and carriers, and multiple shore-based locations worldwide. Our digital products transform operations at the edge.

In one example alone, early estimates predict our flight line platform will save an hour and a half per maintainer, per shift. This tremendous impact on operational capacity was critically nurtured with SBIR investment.

Based on this positive experience and similar experiences from my colleagues in NDIA's Small Business Division, we offer the following three areas for review to enhance the SBIR/STTR programs.

Our first recommendation. The SBIR/STTR program should be permanently authorized. These programs inspire technical innovation and inject a vital sense of entrepreneurship into the defense enterprise. Establishing them permanently is the next logical step. SBIR and STTR are an essential part of America's innovative high-tech ecosystem, and even the threat of a short-term disruption can severely affect smaller high-tech innovators. The temporary nature of the current programs also does not signal stability to both the federal agencies who administer them and the small businesses seeking to participate in these programs.

Our second recommendation is to provide more support for Phase III awards and transition to commercialization. In line with the SBIR policy directive—SBIR. I always use the slang. In line with the SBIR policy directive, the government is required to the greatest extent practicable to award follow-on efforts to the SBIR investments already made in the capability. This is both an efficient use of federal funding and a significant incentive for new entrants to the U.S. defense industrial base.

Attracting and retaining new companies that can rapidly deliver innovative technologies and capabilities to the warfighter is a critical element to building a modern, diverse, and resilient U.S. defense industrial base. The technologies these companies deliver can also provide the decisive advantage needed to deter or win a fight.

DOD acquisition program should review prior SBIR/STTR projects and assess opportunities to utilize these investments. If the federal government already has access to an existing technology that is purpose built, meets the competitive threshold, and addresses the requirement, it should not expend additional funds to procure and then duplicate the same technology. Besides saving money, this review would also save time, as the DOD can leverage the agile authorities of SBIR Phase III contracting to acquire those technologies and deliver to the warfighter sooner.

It would be a disservice I think to my colleagues if I inadvertently contributed to the perceived SBIR issue of "vendor lock" here. So I want to talk about how important it is that the SBIR policy directive says "to the greatest extent practicable," and if it is not practical, tell us why. Document it so that we know—we, as the small businesses—know how to improve, and we, as taxpayers, know that you have looked for what you already have on the shelf.

The third recommendation that we have is to increase agency oversight of implementation and agency employee accountability. In my submitted written testimony, we have fair amount of detail on what kind of training we think would help with that.

But in conclusion today, I want to first applaud this Committee for your vigilance in promoting small-business-friendly policies. Your work to defend deliberate and efficient approaches to include small business high-tech innovators in the U.S. defense industrial base is a valuable proposition for the government and a direct enabler of innovation and growth.

I appreciate the opportunity to be here today, and I welcome any of your questions.

Chairman WILLIAMS. The gentlelady yields back.

I now recognize Mr. Miryekta for his 5-minute opening remarks.

STATEMENT OF MR. CYRUS MIRYEKTA

Mr. MIRYEKTA. Chairman Williams, Ranking Member Velázquez, distinguished Members of the Committee, thank you for having me here today.

I am here to discuss the Chinese Communist Party's exploitation of American innovation with a focus on SBIR programs.

Historically, America has had three offset strategies, and an offset strategy is a strategy to defeat a military peer should deterrence fail.

The first offset strategic was nuclear weapons. In 1949, the Soviets test their first bomb. We lose that edge almost as quickly as we got it.

The second offset strategy was net warfare, which we revealed to the world in Gulf Storm in 1991, where we interlinked air, land, sea, and space forces for precision strikes. If you read modern Chinese and Russian strategies today, you will see it is largely predicated on what they saw in 1991. Fast-forward to the present, it is why Russia and electronic warfare is so effective in the Ukraine. They spent 40 years mastering its asymmetrical capability.

The SBIR program has an outsized impact for the third offset strategy, which is the rapid incorporation of innovation into the Department of Defense to defeat a peer adversary.

Innovators in America are largely people in their late 20s, early 30s, known for their irreverence and informal apparel, and they have become the vanguard of our fight with the CCP.

I have had the honor of serving my country for 16 years, first as a paratrooper in Afghanistan and Fallujah, Iraq. I went to university on the Montgomery GI Bill. I infiltrated a closed career fair to join the intelligence community. I volunteered for an assignment in Central California in 2014 when I realized DOD had no counterintelligence support to its equities in Silicon Valley.

For nearly a decade, I provided counterintelligence support to startups, Fortune 50 companies, FPGA design houses, and academic institutions. I set up the counterintelligence programs at Defense Innovation Unit, experimental at the time, AFWERX and SPACEWERX. For my impact to U.S. national security, I have been awarded an unprecedented nine national intelligence awards.

Although, I am not here to talk about my government service, this legacy informs the company that I run today, which is an advisory firm called Ravelin US. We specialize in helping U.S. innovators identify foreign ownership, control, and influence issues, and then how to mitigate and/or remove them.

The Chinese Communist Party has also evolved in its tactics against the United States. I have witnessed this over the last 12 years. There is this misconception that cyber exploitation vastly outweighs HUMINT exploitation, which couldn't be more wrong. HUMINT collections, the exploitation of our people and systems, is far more ubiquitous than what we face in the cyber realm.

The CCP will use real relationships curated over a decade. I had one last week that was 10 years before they ever deployed capital into the innovator's company.

We will also see the CCP investors and their affiliates investing in SBIR recipients who struggle to go from Phase I to Phase II.

There is a grooming process, and it is like slow-boiling the target. There is no official signing up to become an asset. It is a gradual process that occurs over time.

We also see American investors who are investing in genocide-enabling technologies against the Uyghurs in the Xinjiang province. Those same investors will be investing in munitions innovators that have received SBIRs on U.S. soil.

When the Chinese Communist Party wants innovative capability, they will often work through proxies. Sometimes that means allied countries, usually through U.S. citizens. And when they have a capability that they want us to deny ourselves, they will loudly deploy Chinese Communist Party-affiliated capital knowing that our due diligence systems will find it, we will identify it, and we will not use the capability as a department. It takes a nuanced eye to identify and to remove, but yet, essentially, a poison pill of CCP investment in our systems.

This is not really the worst thing. In fact, if your adversary is forced to adjust their tactics and deal with your strategy, that means you are having an impact. And right now, we are far ahead of them, and we need to intensify our efforts.

The impact of the SBIR program vastly outweighs the dollar amount and it steers the industry. The SBIR/STTR Extension Act that went into effect in July of 2023, has changed the American innovative landscape.

Not all of the due diligence teams that are required to do the FOCI due diligence are the same. In fact, you have one team that is better than all the other teams combined and still way out far ahead. But we cannot look at specific teams and say whether the program is working or not. It is actually quantifiable, and we can figure that out.

We do have some recommendations for the Committee. I know I have a very cumbersome last name, and I would encourage you to call me Cyrus.

The SBIR/STTR program is critical to executing our third offset strategy, which is to ensure American hegemony in the 21st century.

I look forward to your questions.

Chairman WILLIAMS. Thank you, Cyrus.

And now, Mr. Glover, you have your 5-minute opening remarks.

STATEMENT OF MR. JERE GLOVER

Mr. GLOVER. Thank you, Mr. Chairman, Ranking Member Velázquez, Members of the Committee. It is an honor to be here today to talk about reauthorization of the SBIR/STTR programs.

Today, I want to share with you a remarkable congressional government story. Forty-seven years ago, this Committee, together with the Senate, held joint hearings on small business and innovation. The Committee found that small business was, by far, the most innovative sector of the U.S. economy, creating two-thirds of all major inventions, but that virtually none of the federal R&D dollars went to small business.

It was almost impossible for a small business to get government R&D contracts. The contracting officers were much more comfortable giving R&D contracts to large businesses. Even today, the largest prime contractor at DOD receives 10 times more than the entire SBIR program in funding.

The Small Business Committee asked commonsense questions. How can the government get better R&D by asking the most innovative and entrepreneurial sector of America to do it? And how can this make America stronger? The answer was the SBIR program, and Congress enacted it to unleash the ingenuity and drive of small business on America's technology challenges.

Today, the SBIR program is the best government R&D program in the world and one of the most significant pieces of legislation ever passed.

What are the results for the taxpayers in SBIR? Thousands of new innovative farms and thousands of success stories, including technologies used today, such as Bluetooth, cell phones, electric cameras, GPS on a chip, thousands of medical breakthroughs, drones, all solutions that small business created and took to the marketplace.

Here are some of the highlights. SBIR generates $2.50 for every dollar in tax income at State and federal levels from every dollar at DOD, and $3,68 for every dollar spent at the National Cancer Institute. Return on investment is 22 to 33 percent for every SBIR dollar, depending on the agency.

Over 2,000 SBIR firms have been acquired, injecting innovations into larger companies. Ninety-nine new drug approvals in the last 20 years. Twelve percent of all new drug approvals companies had funding from the SBIR program. Sixteen percent of the priority drugs had approval. 200—24,000, 510(k)s or premarketing approvals had SBIR involved. Ten percent of all venture capital funds go to SBIR programs. The SBA agency website lists hundreds of other SBIR success stories.

The program focused on merit with agencies selecting the best solutions to keep quality high and competition tough. Only 1 in 20 proposals get to Phase II.

In 2017, GSA began writing contracts for other agencies, SBIR contracts. This was a major breakthrough. Five years later, GSA actions doubled the SBIR Phase III identified contracts from 1.5 billion to 3.5 billion. Their proposed IP3 program, which is pending, would make a great success story.

When we look at China today, unfortunately, China leads in 57 of 64 critical technologies. U.S. is even behind Europe. Europe spends 20 percent on its small businesses, twice what the U.S. spends.

Congress can take a number of actions to build on these successes. One, require better streamlining and simplification of the process, keeping merit-based to ensure the program continues to fund the best research, double the SBIR program, leveraging small businesses to provide innovations to solve federal challenges.

DOD's Section 809 panel and the past Secretary of Defense recommended doubling the allocation. Restore the 174 tax deduction. That is critical for not only SBIR companies but all small innovative businesses. Reverse the slowdown of contracts and grant selec-

tions and awards, which may be fatal to many small firms. Cash flow kills startups.

Make the SBIR program permanent, and these actions will help America regain its leadership in the world of innovation.

Thank you.

Chairman WILLIAMS. Thank you, Mr. Glover.

We will now move on to the Member questions under the 5-minute rule.

I recognize myself for 5 minutes.

Dr. Marinelli, the SBIR and STTR programs were created to support small business growth by helping federal agencies fulfill those needs. My question is, as a small business owner myself and yourself, how important is it to ensure that the SBIR program remains merit-based, as we talked about?

Mr. MARINELLI. Mr. Chairman, last September, I had the privilege to visit four of the five landing beaches at Normandy, sat on a German reinforcement and looked at the Omaha Beach. I went to the American cemetery afterwards and happened to visit the grave of someone important to my wife's family. It was truly a sobering experience.

Cyrus talked about the second offset. That battle was a force on force in Normandy. We were able to kick Iraqi forces out of Kuwait in a week because of the second offset.

It is American technology that is going to give us the third offset.

My father actually fought in the Korean war as an artillery officer. We need to not have to fight those kinds of battles ever again. We need to get the best technology from the best sources, no matter where they are, anywhere in the country, to establish and maintain that third offset. Otherwise, we are going to wind up fighting these battles in a way that we don't want. We want to be able to deter foreign forces from ever starting a fight like that, and we want to make sure we can win it if it does start.

So I think it is very important for our nation's security to make sure that merit is driving technology into our Armed Forces and everywhere else in the U.S. Government.

Chairman WILLIAMS. Thank you.

Ms. Mackey, the valley of death has been a challenge for small businesses in the SBIR/STTR programs. This is when an innovation moves from the R&D stage into production. But small businesses lack access to capital—we have talked about that—to commercialize their product.

In your written testimony, you mentioned that the DOD and other agencies should buy existing SBIR/STTR technologies, particularly during Phase III, transition to commercialization. So can you explain how the agencies could more effectively integrate SBIR-funded innovations into the procurement process and how this might save both time and money in the development of new technologies?

Ms. MACKEY. Thank you for the question. I think we don't have to do new legislation. I don't think we need to come up with how to do this. We need to make sure that it gets done, and we need to insert into the acquisition process the step of reviewing what do we have. And to be fair, there is a lot that we have.

So even a good due diligence of what we have available and documenting that that has happened. We need to change behavior in the acquisition programs so that they look for components that they can successfully insert into their larger programs.

I think this does what you were talking about in terms of bringing innovation forward and making things faster. It also helps address a lot of the adversarial impact that we have.

If you have a company that is developing good technology, and you have a reasonable path forward, you are less likely to take global investment that may have competitive interest.

Chairman WILLIAMS. Okay. I have got a limited amount of time.

And, Cyrus, as you know, there is a growing concern that the CCP is leveraging various mechanisms, such as talent recruitment programs, the U.S. patent system, and venture capital investments to access sensitive IP developed through SBIR-funded research.

In your experience, how is China specifically acquiring IP from the SBIR-funded small business? And what are the primary methods you have observed being used to exploit these small businesses?

Mr. MIRYEKTA. Thank you, Mr. Chairman. So when it comes to venture capital, we see investment post-receipt of a SBIR. That is one of the methods. Another is working through U.S. firms. So it would be a U.S. firm without linguistic or cultural ties to China. They will mobilize them through money.

We have seen this also with the Canadians where they will use a Canadian to be an investor, but when you look at the Canadian's LPs, it all comes from one CCP fund, and then that individual is trying to oust the CEO of a company and move that technology to China.

And this is all done—it is bank rolled by the Chinese Communist Party. They did it once successfully with a biotech company, and now they were trying to do it with an aerospace company.

And so working through allies, working through third parties trying to obfuscate their hand because they know that we are looking for it. And then also working through U.S. citizens, whether they are ethnically Chinese or otherwise.

I yield my time.

Chairman WILLIAMS. The gentleman yields his time back.

And I now recognize the Ranking Member for 5 minutes of questions.

Ms. VELÁZQUEZ. Thank you, Mr. Chairman.

Thank you for your testimony.

Mr. Glover, one of the most important legislative tasks of this committee this year is to reauthorize the SBIR and STTR programs. Why is it important to make these programs permanent? Very briefly, please.

Mr. GLOVER. Because every time this stop and start, the government starts shutting down, there are delays. Whenever there is a delay in awarding a contract, small businesses fail. They simply don't have the cash flow to carry them over to the next one. So every time this happens, it slows down the government, makes the government less efficient. But it also gives small businesses—some-

times the valley of death just gets so long they can't survive. And so this stop and starting is just very bad for the program.

Ms. VELÁZQUEZ. Thank you.

To the panel, yes or no, do you agree that we should make SBIR/STTR permanent?

Mr. MARINELLI. Yes, ma'am.

Ms. VELÁZQUEZ. Ms. Mackey?

Ms. MACKEY. Yes, definitely.

Ms. VELÁZQUEZ. Cyrus?

Mr. MIRYEKTA. Yes, ma'am.

Mr. GLOVER. Yes.

Ms. VELÁZQUEZ. Thank you.

Mr. Glover, in your testimony, you focus on the overwhelming success of the programs. Yet for many years they have only accounted for a sliver of federal R&D funding.

Is it time for Congress to consider significantly expanding agency allocations for the SBIR and STTR programs?

Mr. GLOVER. It is. When we look at Europe, they are doing twice as much as we are, and they are getting ahead of us in critical technologies. It is the most effective program going. Yes, it is time to make it better and bigger and more efficient.

Ms. VELÁZQUEZ. Thank you.

Ms. Mackey, your company has been successful in transitioning early-stage technologies into programs of record at the Department of Defense. As we focus on prioritizing commercialization, what can we do to improve the process for earlier stage awardees?

Ms. MACKEY. I think for earlier stage awardees we can improve the process by, specifically in the Department of Defense, exposing them to actual warfighters and getting the real feedback into what they are building.

I also think that we could change the process to add the responsibility and the credit for transition to not only the small business but the extended government team that also has to work with them, and other industry partners.

Ms. VELÁZQUEZ. Thank you.

Mr. Marinelli, some of the firms in the SBIR programs have come under fire for having lower transition rates. Can you explain why it may not be beneficial to the DOD to arbitrarily use transition rates to measure success?

Mr. MARINELLI. So, Congresswoman Velázquez, one of the things that we tend to work on is insertion of component technology into large platforms. It takes a decade to evolve and lasts for many years. And that is a very slow process.

Program managers are accepting a lot of risk to try and insert new technology into those programs, and often they are budgeted years in the future with very strict requirements. And so it is very difficult often to insert that technology. We have to work very hard in order to do that, and often it doesn't happen. Sometimes programs get canceled in midstream. And I think those are the issues. It is just a very hard business, basically, to be in.

Ms. VELÁZQUEZ. Thank you.

Mr. Glover, the SBIR and STTR programs have grown significantly over the years, now accounting for nearly $5 billion in the federal budget. Yet, at the same time, the Small Business Adminis-

tration, whose responsibility it is to administrator the program, has not seen a similar increase in funds.

Can you explain why we should find ways to bring the SBA more funding for program administration?

Mr. GLOVER. The SBIR program is now one of the biggest programs administered by SBA. When it first started, there were 17 employees overseeing SBIR. I think there are three now. It is in dire need of—it can't do everything and it can't oversee and make sure the agencies do much more in Phase IIIs and follow on and provide that. So it is critical that we bring it in balance.

You look at some of the other programs at SBA. They are much better staffed. For some reason this has always sort of been a stepchild.

Ms. VELÁZQUEZ. Thank you.

Thank you. I yield back.

Chairman WILLIAMS. The gentlelady yields back.

I now recognize Mr. Stauber from the great State of Minnesota for 5 minutes.

Mr. STAUBER. Thank you, Chairman Williams and Ranking Member Velázquez, for holding this important hearing today.

And thank you to our witnesses for taking time to share your expertise to us.

You know, the United States Government relies on innovative solutions to meet mission critical demands, and small businesses play a pivotal role in that process.

Many small businesses rely on the SBIR and STTR programs to bring their ideas from concept to reality, strengthening our national security, and creating high-quality jobs.

We have heard from small businesses that while SBIR funding is invaluable, the path from research to commercialization remains difficult. Many companies struggle to secure private investment or navigate federal procurement processes to bring their innovations to market.

If these small businesses cannot transition successfully, we do risk losing key technologies to bureaucratic hurdles or, worse, foreign competitors.

Dr. Marinelli, your company has successfully navigated the SBIR program. What improvements would you like to see in the SBIR program to ensure continued innovation and successful commercialization?

Mr. MARINELLI. Well, I think the most important thing that we can do for all companies involved is to improve communication of the federal government's needs to the various performers that are performing on the program. It is pretty critical there.

A lot of new entrants don't know what is happening, and if they hear from program officers what is needed, they can tailor their proposals in order to meet those program officers' needs.

Mr. STAUBER. How do you get to the needs right now? How are you aware of the needs?

Mr. MARINELLI. So earlier in my career, used to be the acquisition organizations and the S&T organizations would have briefings for industry. The joint program officer for chem/bio defense and DITR would. And they would stand up and tell you, here is what we need to acquire. Here is where the S&T focus is to do that.

That was enormously informative to me, and, actually, I brought that back to our company. It is one of the reasons we have grown. I think we need to see more of that throughout the federal government to let people know what is needed by the organizations.

Mr. STAUBER. Right. Thank you.

One of the most alarming threats to American innovation is the growing evidence that China is actively working to exploit SBIR-funded research. We have seen reports of Chinese firms using venture capital investments, research partnerships and talent recruitment programs to siphon technology developed with U.S. taxpayer dollars, just as Representative Moolenaar stated.

If we do not take stronger measures, we risk unintentionally fueling China's military and economic ambitions at the expense of our own national security.

Mr. Miryekta, how is China leveraging venture capital investments and SBIR-funded companies to gain access to sensitive technology? And what steps can Congress do to prevent this?

Mr. MIRYEKTA. By the virtue of being innovators, the way that companies are set up, nothing is classified yet. So it is very easy if a CCP-affiliated investor puts even a tiny amount of capital in, not just as the investor themselves but even as one of the limited partners, the fact that they have any affiliation or access to the company means that they can start collecting on the people in it.

And there was an example brought up by the Ranking Member of the Committee on the Chinese Communist Party earlier, which is American Superconductor Corporation, where exactly that happened. All they needed was access to the company personnel. Then it goes to a department in the PLA that does target packages, finds out who has access, who is the most vulnerable, whose vices aren't in check. And then they send PLA 2, which is Chinese Communist James Bond. They go in and they flip the target and are able to extract what it is that they are looking for.

But by virtue of just having access to the individuals, some of the companies we see are targeted through Cold War era tactics, break-ins. And we mean like 11 cars are broken into, 7 laptops are stolen, all for one new energy company. Their executive's travel is all marked and prepared for when they arrive.

So it is everything from grooming the target, and it is very pleasant, to old-style illegal activity.

Mr. STAUBER. As President Trump says, they are ripping us off, and it is unacceptable. The SBIR/STTR programs are critical to ensuring small businesses remain the driving force of American innovation.

However, we must continue strengthening them by reducing bureaucratic barriers, enhancing security protections, and improving pathways to commercialization. This is about maintaining our competitive edge while safeguarding taxpayer investments. And I look forward to working with my colleagues to ensure these programs continue to serve America's best interest.

Mr. Chair, I yield back.

Chairman WILLIAMS. The gentleman yields back.

I now recognize Mr. McGarvey from the great State of Kentucky for 5 minutes.

Mr. MCGARVEY. Thank you very much, Mr. Chairman.

And this is something that we have seen firsthand in my district for a long time. I want to talk a second about part of my district in Louisville called Rubbertown. And this really came from in—in the war, in World War II, in the 1940s.

We noticed a severe lack of synthetic rubber available to our troops and located massive factories in Louisville, Kentucky, where almost all of the synthetic rubber used during the war came from a small neighborhood right there on the Ohio River. Throughout that war, we saw synthetic rubber, nuclear fission, radar, cryptography, so many other technologies that were highly classified. And classified advancements like those that came out of SBIR and STTR programs today are much more difficult to patent due to their sensitive nature.

And we know exactly what we knew during World War II, that we are in a strategic power competition with adversaries overseas. In 2021, the U.S. National Security Commission for Artificial Intelligence reported to Congress and the President that, for the first time since World War II, America's technological dominance, the backbone of our economic and military power, is under threat.

Ms. Mackey, you stated that innovation is critical to DOD's efforts to outpace China and other near-peer competitors. But we also know that contracting at DOD can be especially difficult for small businesses. Can Congress improve how the SBIR program provides a pathway for small businesses into government or provides on-ramps to grow?

Ms. MACKEY. Yeah. I think I would answer that with two statements. The first is absolutely, we can do more to make sure that there is a consistency in how we engage with component tech insertion of innovation and to the contracting process.

The second piece that I would put out is this whole infusion of capital—excuse me—is really important to high-tech innovators to small business startups. I love this trusted capital initiative we had for a while. I think it is really important.

My oldest is starting a business, and as she is very interested in getting VC from American Capital, it is not easy to figure out what is what. So I think one of the things we can do is help with the contracting, and I think we can also help with the Department of Defense articulating who is trusted capital and how do you know how to engage with trusted capital.

Mr. MCGARVEY. And, just on those capital guidelines, what would you recommend along that front specifically?

Ms. MACKEY. I would recommend a lot of the work that the SBA and Office of Strategic Capital just finished around how do you identify investors that are American-owned and intend to stay American-owned, and I think probably Cyrus could give you some more specific examples on that.

But, from an industry perspective as a small business owner, that would be so helpful. Even as a mature business owner, it would be helpful to me, but as a startup, it would be really helpful.

Mr. MCGARVEY. Because if you are starting up, it is—it is difficult to untangle all that yourself and then, of course——

Ms. MACKEY. I am just saying there is a few things you are thinking about, right?

Mr. MCGARVEY. There is a few things going on. Thank you. I appreciate that a lot.

Mr. Glover, wanted to ask you a question. The current administration is targeting budget cuts for agencies like NIH and NSF, who host these SBIR programs.

Would these cuts make it possible to fund the necessary security advancements we need to combat the IP theft we are talking about today?

Mr. GLOVER. It will be a significant problem. We have led the world in innovation because we spent money on it. But other countries are now spending more money proportionally than we are. Even France has a program to fund transition technologies.

We are getting left out. And, if we take a serious step back on that, not only will health and safety be a challenge, but also our defenses will not be as strong and sufficient. Research needs continuity. It needs consistency. And, when you make it erratic and uncertain, then you lose a generation of people who simply decide that the U.S. is not the place to develop their technology.

We have got lots of people who come to America to develop their technology. And you just look around, you find them everywhere. And that is—if we lose that leadership role, it will be a long term. And cutting things right now and making it erratic, just delaying contracts for months, when you don't have the cash flow, we are going to lose companies. And those companies won't come back——

Mr. MCGARVEY. No.

Mr. GLOVER.—or they will turn somewhere else to get the money.

Mr. MCGARVEY. Yeah. And I think when you talk about us spending less, that is really important. And I would say also investing less. Because there is a return on investment for what we are talking about here both in the economic impact it has in our country and, of course, on the strategic importance that it maintains over our adversaries.

I am nearly out of time, but I think I do want to point out that innovation, that investment in innovation is paramount to our success as a nation. And the SBIR and STTR programs are core to that American innovation.

Mr. Chairman, I yield back.

Chairman WILLIAMS. Gentleman yields back.

And I now recognize Mr. Alford from the great State of Missouri for 5 minutes.

Mr. ALFORD. Thank you, Mr. Chair.

Thank you, Ranking Member Velázquez, for holding this important hearing today, and thank you all for being here on your own time and own dime. I appreciate you coming in.

Today's hearing is focused on the SBIR and STTR programs, two of the most important public-private partnership programs Congress authorizes. These programs help small businesses access capital, a vital issue that constrains growth. Additionally, these programs spur innovations. And American ingenuity is why our nation laps the world in new technologies, and these programs are a key pillar in supporting small businesses that create new products.

While these programs are important to American innovation, the Chinese Communist Party also finds it important for their great in-

novation, stealing the intellectual property of Americans. According to a 2021 DOD study on SBIR programs, nearly all cases show that Communist China, not the U.S., is the ultimate beneficiary of DOD and other U.S. Government research investments. With both SBIR and STTR's authorizations expiring in September this year, I look forward to working with my colleagues to make sure these programs remain pillars of innovation.

I want to start with you, Cyrus. Thanks for being here, and thank you for letting us call you Cyrus.

What safeguards should this Committee consider when reauthorizing this? I know you all have said it needs to be a permanent reauthorization to make sure that the influence, the espionage, and theft of intellectual property from the CCP is reduced or, if we could eliminate it, would be great.

Mr. MIRYEKTA. We have already, just by Air Force and Space Force's actions alone, have changed the American innovation landscape. They realize that if they have CCP capital even affiliated, they will be prohibited from doing work with the Department until it is sanitized.

The other branches of service and every agency that gives or awards SBIRs and STTRs should have a FOCI, or Foreign Ownership, Control, and Influence, due diligence team that is as effective as what the Air Force has. Most agencies haven't even started building a team, and there are only really four and a half functional teams being generous for who is actually doing the vetting.

Once the innovators realize this is a real hurdle to reaching U.S. Government funding, they will act immediately before they go to bed that night. Once they realize this is reality, they will change on a dime. Innovators know how to pivot, and they have to accept it as reality.

The SBIR STTR Extension Act has done that. NDAA-23 has done that. The Committee on the Chinese Communist Party has done that. And they have made it real for our innovation industry. One of the issues, though, with the due diligence teams is they are required, but no resources are provided. That is like asking the agency to give me everybody who doesn't have something real going on. And so this is a low-priority mission.

Mr. ALFORD. Well, I am also honored to be on the Appropriations Committee. I am not on Defense. But I do know that this is important, and this investment, if you are talking about resources, to fund these programs, are they going to root out this—these things are actually hurting America, hurting our innovation, and threatening our national security. So I will be having a talk with the Chair of Defense Approps, Mr. Calvert, about this and seeing what direction we could head right across the hall here.

I want to talk with you a little bit more, Cyrus, about China, its influence in our universities. The University of Missouri-Kansas City was just in my office this week. They are trying to create a defense corridor. They have a SCIF even built on campus. They are working with drone programs, critical mineral processing, trying to make the Kansas City area and down into my district really a defense corridor.

How should universities be looking now? Because the Chinese students are here. How do they get here in the first place, and then

what safeguards should we put in place to make sure that espionage is not taking place?

Mr. MIRYEKTA. The Chinese Student Scholar Associations are run out of the Chinese consulates all over the United States.

When Chinese students used to come to America in the '90s and early 2000s, they would integrate with the U.S. population. They would have boyfriends and girlfriends who are American. They would fall in love with America, and they would go home with pro-American sentiments.

Nowadays, Chinese students are kept in these little thought ghettos managed by the Chinese Student Scholar Associations. They are given weekend activities where they are indoctrinated. It is not far from Iran's Basij and how they do grassroots indoctrination. And we train them with the latest education, and then we send them home no more American than when they arrived.

Mr. ALFORD. And they are members of families that have favorable status with the CCP, if not CCP members outright, correct?

Mr. MIRYEKTA. They have to be in good standing to come here, sir.

Mr. ALFORD. Yes. Just a point of clarification, Whiteman Air Force Base, home of the B-2 stealth bomber, home of the B-21 soon, the Raider, is 10.8 miles from the University of Central Missouri. They have a small number, five to six Chinese students. They say it is not a threat. But we have to be vigilant and aware without damaging the reputation of innocent people here to gain education.

Thank you, and I yield back.

Chairman WILLIAMS. The gentleman yields back.

I now recognize Mr. Cisneros from the great State of California for 5 minutes.

Mr. CISNEROS. Thank you, Mr. Chairman.

And thank you to all the witnesses for being here today.

I am going to get right to the questions. Mr. Glover, Politico reported that 20 percent of the SBA workforce will be cut by Mr. Musk and DOGE, and who knows what other cuts as far as financial may come along that way as well.

Does threatening firing and forcing resignations of dedicated civil servants at the SBA and cutting their budget—or at any agency that administers SBIR or STTR, programs help small businesses, and how does it hurt the programs overall?

Mr. GLOVER. I had the privilege of working with Vice President Gore's reinventing government initiative in the Clinton administration. They cut 300,000 jobs, but they did it very carefully, and they looked at it very meticulously and took several years to do it, and they did bring down the—you know, the expenditures. They did it carefully and wisely. We didn't hear screams or shouts from the employees being unfair.

Terminating people with virtually no notice, not allowing them to plan, run their future is a challenge. We see cuts that—without thinking about it. When you cut R&D budgets, you are going to end up getting less innovation; you are going to end up—the inventors are going to look somewhere else for money.

And, as I have been told, they will look wherever they have. They have spent their whole life developing this technology. If they

can't get the money in the United States, they will get it somewhere else.

So it is a real challenge. It is a real problem. And it should be done carefully and precisely.

Mr. CISNEROS. Along that line as well, there is a company and small business that is doing some very innovative stuff around solar panels and making them more efficient. But the amounts that we are paying here—I believe it is like 50,000, phase 1; 250,000, phase 2; and then 750,000 later on—it is just over a million dollars. They haven't really sought any of this funding to help them along the way because it is just not really sufficient enough, and they have had to get outside funding in order to help them and to do the innovation that they need to.

So are these programs suited right? Are the amounts that we are paying right now, are they sufficient enough? Is there things that we need to look at to increase things to help them innovate technology and keep out the——

Mr. GLOVER. First of all, the amounts are 100- to 250,000. Some agencies have gone below that, like the Air Force. But everybody else is pretty much at 100 to 250. And the follow-on funding can go up to $3 million if you do things right and even higher than that with SBA-specific approval.

We look at the balance of the situation of how do we fund—do we give more at phase 1s and early on awards and less phase 2s? And what we have had is the National Academy of Sciences looking at this program, and they have looked at it to balance that. And they say we have got the balance about right. That was 4 years ago. We haven't looked at it recently, but there is some flexibility.

So the agencies can go up or even down if they choose to. But, by and large, it is—if we can get phase 3 working right, like GSA did, we added $2 billion of phased—just because you change the procedure of how you did contracting. They have got an even better program on the shelf. We can make that huge difference in how that works.

Mr. CISNEROS. All right. Thank you.

Ms. Mackey, Congress gave the United States Special Operations Command, SOCOM, a special authority in 2021 to do business-to-business transactions, and in fiscal year 2023 their average time to production, decision from the initial topic enhancement to the award that follows as in phase 3, developed from 5 years to 18 months.

Now, while SOCOM's approach can't be used for all SBIR programs, how can we support agencies in moving innovations through this process faster than the current average timeline?

Ms. MACKEY. That is a great example. I love what SOCOM did with that. And I think that, when we look at this, we need to understand it is not the small business innovator; it is not the high-tech company that is slowing things down. It is the processes that we have in place.

I think a first step would be to approximate some of what we did with SOCOM as a pilot program within the other SBIR programs. But it is not just within the SBIR program. And this is the point that I think is important for us to think with. It is within that

R&D world that funds it, but it is also within the acquisition world that acquires that does the follow-on testing.

So I think if we were to encourage pilots of two groups working together more effectively, the way SOCOM has the ability to bundle that together, you have an ability to get something over the valley of death because there is someone to receive it on the other side and also to sort of build that bridge for you as you come over.

Mr. CISNEROS. All right. I yield back. Thank you.

Chairman WILLIAMS. Gentleman yields back.

I now recognize Mr. Meuser from the great State of Pennsylvania for 5 minutes.

Mr. MEUSER. Thank you very much, Mr. Chairman.

And thank you to our witnesses. This is a very informative and important hearing. Appreciate it very much, you being here.

So, Dr. Marinelli, you discussed your company's development of technology to extract rare earth minerals, critical components for satellites, data centers, and other technologies, super important from coal ash piles—love that. We got a little bit of coal ash up in my—my district, to say the least. We are working on it in this same manner.

So the SBIR program has assisted you in developing this technology, and maybe you can expand on why you believe a—how it has helped you.

Mr. MARINELLI. So this started out as a little idea experiment. We started as a kind of beaker-scale laboratory-type experiment to see if we could extract rare earths from coal ash. It turns out that technology is based on the same process that you use to extract uranium and plutonium, was developed during the Second World War. We adapted it to this purpose.

We received SBIR funding then to bring it to a larger scale and to work through some of the details of it and finally went to DOE and DOD's IBAS program, where we were able to get funding to build a pilot plant actually at Winner Water systems in Sharon, Pennsylvania.

Mr. MEUSER. In Sharon. Okay. Great.

Mr. MARINELLI. Yeah, in Sharon.

Mr. MEUSER. Did they find you, or did you find them?

Mr. MARINELLI. We went out and found them, but—and we worked very closely with both DOD and DOE in that process.

Mr. MEUSER. The first time is easiest, right, because once you are in, once you have contact, it is far easier; getting through is the most difficult part?

Mr. MARINELLI. Certainly. But you have got to also show success.

Mr. MEUSER. Just like with anything.

Mr. MARINELLI. Yes. And then it turns out that Appalachian coal is actually rich in rare earths, is one of the things that we learned. And, working with Senator Shelby before he retired, we were able to get an appropriation to build the next scale plant down in Alabama.

Mr. MEUSER. Okay. Good. Well, contact me. We have got Schuylkill County, and we got the best anthracite, and we have got all these rare earths within our ash, so—within our coal banks.

Mr. MARINELLI. We are certainly willing to move forward——

Mr. MEUSER.—those that we are working on excavating. Thanks.

Mr. MARINELLI. Sure.

Mr. MEUSER. Mr. Miryekta, first off, thank you for your service, sir. Appreciate you very much.

So, from your experience, your methods, your discussions on China, very serious, collecting sensitive IP from SBIR-funded small businesses. Now, this sounds like it is rampant. It sounds like it is targeted; sounds like they are targeting SBIR potential businesses or the SBIR fund.

Now, it is $100 million, right? That is a lot of money, but that is not enough to create a whole espionage ring. Is their main point not just accessing the money but also accessing the mothership, if you will, that is doing the contracting?

Mr. MIRYEKTA. So, to my knowledge, no. To my knowledge, they are very focused on the innovators. It is not the amount of money. Everybody is seeking SBIR-funded companies, U.S. investors, Chinese investors.

The receipt of a SBIR tells the investor that there is a differentiator, whatever it is. It doesn't matter if they like the program or not, but this is a company that somebody in the government vetted. They believe it will be effective. So it attracts both good and bad investment. But that is for the technology itself. And we will see a lot of early-stage funding where a CCP investor will try to get in at the pre-seed stage, disseminate their cash across the board so they can find or keep an eye on most of the industry. And then you see what rises up, and that is what they will focus on.

Mr. MEUSER. Okay. We had Reauthorization 2023. Maybe you could talk about some of the improvements.

Did you like what was done, particularly from a foreign adversary security standpoint or just from an access standpoint, as well as it being better known by those who may benefit by this program?

Mr. MIRYEKTA. This was a watershed event, sir, and thank you for asking about it.

It legitimized the mission for keeping CCP investment out of our equities. It became real once it was codified. And, because we had two laws or another law and an executive order on top of it, in—and it takes about 2 years for the industry to accept it. But, as of February of 2024, they weren't certain if this was a real requirement—the denials became more publicized over the summer.

By December of 2024, they accepted it as reality and our innovators are trying to get in front of it and make sure that they self-sanitize.

Mr. MEUSER. Thank you very much. I yield back, Mr. Chairman. Thank you all.

Chairman WILLIAMS. The gentleman yields back.

I now recognize Mr. Tran from the great State of California for 5 minutes.

Mr. TRAN. Thank you, Mr. Chairman.

Thank you, Ranking Member.

Thank you and welcome to D.C. to our witnesses.

Mr. Glover, in your testimony, you rightly pointed out that America's basic science is a primary national strength, but converting that science to American innovation and jobs faces increasing international competition. Unfortunately, small businesses in SBIR/STTR programs face the threat of the Chinese Communist Party stealing their intellectual property and claiming these technology—technological innovations for themselves.

What role does SBIR/STTR program play in the American innovation ecosystem, and how does the SBIR/STTR program protect American innovation from issues like foreign ownership and patent theft?

Mr. GLOVER. Well, we started off when the founders created the SBIR program, we wanted to avoid having foreign countries benefit from this. So we put requirements in the law that said it has to be a U.S. company; it has to be owned by U.S. citizens 51 percent; and the work has to be done in America.

Well, we thought we did enough. Well, we did for probably 30 years. But the last few years, obviously, the Chinese have outsmarted us and gone beyond that. So it is—it is a challenge.

But, again, you have got to be careful not to simply say "no" when anything comes up with, and I think as Cyrus talked—you need to be able to fix the problems. And we found some of the agencies do not tell the company what the problem is, nor do they give it a chance to fix it.

The Department of Defense in their Under Secretary's memo made it very clear that you have to tell them what the problem is and give them a chance to fix it. And, unless you give them a chance to fix it, you are just shutting people down, and they can never learn; they can never get better.

So small business develops the technology. Study after study shows it—shows how great the SBIR program is at developing it. We have got to make sure that we do stop the foreign use of it. It is not as common, but the problem is it is in critical areas.

So like 99.9 percent of all SBIRs are just fine. But that one-tenth of 1 percent may be giving away whole generations of new technology—critical next generation of something significant. So it is a real challenge.

Mr. TRAN. Thank you for sharing that.

Ms. Mackey, DOD accounts for roughly half of the SBIR funding across the federal government, but concerns have been raised that the application process is daunting for many new businesses working to break into the space.

In your experience, is DOD doing anything to make this process easier for first-time applicants?

Ms. MACKEY. I have seen a tremendous uptick in outreach efforts for first-time applicants. I will tell you, when we wrote our first proposal 20 years ago, it was a lot easier to write that first proposal. It was a lot easier to get started than it is now.

I think we really need to focus on, have we overregulated that very first piece? All these issues notwithstanding, we need—we need to make a funnel that can attract new entrants into it.

So I am seeing better outreach, and I think there is plenty of work we could still do.

Mr. TRAN. Thank you.

Mr. Glover, back to you real quick. The due diligence program to assess foreign risks has been successful in identifying risks already, but it can add another layer to an already complicated application process.

I am a big proponent of streamlining the SBIR and STTR programs while still protecting our research from foreign threats, such as CCP, so entrepreneurs can focus on building new technologies and creating good-paying jobs.

What changes can we make to enhance its effectiveness without creating an overly burdensome process for small businesses, particularly new applicants?

Mr. GLOVER. As someone who still remembers the Paperwork Reduction Act, which was a big deal years ago and sort of been ignored in recent history, it is a real challenge, and the first thing, I think, would be—is quick and easy. Make model contracts and force every agency to say, "When you get an award, here is your contract." There is no reason they can't do that right now. So that would simplify phase 1. It would take months out of the cycle. Same thing for phase 2; same thing for phase 3.

They do it with grants, but they don't do it with contracts. GSA proved that, if you give a simple contract, you do it—they cut years out of the contracting process for phase 3s. And they got a program to do even more that hopefully gets finalized very soon.

But you come up with some basic ideas, but task the agencies to say, tell us why—there is a provision in the law that says report and standardization, simplification. DOD just ignored it. Put some teeth in that and make them do it, but force the agencies to come up with the solutions.

I can give you simple standard contracts with the award; that one saves time, energy, and effort. The proposal issue, that is a challenge because you have to somehow tell people what you want.

Mr. TRAN. Thank you, Mr. Glover. I truly appreciate it.

I yield back, Chairman.

Chairman WILLIAMS. Gentleman yields back.

I now recognize Mr. Downing from the great State of Montana for 5 minutes.

Mr. DOWNING. Thank you, Mr. Chairman, and thank you all for your testimony today.

First of all, I am deeply concerned by China's ongoing efforts to exploit the SBIR and the STTR programs to steal valuable U.S. intellectual property, and we need to protect these programs from subversion from our foreign adversaries.

I am going to start out, Mr. Miryekta, thank you for being here today. China weaponizes talent recruitment programs like the Thousand Talents Plan to gain access to deeply sensitive information from American companies and research institutions.

First, can you give us an idea in your estimation of how effective these talent recruitment programs have been and really how far they have advanced China's technological capacity compared to ours?

Mr. MIRYEKTA. Yeah. I have seen—thank you for your question, Congressman.

I have seen an individual that fled the PRC for having an active role during the Tiananmen Square Massacre on June 4, 1989. Fast

forward 30 years, the United Front Work Department has won him over, and now, despite the success he found in America, he is helping the Chinese Communist Party from the United States. They are highly effective at recruiting expats on U.S. soil and in Europe.

Mr. DOWNING. So what types of technologies has China's talent programs and IP theft efforts specifically targeted?

Mr. MIRYEKTA. It is literally the same as the Air Force/Space Force requirements. It is—you know, new space capabilities, new energy capabilities, AI, autonomy, everything that we have as a priority is essentially seems to be mirrored by their priorities.

Mr. DOWNING. Do you believe that SBIR and STTR currently have the protocols in place needed for mitigating the impact of China's talent recruitment strategy?

Mr. MIRYEKTA. Only Department of the Air Force. They are the only ones capable.

Mr. DOWNING. Thank you. Thank you for those answers.

I also want to discuss with you the impact of China's rapidly developing AI capabilities and the threat that it poses on our research security. We have, obviously, seen some pretty interesting things recently.

To what degree have China's advancements in AI development bolstered their ability to subvert U.S. research programs, including SBIR?

Mr. MIRYEKTA. When it comes to the Chinese, they spend billions on perception management, and they are constantly overselling their capability. However, oftentimes, international actors become sympathetic to what the Chinese are broadcasting. That doesn't mean that their AI is on par or that it is actually legitimate with the story that they have given us.

Mr. DOWNING. Well, thank you very much.

Clearly, we need to do more to protect the integrity of our federally funded research programs. And, as the Small Business Committee develops the reauthorization of SBIR and STTR, I look forward to making research security a top priority for this legislation.

And so I thank you, and I yield back.

Chairman WILLIAMS. The gentleman yields back.

I now recognize Ms. Scholten from the great State of Michigan for 5 minutes.

Ms. SCHOLTEN. Thank you, Mr. Chairman. And thank you—excuse me—as I fend off the last bit of this winter cold. Thank you so much for our witnesses for joining us here today for this incredibly important conversation.

The SBIR program has been truly instrumental in supporting small businesses that drive technological innovation. I wanted to read just a little bit about the economic impact here because that is essentially what we are talking about, right?

How—what is the value of the dollars that we are investing in this critical program? Economic analysis of the program has routinely demonstrated its outsized importance in generating innovations and economic growth. Between 1996 and 2020, 99 new drug approvals, 12 percent of all new drugs approved, were developed by SBIR/STTR firms.

Another study found the SBIR phase 2 awards show return on investments between $22 and $33 for every dollar invested. It is incredible.

A study from the National Cancer Institute found that, for every dollar invested, it resulted in $11 in commercial sales. Throughout its lifetime, 829 SBI firms have gone public, and 2,120 have been acquired.

Finally, 10 percent of all venture capital investments go to SBIR firms. I like those numbers.

Mr. Glover, the SBIR program is a game changer and critical for our economy. How can we ensure that this program continues to support cutting-edge research and development, especially in areas that are critical for U.S. competitiveness, such as health and national security?

Mr. GLOVER. One, I think we simply need to reauthorize it, make it permanent, put the consistency into the program. Two, I think we need to have the program simplified and streamlined, and I think the government—GSA proved it can be done. So make the other agencies do it, something you can require in legislation and monitor and make sure that happens.

And I think, quite frankly, the program needs to be a lot larger. Something this efficient is still at the 3 percent, hasn't been increased since 2011. You know, you should reward something that works, and we haven't in, what, 13 years, 14 years.

Ms. SCHOLTEN. And I don't see us going in that direction right now. In fact, we have recently heard—staff recently heard from an SBIR recipient, who was unable to access funding during the federal funding freeze enacted by Donald Trump and Elon Musk several weeks ago. Luckily, due to a court order, court intervention—right?—the administration wanted to stop it, but we needed the judicial branch to step in—NSF reopened their funding portal.

Can you explain how this type of uncertainty impacts SBIR recipients?

Mr. GLOVER. The one—the thing small business needs most is cash, and they need money, and they go out of business when they don't have it. And they don't have—they often mortgage their house to make their technology work. So, when you shut off the spigot, you basically say, "This technology will die," or it will get funded by somebody else. And we all know—have heard today how much China is out there looking for it. And that is only—outside of the SBIR program, it was rampant. This is by no means the only place the Chinese are looking.

So it is critical, and it is painful to let somebody spend their whole life developing technology, get it to a level, and then they win. And then say, "Oops, sorry, we are not doing it today, and we don't know when we are doing it."

Ms. SCHOLTEN. Doesn't seem like the chainsaw approach is working as intended in this particular context. National security depends on us being a little bit more precise here.

One more thing, Mr. Glover. The tax cuts passed in Trump's first term actually increased taxes on research and development, making companies amortize their research expenditures over 5 years rather than all at once.

Do you have any thoughts on how that has impacted SBIR firms who usually have no other form of income?

Mr. GLOVER. It either has bankrupt them or put an end to a bankrupt in effect state, where they may not file bankruptcy, but they don't have any money to pay anything and don't have money to continue. When you are faced with getting a million dollar grant and you got to pay taxes on a million dollars, but you only—used to be, you know, it was 20 percent. Now it is 100 percent.

We are having a conference with a bunch of people on tomorrow afternoon with companies all over the country. It has been a horrible situation.

I was told when it got passed, "Oh, don't worry; it is so important; there is no way it won't get extended." Well, guess what? Washington is Washington. Hasn't been extended.

Ms. SCHOLTEN. Thank you. Thank you so much, sir. I really appreciate it. As a champion of fiscal responsibility, these programs are critical.

I yield back.

Chairman WILLIAMS. The lady yields back.

I now recognize Mr. Finstad from the great State of Minnesota for 5 minutes.

Mr. FINSTAD. Thank you, Chairman Williams, and thank you for holding this important hearing today, and thank you to our witnesses for being here with us.

The district I have the honor to represent in southern Minnesota is home to several innovative companies that provide cutting-edge products for the Department of Defense. I also serve on the House Armed Services Committee and am happy to be serving here on the Small Business Committee as well.

I have had the pleasure and the opportunity of touring many of these businesses in my district and seen the incredible work that they have done and that they are doing with the funding they receive from the SBIR and the STTR programs. So I am looking forward to the opportunity to work with my colleagues here on this Committee and our expert witnesses to improve these important programs that help drive innovation and economic development across our nation and my district.

So, Dr. Marinelli, as somebody who has had great success utilizing the SBIR program with the Department of Defense, maybe just a simple question—and you have touched on it a little bit, but just maybe kind of cut through the chase here.

So what challenges do SBIR applicants face in the process, and what changes can we make to expand access for this program for entrepreneurs and small businesses across the country?

Mr. MARINELLI. So, typically, in the SBIR program, you are looking at the companies trying to do technology push often in concert with the S&T program managers and the federal government. And you have got on the other side acquisition pull, people working off requirements.

And I think probably the most important thing to do is to get them working in closer concert, so there is a technology handoff there. You have really got to derisk the technology to the point where someone who has got, you know, a billion dollar technology

platform is willing to accept the risk of bringing that new technology in. That takes money, and it takes time.

So I think trying to make that match earlier in the program will help both the acquisition programs and make the companies themselves be more successful and perhaps attract that investment.

Mr. FINSTAD. Well, as we work as a Committee on the Armed Services to really strengthen our defense industrial base, it is now more important than ever that we make this process easier and more of an A to B than an A to B to C to D and throw in a couple pipe wrenches in the process and a stable full of lawyers. So I appreciate your—your advice there.

Mr. MARINELLI. Thank you.

Mr. FINSTAD. Ms. Mackey, as past Chair of the National Small Business Association, how difficult—again, maybe kind of cutting to the chase.

How difficult is it for small business owners to understand the government's hoops and pipe wrenches and all of it that they have to go through in contracting and the SBIR—with the SBIR opportunities? How can we make it easier for these businesses to pursue these opportunities?

Ms. MACKEY. Boy, I can't emphasize enough what it was like the first time when we won an SBIR and someone came in to explain how the federal government works. You know, I am an electrical engineering. My partner is a Harvard Business School grad. We have some gray matter that—and we were just like, "What is this system? How does it work?" And every time you think you learn more, there is something more to learn.

So here is what I will tell you from our experience that I think would be helpful to others: When we were able to get technology through, it was because of an extended team. I mean, the small business has to be good. The technology has to be good. But you have to have government counterparts that are, as Bill pointed out, willing to take the risk.

We, as an ecosystem, need to celebrate those government counterparts that are willing to take the risk. And it is the acquisition folks, and it is the test folks. We also had industry partners who are willing to help us understand, sort of mentor us; not in a formal mentor/protege relationship, but in a—so I think what we need to do is celebrate the extended team, and I think we need to offer them the benefit of the work that they do to help make that move forward.

I would be happy to think of specific examples, but that is in general what I think would be good.

Mr. FINSTAD. No. I appreciate that. Your lived experience through this process is very helpful to hear your story, but also I want to continue this dialogue as we look at how we can improve the process and really—you know, again, I come from a—the Armed Services Committee approach of, how do we strengthen the defense industrial base, and how do we get some of these small and mid-sized companies scattered throughout rural America to have a seat at the table and speak the same language that government speaks, and how do we make that easier, not harder.

So thank you for your time and for being here. Mr. Chairman, thank you. And I yield back.

Chairman WILLIAMS. The gentleman yields back.

I now recognize Mr. Olszewski from the great State of Maryland for 5 minutes.

Mr. OLSZEWSKI. Thank you, Mr. Chairman.

Thank you to all of our witnesses today for your time and your testimony.

I think that—just want to reemphasize my colleague, Representative Scholten, and her point of ROI and why these programs are so important. So I look forward to working with Chairman Williams, Ranking Member Velázquez, and all my colleagues here to prioritize, especially what you all, I think, have pointed out is providing that certainty, making the program permanent or at least more permanent in particular in addition to some other changes. So thank you all for your recommendations today.

You know, we know these have real-life impacts. I am aware of at least two businesses in my district that are direct recipients of this program and SBIR, one of which is a woman-owned business in Baltimore County. And so I am interested in also the long-term success, not only of the program but also the diversification of those who are participating in the program.

Maybe, perhaps Mr. Marinelli, could you speak to us a little bit about enhancing the geographic and demographic diversity of the program? What can we do to bring in new applicants? What is the most effective way in your mind to meet that goal?

Mr. MARINELLI. So, if you go back and look at the—there was a 2014 National Academy study of the Department of Defense SBIR program, and it showed that some of the underserved States in the program have some of the lowest per capita submission rates of proposals in the country. And I think probably the most important thing to do in terms of diversifying participation is to get them introduced into the program, make it easier for them to get in.

In some cases, we have seen some of the States that have programs that helped bring the program to small companies are doing much better. Most of the new companies tend to form around universities, and I think focusing on universities, regardless of where they are, is important in terms of kind of bringing them out and telling them, "Here is a way for you to get funding."

Under the STTR program, we have sent, I believe, around $23 million in funds to universities all over the country associated with that. And I think that is another way to introduce them to the program is to show them the benefits of that funding, and it also helps get the technology out, as well as start to create that workforce that you get on the defense side. So I think all of those would be important things to do.

Mr. OLSZEWSKI. That is great. I appreciate that. Anyone else want to—Ms. Mackey?

Ms. MACKEY. So, when we started in the space, we didn't know anything about defense or federal. And I had the bonus of being in Boston, you know, companies like PSI that I could engage with and start to learn this piece.

What struck me as I worked through this ecosystem and a lot with the National Small Business Association and with NDI's small business division, small businesses help each other. Like, there is this tremendous collegial outreach that I watched a lot of—what

people refer to as the coastal companies helping other small businesses. And I think if we formalize that, that would be tremendous.

I also think it is important that we help people that haven't submitted to understand that they are valuable and that their experience would be valuable. You don't recognize yourself as valuable or that you could even access this program.

Mr. OLSZEWSKI. That is great.

I will yield back with that, Mr. Chairman. Thank you.

Chairman WILLIAMS. Gentleman yields his time back.

I now recognize Ms. Goodlander from the great State of New Hampshire for 5 minutes.

Ms. GOODLANDER. Thank you, Mr. Chairman. And, really, thank you to our witnesses for being here today.

Dr. Marinelli, I wanted to begin with you. I am very—especially happy you are here. You know, New Hampshire is home to PSI facility, and I wanted to give you the opportunity to talk a little bit more about the important work that you are doing in my home State.

Mr. MARINELLI. So we have what we call the molecules to motors program. We started out with SBIR-funded technology to create new propellants and new explosive materials and new components for that. There is only so much you can do in a laboratory. There are certain safety concerns associated with that, and we needed to find a place where we could scale up, so to speak.

We actually identified a location in New Hampshire. I am not going to talk about where it is because of the kind of things that we do there. But we have grown that now to a 13-acre campus where we can both mix large quantities of new propellants that will extend both the range and lethality of U.S. weapons system. We are about to invest $3 million in that facility in order to create all of those special capabilities associated with that.

In conjunction with that, we are going to invest about $6 million in our Massachusetts facility to start to create some of the nonexplosive components that we then bring to New Hampshire. So it is very much a collaborative effort. But it is also an extremely specialized capability.

We even have some large companies in the area that are coming to us saying, "Can we use your facility," because it is so hard to get into some of the government facilities to do that.

So I think it is important. It is an example of a specialized capability that only the government can fund, and we are happy to be bringing that to the area.

Ms. GOODLANDER. Well, thank you for that. You know, the University of New Hampshire is home to the FOSTER program where the FOcused SBIR/STTR Teaching Entrepreneurship and Results Program, you know, which has the basic mission of helping to guide small businesses through the SBIR and STTR processes.

I would like to just ask our witnesses to speak a little bit more about how these types of university-based programs have been force multipliers and really helped the SBIR and STTR programs. Maybe starting with you, Mr. Glover.

Mr. GLOVER. The vast programs and regional outreach programs primarily with universities and small business development centers in many of the States, they have done an excellent job. But

it is a challenge because, quite frankly, they don't have the culture in there. And you will often find that SBIR is the only real opportunity for a company in certain areas—certain rural areas have not States that are not on the coast, and it is a real challenge.

And we have seen them be successful and really do a great job. But getting people to write proposals is a critical issue because you can't win if you don't submit a proposal. And the studies show that there is a direct relationship with the number of proposals submitted by a State and the number of awards they win.

Ms. MACKEY. So I work a lot with the University of Massachusetts at Lowell and their outreach similar to the UNH outreach. And what I find really valuable there for SBIR companies is not only the FOSTER type of programs to teach you how to write a proposal, but the depth of research and the infrastructure that you can access to do different research pieces.

The other thing that I really like about what the U-Mass system, what they are doing with their advanced research centers, they are partnering with the industry. So it is not just how do you get started, how do you do the research, but if I were to use a golf analogy—my husband would be so happy I am doing this—it is the swing through. Right? It is where do you—well, I guess I can't take that golf analogy any further. I tried. But it is the swing through, right?

And so I think it is universities. And to Jere's point, partnering also with industry for that business model kind of understanding.

Ms. GOODLANDER. Dr. Marinelli, did you want to add anything?

Mr. MARINELLI. I mean, I think one of the key things that we see is a lot of our new technology that we bring into our company actually starts with the universities. More often than not, the way we bring technology out of the universities is to actually hire the students, and then kind of the professors come along for the ride. So I think it is very critical.

Some of our UUV programs, we actually do with the University of New Hampshire off the pier there. We are working with one of the chemistry professors at UNH on our energetics programs. Universities are critical here, and we need to maintain their strength throughout this activity. They are critical to the future workforce of the country.

Ms. GOODLANDER. Well, I appreciate that, and I am going to be fighting really hard for the critical funding and the certainty that we need for our small businesses and for our universities.

You mentioned the Paperwork Reduction Act. I just want to invite all of our witnesses today, any ideas you have about how to simplify and streamline these processes, including the use for SBIR of other transitional authority, really welcome all of your ideas because this is going to be critical to these programs, really, continuing to leverage the taxpayer dollars that they do in extraordinary ways. So thank you.

I yield back, Mr. Chairman.

Chairman WILLIAMS. The gentlelady yields back.

I now recognize Ms. Simon from the great State of California for her 5 minutes.

Ms. SIMON. Chair Williams, I love it when you say the great State because I will remind you again, it really is. It is a lot warmer than D.C., sir, in my 8 weeks.

I want to thank you all for coming today, and I just really had a great time reading the materials and your testimony prior to this hearing. I, like I believe everyone on this Committee, wants the United States to be first in innovation. There is no doubt about that.

Some of you may have heard, because I keep talking about the amazing CRISPR lab at the University of California. I visited last week and saw all these amazing students, met our Nobel prize-winning professor and physician scientist at that lab. They have proven—they have cured sickle cell anemia in one woman who will no longer have to spend nights away from her children, spending tens of thousands of dollars, every emergency room visit.

They are light speed ahead on finding treatments for ALS and really working with dementia patients to make their quality of life better. This amazing lab with these brilliant young students, really new lab technology; it was sparkling.

And I think about Exelixis and Science Corp., Alameda County is an innovation hub where some of the most, I will say, brilliant folks in the world who, yes, are from the United States, and some folks who have come across the world to study in our beautiful facilities to change the lives of folks. I know this to be true.

I have told my story, and I will tell it every single day as a widow of a great man who died of cancer who was in a clinical trial. Our lives will forever be changed because we got a little bit of extra time because of great scientists who dedicated their lives to both the public sector and the private sector.

I have a question, and it might be a comment. I am super concerned that, in this moment, maybe even right now, there are folks who are being fired from the SBA. There are folks who are being fired from DOE and our Department of Health.

How the hell are we going to facilitate more opportunity for innovators and researchers and folks who will literally change the world, be it in 10 years—they have an idea right now. And, if it is difficult in this moment to access small business innovation research grants and resources and small business technology transfer resources, if it is difficult now before the slashing and burning of staff in these critical departments who serve our innovators and small businesses—we are talking about continuing resources for these folks. Well, guess what? If nobody answers the phone or no one is answering the inquiry on the website, our folks are going to be left—they are going to be left dry.

And, as a result—as a result of what is happening throughout the administration, we know if you talk to physician scientists, if you talk to innovators, if you talk to that young 26-year-old who is working at Genentech working on a data model that I couldn't even fathom how complicated it was seeing it on a screen, who is this close to that thing, what is going to happen? Children are going to die.

There is actually a family walking around the halls right now, there is a young child who has a very rare disease, very rare dis-

ease. I am hoping to meet them today. The baby is about 3 years old. Waiting for that next thing.

No one is answering the phone. No one is reading the applications. I cannot trust an AI algorithm to read an application that literally has the propensity and the opportunity to save a generation. We got to do better.

I guess, you know, sir, I love all of your bios, so inspired by your work; thank you for your service. I can just pick and choose. Maybe, Mr. Glover, and thank you so much for coming.

What is going to be—what are the adverse effects of having low staffing as, again, we are trying to push and we are talking about re-establishing resources for our innovators, our scientists, for our pharmaceutical geniuses who are changing the way that, for instance, the elderly live out their last years and months. If these folks can't get in touch with folks or there is decreased infrastructure, what happens?

Mr. GLOVER. I don't know. And, you know, we hope things always get better. We are optimistic, and we hope things get better, but I don't have an answer for you.

Ms. SIMON. Yeah. Well, I appreciate all of you here and the work that you are doing.

And I yield back. Thank you so much for being here, and I look forward to working with you all as we move forward and try to figure this thing out for our people. Thank you.

I yield back.

Chairman WILLIAMS. The gentlelady yields back.

I now recognize Mr. Jack from the great State of Georgia for 5 minutes.

Mr. JACK. Well, thank you, Mr. Chairman, and thank you to each witness for being here today.

Innovation has long been the driving force behind America's global leadership, whether in technology, medicine, or defense. Yet, in an era of rapidly advancing technologies and increasing global competition, we must continue to foster an environment where American businesses, particularly small businesses, across each and every one of our congressional districts can thrive.

Thanks to the Chairman. I serve as the Chairman of the Subcommittee on Innovation, Entrepreneurship, and Workforce, and I look forward to working with each and every one of you going forward to help strengthen the environment in which our small businesses can thrive.

But I would like to first start with Dr. Marinelli, if I could. I know you have had an opportunity a few times here today to talk about a few suggestions. But, specifically, the administrative complexity of applying to SBIR and STTR programs favors those, in my opinion, with strong networks or prior participants.

In your testimony, you highlighted some great opportunities for the programs to increase participation, and if you could just take a moment yet again to reiterate your suggestions and reducing the barriers to competing for these programs.

Mr. MARINELLI. So I think, as ML spoke, you know, I—my career started with the program 40 years ago, and it was a much simpler process then. The solicitations were simpler. The proposal formats were fairly common. Today—I don't handle these directly

anymore, but it is bewildering to look at the different types of solicitations, the different formats you need to respond to.

We get messaging all the time about changes in the solicitations that make it difficult for our staff to understand. And we are a very experienced firm. It makes it difficult for us to understand sometimes how to respond to some of these solicitations. I can't imagine what it is like right now for a small company coming in.

We have unbelievable IT requirements on ourselves these days. We get a lot of attention to that. I can't imagine a small firm being able to do many of the certifications anymore that would be required to continue on in the program very long.

So I think there does need to be some recognition that there are people who aren't like us, who don't have that experience, and kind of a toned-down version of the application process that would enable them to put their ideas forward. I think that is probably very important.

Mr. JACK. Wonderful. Thank you.

And, to Cyrus, because, as you noted, we are not going to pronounce your last name, after the initial application, my understanding is that small businesses need more support in transitioning through the multiple phases of the application process. And a common trend we are seeing of China's success in stealing American technology comes from closing the funding gap and directly supporting the scale-up through small business investment.

Given the challenges of private sector investment and long-term technology development within the U.S., how can SBIR be modified to help small businesses, small manufacturers better overcome the capital crunch between phase 2 and 3?

Mr. MIRYEKTA. If there is an increase in the dollar amount, I know a lot of innovators will not even bother applying for SBIRs because they believe the dollar amount is too low. I think, if it was moved up probably to 2 million, you would get a lot more buy-in.

And some of the innovators believe that, "Okay, we will succeed commercially before we ever come back to the government and try to sell a service contract," because the SBIR process is too cumbersome for them to apply.

Mr. JACK. Wonderful. I appreciate that.

I am just going to close, Mr. Chairman, by noting something that I think does impact small business writ large. But we talk about the regulatory environment, and some of these regulations that have been foisted upon small businesses in previous administrations have had a deleterious impact to their ability to succeed.

And, tomorrow, our House is going to vote on a Congressional Review Act resolution led by my good friend Gary Palmer and myself. And it is to repeal a regulation and rule that would affect a company in my congressional district. It is about tankless water heaters. I know my colleagues are tired of me saying it.

But, just to share it with—and I will ask a closing question. There was a regulation and a rule imposed on the noncondensing tankless water heater industry, which just so happens to be completely manufactured in my congressional district, that we are seeking to repeal tomorrow in our legislative body.

So, if I can close out with you, ML, it is not germane to the testimony today, but when it comes to the regulatory environment, could you just offer 30 seconds about what we, as a Small Business Committee, can do to help improve the regulatory environment in which small businesses operate today?

Ms. MACKEY. I think I have a quick, short answer for you. I would recommend that you speak to the National Small Business Association. They have a committee that focuses on regulatory burden on environmental and would be directly related to this.

And I say that because I think the best way you can come up with making this easier is ask the small businesses, and NSBA can give you that voice. I think you need to ask across the board, but I would start with them.

Mr. JACK. Well, I applaud the Chairman for consistently providing us an opportunity to engage with small businesses and hear directly from you all. I appreciate that recommendation.

And I thank each and every one of you for taking the time to come up today to share with us some ideas to better improve the environment in which you all thrive.

Thank you.

Chairman WILLIAMS. The gentleman yields back.

I now recognize Dr. Kelly Morrison from the great State of Minnesota for 5 minutes.

Ms. MORRISON. Thank you, Mr. Chair. Thank you for holding this hearing.

And thank you so much to our witnesses for being here today. Sorry I am all the way now down on the other end.

It is great to see so much bipartisan consensus about the important role that SBIR and STTR programs play in supporting American innovation.

Thanks for taking the time to testify.

Mr. Glover, in your testimony, you mentioned that one of the strengths of the SBIR and STTR programs is in its investment and innovation across the country, providing funds to small businesses in all 50 States.

My own home State of Minnesota has received nearly 3,000 awards since the program began in 1982, ranging from investments in unmanned ground robotic systems for DOD surveillance and recognizance to robotic greenhouse gas monitoring to measure the impacts of climate smart farming practices, to reducing energy usage, and wearable devices through sleep science, informed algorithms, demonstrating, I think, that great ideas and scientific breakthroughs can come from anywhere.

Mr. Glover, could you elaborate on why it is important for the SBA to promote innovation across the country? How can we enhance the geographic and demographic diversity of program participants? And how would increasing that diversity of applicants impact the competitiveness of the SBIR and STTR programs?

Mr. GLOVER. SBA has been reaching out to try to do that, and they have bus tours where they go to underserved States and try to get—work with the universities, work with those that do outreach.

I think that, you know, more needs to be done, and we have to be careful because, if we allow venture capital to be the selection

criteria, although it is illegal, what we find is awards—and some of the jumbo awards especially—just going to a very few States.

So we have got to make sure that we don't let venture capital be the deciding factor of who wins an award. If they have, you know, matching money, that was always prohibited because matching money meant the States in the middle of the country didn't have anybody to match with. So we have got to be careful about that and how that selection criteria goes.

We looked at the super jumbo awards, and we found out that, out of $13 billion of venture capital, some 7 billion before the awards, 6 billion after, 11 billion of that went to one State: California.

So we have got to be careful because, obviously, selecting those companies indirectly meant that it went to primarily one State, and that was just not a good idea. So we have got to make sure that we look at that.

We don't want to choose based on anything but merit. Not geographic because we don't want to get the second best technology for our warfighters or for healthcare, but we do need to be sensitive to that issue.

And thank you for the question.

Ms. MORRISON. Thank you for that answer.

In the Army, and DOD in general, female casualties have a significantly lower survival rate than male casualties. Architecture Technology, Inc., is an engineering company headquartered in my district that provides solutions to complex system problems.

Last year, it was granted an SBIR award to address the gender survivability gap by developing augmented reality that provides gender-specific medical training to soldiers.

Ms. Mackey, I appreciate your testimony on how SBIR and STTR programs have enabled small businesses to work in coordination with the federal government to provide ingenuity and advancements in the defense sector.

Could you speak to the SBIR and STTR programs' ability to address specific challenges or address issues for overlooked populations, such as women in the military?

Ms. MACKEY. So I think I would answer that in two ways. The first is, some years ago, the Navy asked me to help them do some outreach to underserved communities, women and ethnic. And they said, so, "We, being a woman CEO, how would we have found you?" And I go, "Well, not the ways you are looking."

And mostly because I wouldn't have recognized myself where our skill set is applicable to the DOD. So I am sort of over generalizing to make a point.

So I helped them figure out how to do outreach outside of the beltway and to different organizations, but you have to give examples of how you are meaningful.

The second point I would make is I think it is really interesting on the geographic diversity to be thoughtful to how much ingenuity we have in the center of the country.

I work a lot in sustainment capabilities with the Department of Defense. So figuring out how to make equipment continue to run, to have longer remaining useful life, to—I just feel like there is a

lot of good ideas that might be on our farms that those folks wouldn't think of themselves as technologists.

It might be interesting to consider how do we put the experienced companies that know how to write SBIR proposals together with some of the subject-matter expertise to address maybe there is a program or some thoughtfulness we can do that really helps share and network that kind of collaboration.

Ms. MORRISON. I love that answer. Thank you.

How do you think permanently authorizing the SBIR and STTR programs help ensure that small businesses can continue to bring cost-effective and valuable innovation to the Department of Defense?

Chairman WILLIAMS. The gentlelady's time is up.

Ms. MORRISON. Thank you, Mr. Chair.

Chairman WILLIAMS. Thank you.

She yields back.

I would like to thank all the witnesses today for being here, for your testimony, and for appearing and sharing yourself with us.

Without objection, Members have 5 legislative days to submit additional materials and written questions from the witnesses to the Chair, which will be forwarded to the witness.

Now, I will say I hope you see there is some bipartisanship in this town and in this building, and we are working on a lot of things together in this Committee.

So I ask the witnesses to please respond promptly.

And, if there is no further business, without objection, the Committee is adjourned.

[Whereupon, at 12:05 p.m., the Committee was adjourned.]

A P P E N D I X

Hearing of the House Small Business Committee

"Fostering American Innovation: Insights into SBIR and STTR Programs"

26 February 2025

Testimony of

Dr. William J. Marinelli, Ph.D.
President and Chief Executive Officer
Physical Sciences Inc.

Good morning Chairman Williams, Ranking Member Velázquez, and Members of the House Small Business Committee. Thank you for the opportunity to speak today. It is an honor to testify on behalf of Physical Sciences Inc. (PSI), a small business headquartered in Andover, Massachusetts, which I am proud to lead. As Congress and this Committee begin the process of reauthorizing the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs, which are set to expire at the end of September, I am pleased to share some insights based on PSI's firsthand experience with these programs that provide enormous benefits to U.S. small businesses and the federal government.

By way of quick biographical background about myself: I hold an Sc.B. Degree in Chemistry from Brown University (1977) and a Ph.D. Degree in Physical Chemistry from the University of California, Berkeley (1981). I joined PSI in 1983 after completing a postdoctoral position at Cornell University where I worked on chemical laser technology relevant to missile defense.

At PSI, the primary focus of my research was the development of sensor technology to remotely detect the battlefield use of chemical and biological weapons. Working with the Army Edgewood Chemical Biological Center and the Joint Program Executive Office for Chemical and Biological Defense, we tested these technologies at facilities throughout the US, as well as in Canada and the United Kingdom, over nearly a 20 year period. One technology was also employed to measure foreign missile plume signatures in the early 2000's and subsequently evaluated to detect trace explosives during U.S. operations in Iraq. These activities were supported by both SBIR and non-SBIR funds.

My career at PSI advanced through levels of increasing responsibility, including establishing methods that aligned our SBIR-funded technology development with the DoD 5000 acquisition paradigm. In 2018 I was appointed Chief Operating Officer, subsequently President, and in 2022 Chief Executive Officer as well as elected to our Board of Directors.

Overview of Physical Sciences Inc.

Physical Sciences Inc. was founded in 1973 with a continuing mission to invent, demonstrate, and translate technical solutions for national priorities in defense, security, energy, environmental, healthcare, and industrial markets. Since 2011 the company has been 100% owned by an Employee Stock Ownership Trust as a retirement benefit for its employees, with no foreign ownership interest. We exclusively employ US Persons and have a rigorous internal program to define technology subject to

International Traffic in Arms Regulations and Export Administration Regulations (ITAR/EAR) controls in order to eliminate technology transfer to foreign entities.

At the inception of the SBIR program in 1982 the company had around 30 employees and $2.5 million in revenues. The company embraced the founding, statutory intent of the SBIR legislation to:

1. "stimulate technological innovation",
2. "use small business to meet Federal research and development needs",
3. "increase private sector commercialization of innovations derived from Federal research and development", and
4. "foster and encourage the participation of socially and economically disadvantaged small business concerns and women-owned small business concerns in technological innovation."

Our company's strong focus from the outset on our nation's defense and security led us down the primary path of applying SBIR funding to meet those Federal Research and Development (R&D) needs while continuously identifying complementary commercial applications for those highly specialized technologies.

Our company has seen enormous growth due in large measure to our participation in the SBIR program, but also through other successful commercial activity. We currently have around 275 employees with almost $100 million in annual revenues.

We are not a single-technology company on a linear venture-capital driven trajectory. PSI focuses on innovating technologies that federal agencies, like the U.S. Department of Defense (DoD) and the service branches, need to meet critical mission objectives, for which no other stakeholders are positioned to deliver.

Our company acts to mature multiple, and often complementary, technology platforms across diverse fields including medical diagnostics, optical sensing and device technology, advanced materials and structures, propulsion and energetics, and industrial and pharmaceutical process development and controls.

PSI possesses an excellent commercialization track record, exceeding performance benchmarks that Congress has periodically implemented through the years, including in the last reauthorization. I am proud of the fact that we have achieved this success, even though, in many cases, no viable longstanding commercial market exists in the public or private sector for the technology we have developed. However, our work has helped the federal agencies ensure that the U.S. defense apparatus and the Warfighter has remained ahead of the rest of the world in technology adoption. That's a key consideration I am hoping to leave with the Committee today – that there are many, many potential pathways for commercial success for small businesses – and the U.S. government should be open to innovation from all small business sources and not arbitrarily cap or limit participation. Doing so would undermine the ability of the federal government to secure the very best technology for its agency priorities.

In the areas of defense and homeland security we are viewed as the "system innovators" for the large system integrators – e.g., large business, prime contractors. We develop advanced component technologies critical to the performance of larger system platforms and the Defense Industrial Base as well as specialty products in the commercial marketplace. Examples of this paradigm include:

Advanced Li-ion battery technology to support Navy unmanned systems where their operational environment demands a much higher degree of safety, pressure tolerant capability for deep-ocean operations, and specialized construction to handle specific load profiles. The required capability significantly exceeds commercial standard; meaning that there isn't a broader commercialization market due to the enhanced capability. Component technology funded by SBIR awards from multiple agencies is employed to meet these needs. We build these systems for prime contractors under two Navy programs of record from a purpose-built US-based manufacturing facility using domestically-sourced materials to provide a secure supply chain. We are currently seeking to expand this facility to meet additional demand from similar programs.

Rare Earth extraction from coal ash was identified by our company as a potential technology to provide a secure domestic supply of these critical elements. Using internal PSI, and subsequently SBIR funding, we developed and patented process technology for the isolation of these elements from existing ash stockpiles. Technology development proceeded through non-SBIR funded programs supported by the U.S. Department of Energy (DoE) and the DoD, including building a demonstration facility in Pennsylvania. Funding for a $30 million pilot scale plant has been awarded to Winner Water Systems (Sharon, PA) in conjunction with Southern Power (AL), with PSI providing a modest level of technical support as the technology transitions to companies best suited to bring it to market. PSI will derive licensing revenue from future commercial use of the technology.

Radiation detection technology to secure our borders against the trafficking in this threat and protect critical infrastructure from attack was developed initially as an extension of our work on remote detection of chemical and biological threats. Our algorithms and related hardware technology radically reshaped the how these threats were detected, requiring over a decade of evaluation by the U.S. Department of Homeland Security Countering Weapons of Mass Destruction Office (DHS CWMD), the DoE laboratories, and U.S. Customs and Border Protection (USCBP) to achieve acceptance and become the new gold standard. As is often the case, this technology development was initiated with internal PSI funding and subsequently supported by the Defense Advanced Research Projects Agency (DARPA) and DHS CWMD. SBIR funding was employed by both organizations to insert and evaluate new capabilities into the core technology. We manufacture and sell this technology directly to US government agencies. It provides both primary and secondary screening technology to several ports of entry along the southern border as well as mobile and modular detection capability to federal, state, and local law enforcement agencies in the US, in the UK, and in select overseas locations through US organizations responsible for nuclear security.

Remote natural gas leak detection technology, based on optical sensing, was developed as a safer alternative to existing technology that required an operator to enter the region of a suspected leak. Originally an EPA SBIR-funded technology to improve the performance of commercial and military internal combustion and turbine engines, it was adapted to this commercial use under SBIR support in conjunction with the natural gas utility industry. Over 7,400 of Remote Methane Leak Detector systems have been sold by Heath Consultants under a license from PSI with total sales of $112M.

Ophthalmic stabilization technology developed by PSI is an enabling component in a generation of instrumentation that is used by the leading manufacturers of ophthalmic medical devices. Over 24,000 systems have been sold by our partners generating over $1 billion in revenue over the last decade and benefiting the eye health of tens of millions of Americans.

These examples demonstrate the range of approaches we use to bring SBIR-funded technology to market, employing the best approach to reach commercial and government customers. In many instances, numerous SBIR awards, across multiple agencies, were needed to develop a technology. Technology development remains an uncertain process that involves risk-taking; success is accomplished in years, not months.

Furthermore, none of these technologies, by themselves, scale to a large commercial enterprise. In each case SBIR funding was used to initially develop and then de-risk the technology to a level of maturity suitable for commercial adoption or insertion into a much larger and higher value military or homeland security platform. In the 2024 National Academy of Sciences report on metrics for the DoD SBIR program Dr. Devanand Shenoy, Principal Director for Microelectronics in the Office of the Under Secretary of Defense for Research and Engineering, pointed out, "that higher-risk projects typically take longer to mature, which is another reason that SBIR programs tend to focus on smaller components within larger systems." [1]

Our company is considered an "Experienced Firm", or Multiple Award Winner (MAW), under the FY 2022 reauthorization of the SBIR/STTR program. As mentioned above, we are subject to the enhanced metrics for MAWs established in that reauthorization. Those metrics require a Phase I to Phase II transition rate – the "conversion" benchmark – be greater than 50%. The SBA has certified our transition rate to be 71%. Our conversion rate for the agencies of the DoD, our primary customer, was 79%. The increased 2022 metrics also require a company to average at least $450,000 in aggregate sales and investments per Phase II award received during the designated period – the "commercialization" benchmark. PSI received $1,024,386 per in aggregate sales and investments per award.

Over the time our company has participated in the program we have reported almost $677 million in Phase III economic activity to the SBA, almost $187M of which are direct and indirect sales to the US government. Only $5.8M of those funds are formally listed as Phase III awards. The remaining $491M comprise direct and licensed sales of technology to commercial entities and allied foreign governments. This data illustrates the erroneous and misleading conclusions that can be drawn by recent studies that purport to capture total economic activity in their analysis of the effectiveness of MAWs participating in the SBIR program.

We also work closely with research universities and government laboratories to transition early stage technology, hiring students into the workforce as well as advancing technology through subcontracts to these institutions. Under the STTR program we have provided over $23M in funding to 61 research institutions in 32 different states. Many of those awards are to the former research advisors of our employees to enhance that transition.

The Role of SBIR in "Crossing the Valley of Death"

SBIR technology development occurs largely in the realm of "technology push." In this realm government technology managers identify and fund technology development activities based on their understanding of US mission agency needs as well as likely commercial potential. Within the mission agencies, technology is accepted through "acquisition pull." The "Valley of Death" is that gap in technology development before it acquires "acquisition pull." Acquisition pull in the DoD manifests through budgeting in the 5-year Future Years Defense Plan (FYDP), a carefully risk-managed technology development portfolio with very specific requirements, an often pre-defined solution, and little tolerance for high-risk disruptive technology insertion.

Small Businesses seeking to meet these needs or insert their technology to meet problems of significance need to address a broad range of issues:

- Navigate the transition from Technology Development to Product Engineering to Manufacturing,
- Address the skills and priorities of multiple organizations including universities, other small businesses, Science and Technology (S&T) funding organizations, prime contractors, and/or government and commercial end users.
- Develop the certified manufacturing processes, quality systems, information technology, and classified program capabilities necessary to be viewed as a reliable component technology supplier to higher value platforms.
- Invest in a broad range of special facilities, equipment, certifications, and training to address multiple low volume markets that reach full market potential over a decade or longer.

SBIR funding was originally intended to develop technology through a prototype to spark additional acquisition organization or commercial support. However, SBIR has become the de facto method for funding technology development and maturation through engineering and manufacturing development and all the way to low rate production. Put another way, there are no other realistic pathways for small businesses to pursue when it comes to federal funding for technology innovation; agencies will invariably steer small businesses to the SBIR program. Multiple SBIR awards have become the equivalent of private sector venture Series A or DoD 6.3 Advanced Development funding that leads to technology transition. Arbitrarily excluding companies from receiving those awards would be inefficient and would negate the specialized capability developed by those firms to meet specific federal agency needs.

In our experience this process has often been derailed due to factors such as 1) a decision to discontinue development of the platform onto which the technology was to be inserted, 2) delays in the requirements development process; 3) funding delays resulting from the federal budget process, and 4) cost overruns on other program elements that result in the redirection of funding away from new technology insertion. Any of these issues can be fatal to a small business pursuing an early stage single technology track to commercial viability. During the period from 2009 to 2012 many small businesses seeking SBIR program development funds failed or walked away from the program during the series of 14 short-term extensions via continuing resolutions.

Our technology-platform based development approach, coupled with the diversity of fields and applications we address, the broad skills of our staff, and the scale at which we operate, allow us to survive through the inevitable occurrence of those disruptions.

Operations and Investment

Our role as a diverse and often component level supplier requires that we have capability from early - stage development to full production capability across multiple technology verticals with differing expectations and processes. A key factor in our ability to work across these verticals was the extension of the program to provide second Phase II, Phase II enhancements, Direct to Phase II, and similarly intended awards that enabled the further maturation and targeting of prototypes developed under initial Phase II awards. This program expansion enabled us to make significant investments to create that capability. Examples include:

Energy and Hypersonic Technology – In 2018 we opened a 30,000 sq. ft. advanced development and production facility for the specialty battery production discussed earlier, as well as a development and production capability for high-temperature ceramic matrix composites important in hypersonic missile technology. PSI invested over $3 million in facility improvements and capital equipment. Those operations were taken through ISO-9001 certification to meet the quality needs of our prime contractor customers.

Radiation Detection System Production – In 2022 we transitioned our radiation detection system production operations to a 15,000 sq. ft. facility, expanding it to 25,000 sq. ft. in 2024. This facility produces stanchion and gantry-based detection systems for fixed site operations as well as receives and modifies vehicles for law enforcement operations, and then equips them with advanced mobile radiation detection capability. In addition to ISO-9001 quality certification, this facility possesses special radiation material handling capability with associated trained personnel and licensing.

Unmanned and Deployable Systems – Also in 2018 we opened a 35,000 sq. ft. facility for the development, production and testing of small, unmanned quadcopters for solder use, ultimately supplying over 2,500 systems for troops deployed in areas of operation that included Iraq and Afghanistan. The facility included an FAA approved site for flight operations as well as ISO-9001 and FAA Part 105 certifications for its operations and personnel. Recent capital investments in that facility, exceeding $1 million, include a 3-D printing capability to develop high performance aerospace heat exchangers and a special thermal processing to produce advanced components used in spacecraft thermal control.

Energetics and Propulsion - In 2015 we opened a special facility for the production and testing of energetic systems (propellants, explosives, rocket engines, and rocket motors). Its opening was the initial step in the transition of early SBIR-funded laboratory stage production of energetic materials to the larger quantities of material and special test facilities necessary to demonstrate performance of these advanced systems at scales acceptable to the acquisition community. Elements of the facility require recertification by the Defense Contract Management Agency with each new contract award as well as licensing by other federal, state, and local authorities. The facility requires special capabilities for the production, storage, handling, and disposal of these materials. Site and capital investments of approximately $1 million have been made in the facility, which must operate over a large land footprint for safety reasons.

In total our company occupies approximately 175,000 sq. ft. of RDT&E and production space in three states as well as a 13-acre energetics facility. We recently announced a planned $5.6 million expansion of our chemistry facilities to scale up the production of non-energetic components and a

complementary $3.0 million expansion of our energetics facility to increase the quantities and scale at which these systems can be produced and evaluated. We have invested over $40 million in facilities and capability enhancements over the last decade.

These capabilities are unique, address problems that do not scale to commercial markets, and therefore require a level of funding stability consistent with making investments in facilities over a 10 year period and capital equipment over a 5 year period. Reauthorization of the SBIR and STTR programs over these time scales, without restrictions on merit-based awards available to the "system innovator" companies making these investments, is needed to insure as a nation we continue to develop these advanced capabilities.

SBIR as Venture Capital

There have been suggestions that the SBIR and STTR programs should behave as pure venture capital funds, supporting companies on a single-technology linear path to a commercially successful outcome with time-limited funding and a mandate to "graduate" from the program. We strongly disagree. Despite acquiring the slogan "America's Seed Fund," that singular intent of the program was not enshrined in its 1982 creation or subsequent execution. It would not serve the needs of the mission agencies of the US government that provide the largest segment of funding for the program.

It is important to understand the different objectives of venture capital and mission agency technology investment. Venture capital invests to obtain the largest possible monetary return, at the highest possible margin, in the shortest time frame. Mission agencies invest to obtain a capability return not available commercially, at the lowest possible margin, on timescales consistent with platforms that take over a decade to develop, and often at market sizes that are not attractive for commercial investment.

This contrast, and its consequence, was identified in the 2019 Council on Foreign Relations – Independent Task Force 77 report entitled "Innovation and National Security: Keeping Our Edge." [2] That task force was co-chaired by Admiral William McRaven, the retired commander of the US Special Forces Command and former Chancellor of the University of Texas system. The report identified a shift in venture capital investment in software vs hardware from a 55%/45% split in 2006 to a 92%/8% split in 2017.

The report offered the following explanations for this disinvestment in hardware: "Companies built around hardware face high risk in terms of technology development and high costs associated with building research facilities, attracting scientific expertise, and manufacturing." Furthermore: "Given the smaller risks of investing in software, VC firms funnel the vast majority of their investments to software, resulting in a funding gap for hardware." It noted that "Weapons platforms that involve large numbers of warfighters in the loop, such as airplanes, submarines, and ships, will always demand longer development times, exceptional performance, and steady oversight" and "not everything, of course, can fail fast."

To improve their economic outcomes, the venture-only advocates have stated that SBIR funding should only go to technologies that can "scale" to commercial as well as mission agency applications. This approach would severely limit the ability of the program to invest in those specialized capabilities that do not meet this scaling criteria. Furthermore, this approach tends to "commoditize" our capabilities to a level of commercial performance that is easily copied and hence readily available to our adversaries. The suspicion that the Chinese Large Language Model *DeepSeek* is built on Open AI's *ChatGPT* is only the latest example of this form of technology transfer.

The US won World War II in part based on its superior industrial strength and population advantage. Since that era, the US has relied on the doctrine of "overmatch," in which superior capability rather than superior number is used to deter and defeat our adversaries. In the 1991 war to liberate Kuwait, within a week, Iraq went from having the 4th largest army in the world to having the 2nd largest army in Iraq as a result of overmatch. And at the pivotal World War II battle of Midway it was Japan's four aircraft carriers that "failed fast" as a result of our superior code breaking capability. Arbitrarily limiting the ability of capable small businesses to contribute to future overmatch, based on a misconceived technology funding doctrine, portends a commodity-equipped US military going up against an industrial peer with four times our population.

SBIR Reauthorization

A common theme in the discussions surrounding the reauthorization of the SBIR/STTR programs is the difficulty small technology firms experience in bringing new technology to the needs of the US government. That difficulty is present whether the firm is an experienced business like ours or a new entrant into the program. The challenge of the programs' reauthorization is to reduce barriers to entry and broaden, not restrict, participation in the program. The reauthorization should reinforce several principles:

Merit-based Awards - Congress should maintain the competitive, merit-based fundamentals of the program to insure the best technology is developed. The congressionally-mandated Government Accounting Office (GAO) review of the program showed that Multi-award Winners were effective in meeting their 4.5X increase in performance metrics and that there were no "SBIR Mills" crowding out other small businesses by any accepted measure of market concentration.[3] There should be no arbitrary award caps, highly restrictive submission limits, or forced graduation from programs. The ability of most multi-award winners to meet the enhanced participation metrics included in the 2022 legislation that reauthorized SBIR/STTR programs indicates the intent of the program is being met.

Agency Discretion - Agencies should have discretion to shape the program and define merit consistent with their missions. The GAO found that multi-award winners are regularly selected to research and develop technologies that meet specific agency or warfighter needs without wider applications. Multi-award winners should not be penalized for those agencies' lower rate of adoption and commercialization potential. The ability of a small business to submit proposals should not be unreasonably restricted so as to effectively limit competition or to inhibit the federal government's ability to secure the very best technology it wants/needs.

Improved Communication – Agencies should be required to improve the communication of their needs and opportunities to small businesses across all topic types. Open topics provide a way to make topic managers aware of potential technology solutions, but their lack of specificity can deprive companies of the ability to tailor their proposals to meet specific needs that might improve their potential for award and ultimate technology transition.

Application Simplification – Perhaps the largest barrier to participation in the program for new entrants is the increased administrative burden and complexity of proposal submission. Safeguards to address foreign influence and technology transfer, however necessary, have further increased that barrier. A myriad of proposal formats and solicitations, changes in how proposed program staffing is reported, and now mid-program changes in the allowability of administrative and facility costs have made it difficult for even the most sophisticated organizations to participate in the program. Data has shown that per capita proposal submission rates from underserved regions of the country are some of the lowest in the program, reflecting those barriers.

Permanent Authorization – Companies make investments based on an assessment of their ability to grow and recover that investment. The GAO report identified investments in dedicated testing, training, contracting, IT, and business processes as key to receiving awards from the DoD. Commercialization of technologies requires investment in capital equipment and facilities, with long depreciation times, to be viewed as reliable suppliers. Program permanency reduces the concern that those investments will be stranded at the next reauthorization without limiting the ability of Congress to make further adjustments to the program.

Organizations across the political spectrum that have reviewed the SBIR program have remarked that it is "disproportionately effective," "invests more in America's heartland than venture capital invests," and "overcome the tendency of federal contracting officers to deal only with large firms that are familiar to them and have the expertise and lobbying clout to navigate the federal procurement process." At a time when the Defense Industrial Base is shrinking, companies funded through the SBIR/STTR program are strengthening it across multiple domains.

Thank you again for the opportunity to participate in this hearing. I look forward to answering your questions.

Citations

[1] National Academies of Sciences, Engineering, and Medicine. 2024. Data and Metrics for the DOD SBIR and STTR Programs: Proceedings of a Workshop. Washington, DC: The National Academies Press. https://doi.org/10.17226/27984.

[2] James Manyika and William H. McRaven, Chairs, Adam Segal, Project Director, "Innovation and National Security: Keeping Our Edge," Report of the Council of Foreign Relations Independent Task Force 77, September 2019 (https://www.cfr.org/report/keeping-our-edge/)

[3] Government Accounting Office Report, "Small Business Research Programs: Increased Performance Standards Likely Affect Few Businesses Receiving Multiple Awards," GAO-24-106398, March 2024.

STATEMENT OF

MS. ML MACKEY

CHAIR OF SMALL BUSINESS DIVISION

NATIONAL DEFENSE INDUSTRIAL ASSOCIATION (NDIA)

BEFORE THE

HOUSE COMMITTEE ON SMALL BUSINESS

ON

FOSTERING AMERICAN INNOVATION:

INSIGHTS INTO SBIR AND STTR PROGRAMS

26 FEBRUARY 2025

NOT PUBLIC UNTIL RELEASED BY
THE HOUSE COMMITTEE ON SMALL BUSINESS

Chairman Williams, Ranking Member Velázquez, and distinguished Members of the Committee, thank you for inviting me to speak today on the importance of the Small Business Innovation Research and Small Business Technology Transfer (SBIR/STTR) programs, and thank you for your consistent efforts in supporting America's small business entrepreneurs and innovators.

My name is ML Mackey, and I am the CEO of Beacon Interactive Systems, a nontraditional defense contractor delivering innovative, efficiency-improving digital capabilities to our Military Services. I am here today in my capacity as the Chair of the Small Business Division of the National Defense Industrial Association (NDIA). I also serve on the Executive Committee of NDIA's National Board of Directors.

For over 100 years, NDIA has provided a forum for government and industry leaders to collaborate and address complex defense issues so our nation's security can maintain a strong, diverse U.S. defense industrial base (U.S. DIB). NDIA and its affiliates represent over 1,700 defense companies of all sizes and sectors, the majority of which are small businesses, and of which over 67,000 are individual members.

NDIA has been a long-standing and vocal supporter of the SBIR and STTR programs and regards these programs as some of the nation's most effective tools in bringing cost-effective and valuable innovations to the Department of Defense (DoD) and, ultimately, to our warfighters. We appreciate your leadership in extending the programs through September 30, 2025, and we strongly endorse your efforts to further extend the programs before the current authorization expires.

The SBIR/STTR programs have a proven track record as a pipeline for ingenuity and advancements in the defense sector. These programs facilitate and streamline the participation of competitive small businesses to work in coordination with the federal government on agency-specific research and development needs. The ultimate goal is to expand the government's adoption of private sector commercialization of the innovations stemming from this research. Speeding innovations and advanced capabilities to our warfighters is critical to the DoD's efforts to outpace the People's Republic of China and other potential competitors in this era of great power competition.

In my own personal experience as the CEO of a nontraditional defense contractor, we found the SBIR program to be a gateway by which we could enter the defense marketplace. The SBIR Program enabled us to successfully bring our commercial sector expertise to bear on mission critical DoD needs. Since that initial SBIR investment, we have delivered multiple Programs of Record, deployed systems across 200+ ships, submarines & carriers, across 20 ship classes, and multiple shore-based locations worldwide. Our digital products transform operations at the edge – driving visibility, improving readiness, and addressing modernization needs across the DoD. In one example, early estimates predict our flightline platform, AIRS, will save an hour and a half, per maintainer, per shift. This tremendous impact on operational capacity was initially, and critically, nurtured and incubated with SBIR investment.

Based on this positive experience by my company and similar experiences from my colleagues in the Small Business Division of NDIA, we offer the following three areas for review to enhance the SBIR/STTR programs in order to support small businesses more effectively and improve our national security.

1) <u>The SBIR/STTR Programs Should be Permanently Authorized</u>

The federal government and small business community have benefitted immensely from the SBIR/STTR programs. These programs inspire technical innovation and inject a vital sense of entrepreneurship into the defense enterprise and the other participating agencies. Establishing them permanently is the next logical step. SBIR and STTR are an essential part of America's innovative high-tech ecosystem, and even the threat of a short-term disruption can severely affect R&D-focused small businesses. The temporary nature of the current programs also does not signal stability to both the federal agencies who administer them and the small businesses seeking to participate in these programs.

For example, the temporary nature of these programs discourages federal agencies from investing time and money into SBIR/STTR initiatives. A short reauthorization period erodes the confidence of agency program managers in the overall stability and long-term utility of incorporating SBIR/STTR investments into their technology roadmaps. Without this focused program commitment, the DoD cannot consistently realize the innovation, cost savings, and program efficiencies enabled by SBIR and STTR.

Similarly, the temporary nature of the SBIR/STTR programs sends a discouraging message to the small business participants. Federal budget uncertainty and the ever-increasing regulatory burdens already make small businesses hesitant to do business with the federal government. According to DoD's 2023 Small Business Strategy,[1] small business participation in the defense industrial base has already declined by 40% in the previous ten years. Permanency for the SBIR/STTR programs establishes the certainty which encourages small business participation in the U.S. DIB, a direct counter to this disturbing trend.

2) <u>Provide More Support for Phase III Awards and Transition to Commercialization</u>

In line with the SBIR Policy directive the government is required to the greatest extent practicable to give follow on efforts to the SBIR investments already made in the capability. This is both an efficient use of federal funding, and a significant incentive for new entrants to the U.S. DIB.

Attracting and retaining new entrants that can rapidly deliver innovative technologies and capabilities to the warfighter is a critical element to building a modern, diverse, and resilient U.S. DIB. These technologies can also provide the decisive advantage needed to deter or win a fight.

As part of the acquisition strategy, DoD and other agencies should be required to review prior SBIR/STTR projects and assess opportunities to utilize SBIR/STTR investments between the requirement analysis and Request for Proposal (RFP) for other procurement solicitations. If the federal government already has access to an existing technology that is purpose built, meets the competitive threshold, and addresses the requirement, it should not expend additional funds to procure and then duplicate the same technology. Besides saving money, this review would also save time as the DoD can leverage the agile, time-saving authorities of SBIR Phase III contracting to acquire those technologies and deliver to the warfighter sooner. Agencies should be required to report on their due diligence to this intent.

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[1] U.S. Department of Defense. Small Business Strategy. January 26, 2023. https://media.defense.gov/2023/Jan/26/2003150429/-1/-1/0/%20SMALL-BUSINESS-STRATEGY.PDF. Page 5.

It would be a disservice here if I inadvertently contributed to the perceived issue of 'vendor lock' so incorrectly attributed to follow-on Phase III contracting. The SBIR Policy Directive states that to the greatest extent practicable the follow-on work should go to the SBIR investment made in the capability. And if it's not practical to move forward with that investment, you don't have to use it, but you must document why. This is a meaningful business model to encourage new entrants to the defense innovation space. For nontraditional innovators, it mitigates concerns about entering a new space with established players. It is exactly the kind of incentive necessary to bring new innovators to an existing marketplace.

Additionally, the January 2025 report from the Defense Innovation Board[2] offers additional recommendations for the SBIR/STTR programs to assist companies in transitioning their prototypes to production. This includes re-establishing the Rapid Innovation Fund (RIF) and establishing a dedicated "OASIS Fund," which would provide acquisition executives with a dedicated source of funding from which SBIR-developed innovation in a streamlined fashion could be followed through right to the warfighter. This approach funds the pathway for the nimble and efficient tech insertion of successful SBIR/STTR investments.

3) Increase Agency Oversight of Implementation and Agency Employee Accountability

In many cases, there is a lack of understanding and/or low prioritization to fully utilize and comply with SBIR/STTR authorities for small businesses during the acquisition process, especially due to concerns around legislated preference and sole-source contract awards. This is especially true when acquisition executives push to erode SBIR/STTR Data Rights. These critical data rights support a streamlined approach to federal funding for innovative research and add industry incentive to engage with government stakeholders in a more collaborative, trusted, and integrated fashion. When SBIR/STTR Data Rights are disregarded or enforced incorrectly, small businesses are disincentivized to participate in the U.S. DIB.

To help address these issues, agencies should be required to properly train Procurement Center Representatives (PCRs) on the SBIR/STTR contracting provisions as well as the congressional intent of the SBIR/STTR programs. This should include creating a system to refresh their knowledge and stay current on any changes in legislation or regulation. This training should also ensure that PCRs understand the benefit and importance of using sole-source contracts and that follow-on work beginning with SBIR/STTR investments is legally permissible. Small businesses that have successfully won SBIR/STTR awards have already met a highly competitive threshold in the initial phases of the SBIR/STTR programs. As such, PCRs should strongly encourage follow-on work that extends or derives from the initial SBIR investment.

Agencies should train the PCRs to explain the relevant provisions of the SBIR Policy Directive to program managers and contracting officers to reduce their fears and concerns over using the authority. They should be empowered to utilize this innovative and deliberately streamlined acquisition approach.

Furthermore, the Defense Innovation Board recommends directing the FAR Council to include SBIR/STTR Phase III authority in the FAR. While the SBIR Policy Directive already carries the weight

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[2] Defense Innovation Board. Scaling Nontraditional Defense Innovation. January 8, 2025. https://innovation.defense.gov/Portals/63/DIB%20Scaling%20Nontraditional%20Defense%20Innovation%20250113%20PUBLISHED.pdf.

of law, including this content explicitly in the FAR would go a long way to promoting the use of already existing SBIR/STTR-developed capabilities across DoD contracting efforts.

In conclusion, I applaud this committee for your vigilance in promoting small-business-friendly policies. Your work to defend deliberate and efficient approaches to include small business high-tech innovators in the U.S. DIB is a valuable proposition for the government and a direct enabler of innovation and growth. I appreciate the opportunity to be here today, and I welcome your questions.

Ravelin US

"Fostering American Innovation: Insights into SBIR/STTR Programs"
February 26, 2025

Hearing before the House of Representatives
Committee on Small Business

Prepared Statement by
Cyrus Miryekta
CEO
Ravelin US

Thank you, Chairman Williams, Ranking Member Velazquez, and Committee Members for inviting me. I'm here to discuss Chinese Communist Party Exploitation of American Innovation as it pertains to SBIRs.

America's plan for military dominance against peer adversaries in case deterrence fails, is called an offset strategy. We have historically had three such strategies. The First Offset was nuclear weapons. The Soviets tested their first nuclear weapon in 1949 and America lost that advantage almost as quickly as it was obtained and was forced to develop a new plan. The Second Offset was networked warfare where air, ground, sea, and space forces were integrated and our precision munitions were highly publicized. Modern Russian and Chinese military strategies are largely responses to this strategy that they witnessed in Gulf Storm, which is also why Russian electronic warfare is so advanced in the Ukraine today.

Today we are on our Third Offset Strategy: the attainment of military superiority through rapid incorporation of the most cutting-edge innovations. This explains why Defense Innovation Unit, AFWERX, SPACEWERX, Army Futures, NavalX and all the innovation lines of effort are so robust and exalted within the DoD and commercial industries. This strategy was disclosed publicly by SecDef Chuck Hagel in 2014. Sadly, our foes not only heard but also believed us and they have been exploiting our innovators as a result. Despite this, we have not given up on our Third Offset, and Small Business Administration plays no small role in buttressing this strategy, nurturing innovators to give America a war winning edge. American innovators—often small businesses run by people in their late 20s wearing casual clothes—are unwittingly the vanguard of our ongoing battle with the Chinese Communist Party (CCP). Unfortunately, these accidental warriors are not receiving the support to rebuff these attacks that their strategic importance merits. The nature of the startup world is such that these companies are always searching for investment into their companies to keep these companies solvent. They have high overhead costs and high risk

of failure. They must find investors, or their companies and the nascent technologies cannot survive. Into this ecosystem our adversaries are pumping in tremendous amounts of investment money in the hopes of transferring the technologies for themselves. Our national security strategy depends on these companies engaging in national security strategic thinking when what they are built for is innovative engineering. What these companies need is for someone else, someone who has this strategic skill set, to help them.

I have proudly served my country for 16 years. First, I was a paratrooper in the 82nd Airborne. I deployed to Afghanistan from 2002-2003 and in Fallujah, Iraq from 2003 to 2004. I completed my undergraduate and graduate degrees using the GI Bill. Then, I became a federal criminal investigator with the Air Force Office of Special Investigations. In this capacity I spent almost ten years in Silicon Valley providing counterintelligence support to innovators, VCs, Fortune 50 companies, and academics. I set up the counterintelligence programs at Defense Innovation Unit, AFWERX, and SPACEWERX. For my impact to national security, I have received an unprecedented 9 national intelligence awards. These experiences inform the business I currently run.

I founded Ravelin US, an advisory firm to help innovators navigate foreign ownership, control, and influence (FOCI) issues and assist in transitioning from SBA grants to long-term service contracts. There are far more lucrative markets to service than cash-strapped innovators, but because this is America's key battlefield in preparing ourselves against existential threats, that is where we placed ourselves. Many innovators find themselves taking on adversarial nation states alone. Ravelin US was created to change that.

Threat Landscape

American innovators' impression of CCP threats has evolved over the last twelve years. In 2012, people trusted the US government and innovators tended to be open and transparent. Then, in 2013, leaks about US digital surveillance led trust to drop to an all-time low. Some innovators even began equivocating the US and the CCP. But the CCP is currently committing its third genocide in sixty years, targeting the Uyghurs in Xinjiang, among others. Three genocides in sixty years betrays an apparatus of murder that has been deeply institutionalized with performance standards, regulations, and likely even awards for running an effective genocide. And yes, investors funding genocide-enabling technologies also invest in dual-use SBIR recipients. While the US and the CCP are not alike, we were having trouble making our case.

In 2018, the DIUx China Study was released. It boldly named specific CCP investors in Silicon Valley. This was a boon to American technology protection. This paper created buzz, but some were skeptical. Then, Stanford University published Larry Diamond's *China's Influence and American Interests*, which changed the conversation. This gave technology protection credibility and legitimized the mission.

Since 2018, CCP affiliated capital has carried a stigma amongst investors, not necessarily because the CCP is seen as illegitimate, but, rather, clean American capital is a differentiator. The CCP has low standards for investment and is fast and loose with large sums of cash. It calls the competence of innovators into question who do not, or cannot, obtain clearly Western capital.

In response to this new and more difficult environment to exploit, adversarial nations deploy three strategies for continuing to steal our innovation. First, they work to infiltrate companies with human assets. Second, they work to secretly funnel their investment money into emerging technologies. Finally, they have learned to use our own systems against us and will sometimes feign association with technologies to try to get us to sabotage our own innovation.

The CCP's ability to recruit human assets is very impressive. One example I came across, to illustrate the point, is a Chinese national who fled China after having been a protester during the Tiananmen Square Massacre on June 4th, 1989. He found great success in America. Then, over 30 years later, the United Front Work Department recruited him.

Another CCP strategy for getting their foot in the door of US innovators in order to transfer our technology is by funneling investment funds first through allies in order to obfuscate their origin. Phantom Space, an early stage launch vehicle developer led by one of SpaceX's original employees, Jim Cantrell, received a $2m investment from a Caucasian Canadian venture capitalist. After some time this VC attempted to oust the founder, Jim Cantrell. When Ravelin US investigated, we found $1.95m of the $2m investment from this Canadian was from a CCP tech transfer investor who had previously moved a robotic-biotech company to a tech park in Shanghai. A non-diversified investment like this shows nation-state behavior, not profit-driven investor behavior. A recording of the CCP backed VC was obtained. When most people commit a crime, they distance themselves from it or talk about it in the third person. This gentleman said, and I quote, "the fraud isn't my favorite part of my personality." He embodied the fraud.

Many argue that the danger of adversarial capital is minimal because the threat investor lacks access to the innovator's due diligence and technology. However, they overlook that an adversarial nation-state does not need any of that information. They merely need the names of people working in the innovator to effectively target it. Contract information is a bonus. The CCP obfuscates its actions by signing SAFE agreements. These agreements promise equity later, meaning they have 0% ownership now, but in time can become owners. Access to the innovator is enough.

Finally, if there is a technology that our adversaries cannot obtain but want us to also not develop and exploit they will sometimes attempt to sabotage a company. They do this by seeding "evidence" that a company has FOCI problems so that we flag them and deny

them lifesaving SIBR grants. This higher level of sophistication requires a very nuanced level of understanding the threat landscape to counter.

One self-inflicted wound that we have and that our adversaries exploit is our fear of appearing to deny access to our companies on the basis of discrimination against minorities. Some of our companies feel pressure to accept certain investment or workers in order to not fall into damning charges of racism. We must be cognizant of this and not allow ourselves to be exploited because our civilization values humans universally.

SBIR/STTR Extension Act

In July 2023 the SBIR/STTR Extension Act went into effect. This law requires that SIBR applicants receive a FOCI review by the US Government before being granted a SIBR. Before this law many innovators in industry did not take FOCI issues as seriously as they should have. The denial of SBIR awards based on FOCI issue compliance has been a great motivator for behavioral change.

The SBIR/STTR Extension Act has led to the creation of US government due diligence teams. Each Agency that has the power to award SBIR grants must now have a team in place that reviews each applicant for FOCI issues to ensure that the company is clear of adversarial threats to the technology being invested in. Having this tangible consequence to FOCI issues has helped companies clearly see the value in sanitizing and protecting their equities when otherwise not doing so would be easier and seemingly better for business. Companies are now able to point to the SBIR application process as a clear rationale for keeping a stronger national security posture over their innovations.

In this way the SBIR/STTR Extension Act has had a wonderful influence over industry culture. Other than a small cohort a patriotic innovators, most US innovators rarely act on national security interests. The lifestyle of a tech innovator is extremely demanding with work bleeding into nights, weekends, and holidays with off time having no clear delineation. The intense personal sacrifice for innovator success means they are moved above all by factors that influence company success. National security may be novel and interesting, but is not often the motivating factor for behavior. This changed with the SBIR/STTR Extension Act which went into effect in 2023, followed by the NDAA 2023 Section 872 and Executive Order 14083.

As late as May 2024, when speaking about FOCI due diligence requirements, industry met them with skepticism. By August 24, the FOCI-based denials for SBIR awards intensified and word spread. By December 24, innovators were realizing this is a real hurdle one must prepare for in advance and the awareness is only increasing.

In the past year alone, Ravelin US removed CCP capital from five US innovators. This used to be a more difficult and contentious activity. However now, because of the cultural shift

around FOCI issues, that has led innovators to accept that they must keep their innovations safe, it has become easier and less fraught. It used to be that when trying to remove adversarial agents or investments, there would be much resistance. However, now the innovators understand that they must get the CCP capital out or perish. Because the CCP investors do not want to incur additional reputational harm as a VC who has fallen into disrepute, they have also become more open to divesting, even at a loss.

CCP investors today seem pre-defeated. When an innovator needs to remove CCP capital because they have been flagged and barred, CCP investors have sometimes even meekly apologized. Some have even asked if we can sanitize them too! How does one begin to sanitize a fund that in origin was set up by the CCP? You can see why we always deny these latter requests.

SBIR/STTR Extension Act limitations

Unfortunately, it is not always the case that the system works as it should. Out of all the agencies that grant SIBRs, there are only about 4.5 due diligence teams that are somewhat functioning, and that is being generous.

Most agencies tasked with creating due diligence teams have barely moved. It takes a minimum of 24 months and resources to create a semi-competent cadre. Since financial resources were not provided for this mission set, it seems most agencies intend to produce no results in the hopes of showing that the process does not work so that they are no longer asked to work this mission. Unfortunately, this is very misleading.

Another problem with the due diligence teams is a tendency to treat our innovators in an adversarial way. We cannot forget that the Third Offset Strategy depends on the innovators' succuss!

Finally, there is no single standard for the review of FOCI issues process. While some flexibility is good so that each agency can set some of their own processes and standards, it does cause problems from the point of view of the innovators who have a hard time meeting the divergent definitions of a clean company.

There is one standout team, however, that has been implementing the program exceptionally well. The team is in the Office of Special Investigations or OSI, run by Thomas Weiss. This due diligence program manages to be successful because their emphasis is not on finding non-compliance in order to penalize innovators. This team manages to keep their eyes on the bigger picture, which is that we should not pit ourselves against the innovators as if they are part of the problem. The innovators are our great assets, and the goal of the SIBR due diligence teams should always be to be helpers and partners to our innovators. Tom Weiss's team does not become emotional or adversarial. When a company is flagged by the OSI team for a FOCI issue, if they can prove that they have

resolved the issue, the company is rehabilitated. This company is not put on a blacklist, never to be able to win another SIBR grant again. The USAF and USSF aim to address FOCI issues. They want to protect technologies without stifling US innovation or harming innovators. Tom Weiss leads this team with great skill and often trains other elements of the US government. He has unparalleled insight into FOCI-SBIR issues from the government perspective and maintains the standards to replicate.

Recommendations

1. Revise the Foreign Agents Registration Act. This law has changed twice. It is now so weak that only seven people have been prosecuted under it. FARA should be amended to expand the scope of CCP actors and their proxies. The penalties for masking adversarial investment should be steep. The CCP can easily generate $90-300 million funds from thin air. FARA should add penalties for unregistered agents who engage in lawfare against Americans and their businesses. Foreign agents must clearly state who their limited partners are in their fund. If it is unclear through other funds, they need to reveal those limited partners too. They should also share their investment theses and point out any dual-use technologies they plan to invest in. Allowing prosecutors to pursue civil cases against CCP investors would curtail adversarial investment and financially benefit the United States.
2. Continuous Monitoring - The Committee of Foreign Investment in the United States (CFIUS) has had times of intense impact and periods of calm. One major issue is that CFIUS can thoroughly examine an entity, but once it clears the process, it is considered clean. Then, it can go back to transferring tech as before. We've seen this with SBIRs as well, where a US innovator will receive a SBIR and then take CCP investment after the award. A simple annual FOCI disclosure requirement could fill this gap.
3. Increased Resources: FOCI due diligence is required by two laws and an executive order. However, no resources have been allocated for this task. We know the Third Offset is vital for American power and future generations. Still, we haven't invested any money in it. Agencies rarely send their top talent on missions without resources and follow-up. Review the annual findings from the due diligence team. Look at the threats identified and the innovators cleared. Also, note the total amount of adversarial capital that was sanitized. Lastly, consider a national awards program for the most effective personnel and teams.

The Committee on Small Business can greatly influence American innovators and the whole US commercial sector. Many VCs require SBIR awards as a prerequisite for investment and the social value of the SBIR far outweighs dollar amount. When our systems are resolute, the CCP seems to abandon lawfare. An enemy on US soil aiming to weaken our Third Offset Strategy must not exploit our systems, knowledge, or expertise

without facing consequences. Those supporting this legislation are out front on a shoestring budget and protecting the very foundation of our Third Offset Strategy.

Thank you and I look forward to your questions.

Testimony of

Jere W. Glover

Executive Director
Small Business Technology Council

Before the

United States House Committee on Small Business

SBIR/STTR: Fostering American Innovation

February 26, 2025

On behalf of

The Small Business Technology Council
www.sbtc.org

SBTC is the nation's largest association of small, technology-based companies in diverse fields, and represents more companies that are active in the federal Small Business Innovation Research (SBIR) Program than any other organization. SBTC is proud to serve as the technology council of the National Small Business Association. Testimony Prepared by Jere Glover, Alec Orban, Bob Schmidt, and Kevin Burns.

Chairman Williams, Ranking Member Velazquez, members of the Committee, thank you for inviting me to testify today on the reauthorization of the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs, and how to strengthen and improve them. I am Jere Glover, Executive Director of the Small Business Technology Council (SBTC), which represents high-tech, R&D-focused small businesses in America, many of whom participate in the SBIR and STTR programs.[1]

The SBIR program was created in 1982 by a bi-partisan Congress, and signed into law by President Reagan. They knew very little Federal R&D was going to small businesses. America was missing the opportunity to better mobilize small business entrepreneurship and innovation to meet Federal R&D needs and to bridge the technology gap eroding American competitiveness and jobs. So, they created this highly competitive program to make sure at least a small fraction of Federal R&D goes to small businesses. Time has shown they were right.

America's basic science is a primary national strength, but converting that science to American innovation and jobs faces increasing international competition. The SBIR/STTR programs provide seed corn for this challenge, combining private enterprise with American ingenuity to enable new innovations while building new products and businesses transforming American industry. SBIR asks our nation's small businesses, employing 35% of our scientists and engineers and led by American entrepreneurs, to convert American science into new scientific breakthroughs and useful innovations to meet Federal R&D needs and to commercialize that tech to build their businesses. SBIR firms must be American-based and owned by Americans, with work done in the U.S. The new technology, products and services are selected by the agencies based on merit; meet agency objectives; meet market and societal needs; and create new sustainable high quality, high paying manufacturing and service jobs in the U.S. while raising living standards and making American products more competitive. Today, facing uneven economic growth; aging infrastructure; and international competition, and with intellectual property theft that is draining American jobs, we should strengthen the SBIR/STTR[2] investment, unleashing small business energy and jobs towards a new wave of 21st century American-made products and services.

The SBIR/STTR programs have proven to be the most successful and efficient innovation programs in government, enlisting the energy of America's small business technologist entrepreneurs to do government R&D. The result, using only 3.65% of Federal extramural R&D spending, has resolved many technology challenges facing the government and enabled the creation of some of the most important new technologies in the world, while generating massive returns to America.

[1] I have been involved in federal science and technology innovation programs since 1978, when I staffed joint Senate/House hearings and the resulting report that showed severe under-utilization of small business high-tech companies in the Federal R&D programs. The SBTC is an outgrowth of the White House Conference on Small Business in 1995, and is the nation's largest association of small, high-tech companies across diverse fields.

[2] Congress passed and George H. W. Bush signed Public Law No: 102-564, which created a smaller, companion Small Business Technology Transfer (STTR) program in 1992, for academic partnering.

Technologies you use every day were created with SBIR funding, including the GPS on a chip and CMOS camera systems in your smart phone. Seventeen countries have copied the program and created their own version of SBIR. SBIR is also the principal point of entry for small businesses to enter the government innovation ecosystem and industrial base, with around 40% of awards going to first-time winners. That equates to over 1,000 new businesses doing business with the government every year.

The economic return on the taxpayer dollar has been enormous. Studies performed at the DOD and NIH have shown that every dollar invested in SBIR results in $20 to $30 in total economic impact[3]. The DOD's SBIR program has generated $2.50 in taxes for every $1 invested, while at the NIH that figure is $3.68, meaning the government is making more than double its money back on its SBIR investment. Thousands of firms have grown as well as licensed their technologies to larger firms, with over 2,000 SBIR-winning firms having been acquired, injecting their innovations and energy into larger companies. Several of the largest prime contractors have acquired more than 10 SBIR firms, including Lockheed Martin, RTX, and General Dynamics.

In addition to economic benefits, SBIR/STTR is helping the agencies fulfil their missions by tapping into the best, most innovative research and technology American small business has to offer. SBIR funds firms that have the infrastructure, expertise and ability to provide research and products needed specifically for the Government. It also funds thousands of firms at their earliest and most fragile state.

A recent National Academies of Sciences study at the NIH showed that SBIR/STTR awardees generated 12% of all new drugs approved, and 16% of "priority review" new drugs approved[4]. DoD has been using SBIR R&D to drive innovation and new concepts into large defense systems, e.g. substantial unmanned aerial vehicle advances and helping generate $500 million in F-35 cost-savings.

The innovation SBIR generates is needed now more than ever, as China has now exceeded the US in 57 of 64 Critical Technologies.[5] Not only has the US fallen behind China, is it is behind Europe as well. America needs to focus on improving our R&D funding, patent laws, and tax system. China's R&D expenditures have grown to almost as large as those of the U.S. ($723 billion vs.

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[3] Swearingen, Will and Jeffrey Peterson, *"National Economic Impacts from Air Force and Navy SBIR/STTR Programs, 2000-2013"; "1998-2018 National Economic Impacts from the National Cancer Institute SBIR/STTR Programs"; and "National Economic Impacts from the DOD SBIR/STTR Programs 1995-2018"* Techlink

[4] National Academies of Sciences, Engineering, and Medicine. 2022. *Assessment of the SBIR and STTR Programs at the National Institutes of Health*. Washington, DC: The National Academies Press.

[5] ASPI's two-decade Critical Technology Tracker: The rewards of long-term research investment, 28 August, 2024, https://www.aspi.org.au/report/aspis-two-decade-critical-technology-tracker

$784 billion for the U.S.), while the European Union is investing 20% of its R&D in small businesses[6]. Even France is now putting $13 Billion into "disruptive technologies".[7]

This is not the time to cut U.S. R&D investment. We should invest more optimally on new and emerging technology. Nascent and emerging small businesses are necessary to develop and market both entrepreneurs' and university technology and innovations. If we are going to change these tides and have America regain the world's leadership in technology and innovation, we need to take action. It is time to put our money where our innovation is, in small business. issue for small inventing businesses is the slow down of research funding. We must immediately reopen the valve for awarding contracts and grants and conduct reviews for new proposals, before we bankrupt too many new small businesses.

An essential part of SBIR's success is its competitive, merit-based structure. Innovation thrives on competition, and across government in FY2022, only 16% of SBIR Phase I proposals are funded, with only 31% of Phase II proposals funded[8]. This high level of competition ensures that, through SBIR/STTR, taxpayers are buying the very best research and technology that America's high-tech small businesses have to offer. And about half of projects that advance to Phase II eventually move on to Phase III toward becoming commercial products.

Another strength of SBIR/STTR is it invests early in innovation – well before VCs and banks will provide risk capital, with successful SBIR technologies often advancing to use VC and bank lending as they mature towards products. Also, SBIR innovation is directed across America's innovation opportunities, not just in VC-favored sectors such as software, internet, pharma, and telecommunication, but also in areas distributed across the country key to building good American jobs, such as manufacturing, defense, energy, and the environment. And while VC tends to be concentrated in a handful of states, SBIR/STTR funds small businesses in all 50 states, with all but five states receiving at least 10 awards.

[6] Horizon 2020 and the European Innovation Council pilot: a new dynamic for SMEs with breakthrough ideas, https://ec.europa.eu/programmes/horizon2020/en/area/smes

[7] **Jean Baptiste Su**, France Creates $13 Billion Disruptive Innovation Fund, Hopes To Become The Next Startup Republic, https://www.forbes.com/sites/jeanbaptiste/2018/01/17/france-creates-13-billion-disruptive-innovation-fund-hopes-to-become-the-next-startup-republic/#62fcc8e5405e,

[8] Small Business Administration. *SBIR/STTR Annual Report for FY2022* SBA Office of Investment and Innovation

While the SBIR/STTR program has proven to be, as the National Research Council stated, "sound in concept and effective in practice"[9], there are areas where the program can be improved and strengthened:

1. **Simplify and Streamline the Process**. The biggest obstacle to new entrants is the paperwork and complexity burden. Decades of requirement creep has made the solicitation process incredibly complex. For a small business owner with no experience in government contracting, simply understanding the dense legalese in most solicitations is daunting. Congress should insist on making solicitations simpler and easier to encourage more new firms to participate and to focus better on the innovations required by the agencies, not the paperwork. Sole-source standard contracts should be required by Congress for Phase II and III contracts to increase efficiency and lower administrative costs, as well as speeding the transition of new effective tools to the warfighter. Additionally, SBIR should be allowed to use Other Transitional Authority (OTA), or any other legal process for award vehicles. The agencies should develop model contracts and grants with the goal of providing contracts and grants together with the notice of award, which would save time, costs, and taxpayer expense.
2. **Grow the Program**. The SBIR/STTR allocation has not been meaningfully grown since the 2011 reauthorization increased SBIR from 2.5% to 3.2% of Federal extramural R&D and STTR from 0.3% to 0.45%. Given the outsize return on the taxpayer investment, it makes sense to increase both. DOD's Section 809 paper on streamlining defense acquisition recommended the SBIR set-aside be increased to 7%[10]. We also believe that the STTR allocation should be increased to 1%. Universities license 70% of their research with small business, and increasing the STTR would facilitate more transfer of university technology. Increasing both SBIR/STTR allocations will allow the government to better leverage small business' innovative capabilities without increasing federal spending at all. While America is at 3.6% overall, the European Union is investing 20% of its R&D in small businesses[11]. Even France is now putting $13 Billion into "disruptive technologies".[12]
3. **Permanence.** There have been at least 18 National Academy studies and dozens of GAO studies performed on the efficacy of the SBIR/STTR programs. It has proven time and time again that it has been tremendously successful both in delivering the research that agencies need in fulfilling their missions, and in the economic return to the taxpayer. The time has come to reauthorize the programs permanently, and give small businesses

[9]National Research Council. *An Assessment of the SBIR Program.* Washington, DC: The National Academies Press, 2008.
[10] DOD Section 809 Panel, Jan. 2018: "Report of the Advisory Panel on Streamlining and Codifying Acquisition Regulations", Sub recommendation 21b.
[11] Horizon 2020 and the European Innovation Council pilot: a new dynamic for SMEs with breakthrough ideas, https://ec.europa.eu/programmes/horizon2020/en/area/smes
[12] **Jean Baptiste Su**, France Creates $13 Billion Disruptive Innovation Fund, Hopes To Become The Next Startup Republic, https://www.forbes.com/sites/jeanbaptiste/2018/01/17/france-creates-13-billion-disruptive-innovation-fund-hopes-to-become-the-next-startup-republic/#62fcc8e5405e,

predictability and stability in knowing the programs will not be discontinued, or be subject to a lapse due to delays in reauthorization.

4. **Make Foreign Risk Management Provisions Transparent and Fair** – It is essential to keep research and technology generated by SBIR/STTR out of the hands of America's adversaries, but the processes should be transparent and fair. If a small business is flagged with a security concern by the risk management provision, it should be told what the nature of that concern is, and if there are ways it can be mitigated. Additionally, companies should be given an opportunity to correct any mistakes made by the agencies in the submitted funding round.

Congressionally Mandated Goals of SBIR

The SBIR program has four congressionally mandated goals:

1. stimulate technological innovation,
2. use small business to meet federal R&D needs,
3. foster and encourage participation by minority and disadvantaged persons in technological innovation, and
4. increase private-sector commercialization derived from federal research and development.

While there has been much focus on commercialization in recent years, it is only one of four. It is important that Congress avoids overemphasizing commercialization returns, because doing so may push the focus down the development path towards later-stage products, and away from the early-stage research where the most innovative technology is born.

Foreign Risk Management

Unlike other federal R&D programs, SBIR has always included requirements that it fund only small businesses in the United States, that are at least 50% owned by American citizens, and that the research be done in the US. SBIR/STTR's purpose from the very beginning is that the funding for the programs be used to produce research and technology that would benefit the United States, and America's small businesses.

To further strengthen security against America's adversaries attempting to steal SBIR/STTR technology, the SBIR/STTR reauthorization act passed in 2022 added requirements to establish foreign risk management programs to identify attempts from countries of concern to appropriate SBIR-funded technologies. Agencies have begun to implement these processes, but are still in the

early stages of implementation, and agencies are still determining best practices. The DOD issued a detailed policy memo establishing Department-wide processes that seem to be working well, and could be used as a model for other agencies.

DOD begun implementing these processes in June 2023, and since then the DOD has conducted foreign risk-based due diligence reviews on over 17,000 SBIR/STTR proposals.

- 2.9 percent (506) of total proposals flagged for potential security risks
- China was identified as country of concern in 78.5 percent (397) of identified proposals
- **Only a handful of awards were rejected due to foreign risk concerns**

As agencies continue to fine-tune their processes, there are some concerns from the small business community that SBTC would like to see addressed. Some firms have had their awards flagged under the foreign risk management without any reason given for the concern, or an opportunity to cure or mitigate. This is particularly true civilian agencies, which have less experience than the DOD at mitigating foreign risk concerns. It is essential that firms are made aware of why they have been flagged, so that they can address whatever the concern is and correct it. Not providing this feedback not only harms the small business, but it also makes the US innovative economy less secure from foreign influence.

Integrate SBIR with Primes and Programs to Unlock Transition

While SBIR has proven to do a tremendous job in bringing in new companies to government innovation, more needs to be done to help transition that technology into the marketplace or programs of record. Integrating SBIR technology with Prime contractors is essential to making that happen.

In the past decade there have been numerous new boards and offices created to advance innovation: Defense Innovation Initiative, Defense Innovation Unit, Strategic Capabilities Office, Defense Digital Service, Defense Innovation Board, Army Futures Command, Joint Artificial Intelligence Center, AFWERX, Naval Army Applications Lab, and the Rapid Defense Experimentation Reserve.[13]

Most of these efforts focus on the large end of the tech transition funnel: getting innovations submitted to and funded by DOD. Where they fail is not addressing the most important pathway for speedy technology transition to DOD: the large prime contractors. This is small end of the funnel. DOD Prime contractors determine what technology they want to put in their program of

[13] Brown, Mike. "The Big Disconnect: Defense R&D And Warfighter Capabilities" *Forbes.com*. March 26, 2024

record, and most of the time they would rather use technology they develop in-house, instead of looking outside for the best technology.

Unless the primes and DOD Program Managers are required to look outside for the best technology available, report on technologies they insert, and are given incentives to find and insert technology, the problems of technology transition at the DOD will continue. DOD can begin by requiring prime contractors and Program Managers to report on the SBIR and non-traditional firm technologies they adopt and provide incentives for the adoption of outside technologies.

The Army's Vista program is a good start, but much more has to be done. Transitions can also be advanced by better utilizing SBIR's rapid contracting capabilities and restarting the Rapid Innovation Fund. The law already requires prime to report of their use of SBIR technology (15 USC 638 (y)) but the agencies and SBA have not enforced the law. Additionally, more sole source Ph III programs will advance SBIR technology development making the technology more acceptable for prime implementation.

Further, contracting officer training is imperative to make sure they understand Congressionally mandated regulations, particularly the protection of SBIR Data Rights and the ability of the SBIR firms to keep their technology rather than being given to the world, as so many contracting officers prefer. This will also help keep the manufacturing of SBIR technology in the US.

Sec. 174 R&D Tax Expensing

In 2022 changes to the tax code went into effect that removed the immediate R&D tax deduction in Sec. 174 of the tax code, and replaced it with a 5-year amortization requirement. Deferrals on expenses for tax purposes have been crippling for SBIR firms, which are small and heavily focused on R&D innovation, and so face large added tax bills without cash or other earnings to offset. While the temporarily-added tax revenues from SBIR firms contribute very little to the federal budget, the firms that are hardest hit are the smallest innovators and the early-stage high-growth companies that are not yet making a profit, yet face huge added Sec 174 taxes, threatening their existence and limiting their ability to attract further loans and other investment. While the European Union and China are increasing tax benefits and support for R&D and small business, this cash penalty applied to America's SBIR entrepreneurs is stifling our earliest stage innovators.

The Market Loves SBIR

The federal agencies that fund SBIR research benefit tremendously from the technology that it produces. But SBIR-funded technology is also found in all sectors of the commercial marketplace. Here are some facts that show that SBIR makes a difference:

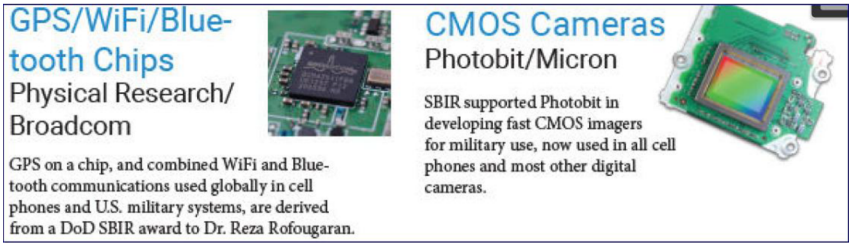
- Between 1996 and 2020, 99 new drug approvals (12% of all new drugs approved) were developed by firms that received SBIR/STTR funding
- Over the same period, 16% of "priority review" drugs, representing significant health advances over existing treatment, were developed by firms that received SBIR/STTR funding.
- 24,475 PMAs or 510 (k) were linked with SBIR/STTR
- Economic Impact studies of SBIR Phase II awards show a return on investment of between $22-33 for every dollar, depending on the agency, and these studies do not count major outcomes such as sales by licensees and acquirers of the new technologies.
- For every dollar invested in the SBIR/STTR program there are 11 dollars of commercial sales at NCI and 5 dollars of commercial sales at DOD.
- 10% of all VC investments go to SBIR firms
- The DOD Section 809 Panel Recommends doubling SBIR and RIF for DOD
- Universities license 70% of all their technology to small business, and are using SBIR and STTR to help get their technology into the market. VC have invested twice as much as the Government in SBIR firms
- 19% of IN-Q-Tel (DARPA) investments are in SBIR firms
- 829 SBIR related firms have gone public
- 2,120 SBIR firms have been acquired, injecting their innovations into larger companies
- L3 Com, GE, SAIC,BAE,Lockheed Martin, Raytheon, Gen Dynamics, Philips, Teledyne have each acquired 10 or more SBIR Firms. One firm, L3 Com has acquired 43 SBIR Firms
- Many SBIR companies have licensed their technologies, with the licenses reinvigorating the technologies of the typically larger and older-technology firms that are granted licenses.
- The SBIR/STTR Programs have been copied by seventeen countries around the world. While the SBIR/STTR program accounts for only 3.65% of the Federal extramural R&D budget over the last 4 years, SBIR has created 22% of our key innovations.

Patents

The current patent laws are a major barrier to the growth of SBIR firms. Laws such as the America Invents Act and the introduction of the Patent Trial and Appeals Board have killed claims; 85% + of patents experience invalidity of at least one claim and 65%+ see all claims nullified.[14] Supreme Court cases such as eBay, Alice, and many others have made it almost impossible for inventors to protect their creations. In order for small business inventors to help keep America competitive in world markets, they need Congress to undo the acts giving American SBIR created technology to multi-national corporations for commercialization in other countries, particularly China.

Success Stories

Technologies funded by the SBIR/STTR Program are used by millions of Americans on a daily basis, and at least two of these in your pocket or purse right now. The technology that allows cell phones to use GPS on a chip was developed by Dr. Reza Rofougaran under an SBIR award. And the fast CMOS camera technology used by most cell phones and digital cameras was developed for military use under an SBIR award as well.



Successful alumni of the SBIR program include: Qualcomm (cell phone communications), Symantec (computer security), Genzyme (biotech therapies), Affymatix (GeneChip), Amgen (biopharmaceuticals), Jarvick Heart (artificial heart), Titan (now Intersection, interactive computer graphics), Chiron (pediatric vaccines), AMTI (advanced materials, radars), Amorworks (military armor), Biogen (Idec, neurological, autoimmune therapies), American Biophysics (mosquito control), Millennium Pharma (gene databases), Geron (telomerase inhibitors for cancer treatment), Neocrine Bioscience (neurological and endocrine pharmaceuticals), ABIOMED

[14] Former Chief Judge of the Federal Circuit, Paul Michel, **How to Improve Patent Quality for Everyone—Fast,** https://ipwatchdog.com/2025/02/20/improve-patent-quality-everyone-fast/id=186307/

(world's smallest heart pump), Aerovironment (unmanned aircraft), iRobot (unmanned robotic vehicles, vacuum cleaning, Roomba), JDS Uniphase (fiber optics, lasers, software), Stem Cells Inc. (cell based therapies for CNS and liver disorders), and Nanosys (quantum dot displays), as well as thousands of others.

Phase III awards from government are another area of success. In recent years, the Navy has entered to $2.5 billion dollars of Phase III contracts, the Air Force over $1.5 billion contracts and the GSA has entered into contracts that could be worth $4 billion. All three agencies have shortened the time it takes to get some Phase III contracts awarded.

To view more SBIR/STTR success stories, visit https://www.sbir.gov/news/success-stories

Appendix

Table 1: DOD Recognized Phase III Obligations FY2018- FY2024 By Service[15]

	Navy	Air Force	Army	Big 3 Totals
2018	$809,618,488	$393,661,806	$175,278,883	**$1,385,384,688**
2019	$681,988,594	$535,842,600	$245,846,329	**$1,542,102,717**
2020	$910,962,564	$866,849,927	$246,644,585	**$2,225,111,809**
2021	$937,641,933	$886,789,759	$291,877,872	**$2,282,820,127**
2022	$1,091,967,844	$1,075,531,752	$311,843,338	**$2,730,167,580**
2023	$1,195,687,063	$1,547,05,5471	$293,837,077	**$3,390,000,915**
2024	$1,511,902,975	$1,735,033,938	$313,659,538	**$3,560,598,475**
Totals	**$7,139,769,461**	**$5,493,766,800**	**$1,878,987,622**	**$17,116,186,311**

[15] Data from Sam.gov

SBTC
Small Business Technology Council

Table 2: Mergers & Acquisitions of SBIR Firms

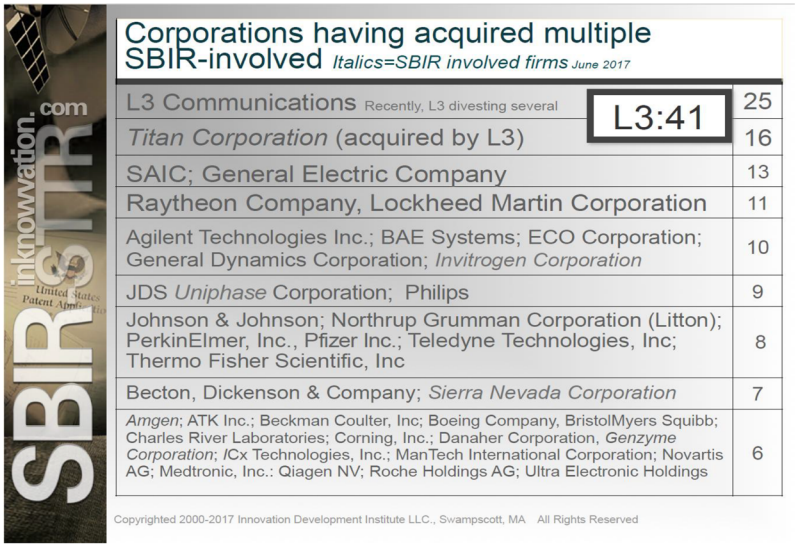
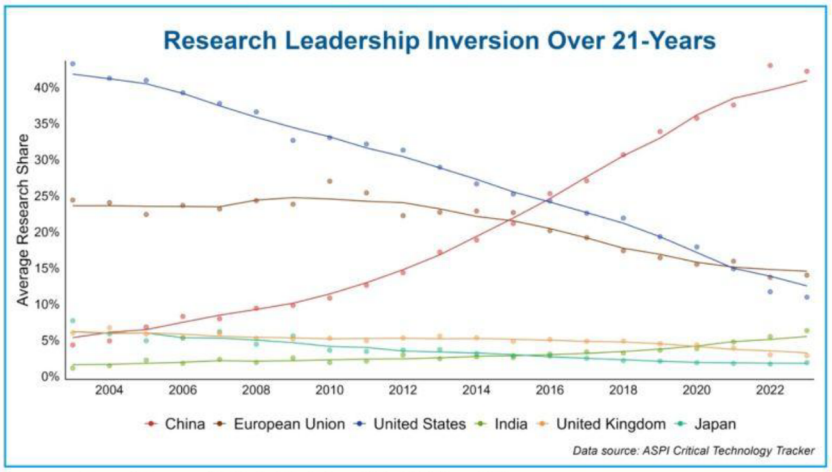


Table 3: US vs World in Research Leadership



Average annual research share across the 64 technologies between 2003 and 2023. Image: ASPI

SBTC
Small Business Technology Council

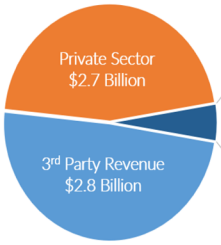
Table 4: Two SBIR Success Stories

Creare LLC SBIR/STTR Commercialization/Transition

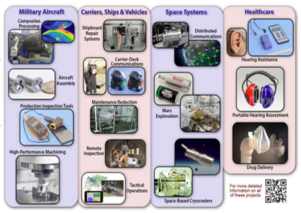
2

Private Sector: Phase III, Licenses, Product Sales

- Cryogenic Machining Technology for the High Productivity Manufacturing of Titanium Components
- Fastener Measurement Tool (FMT™): A Rate-Enabling Inspection Tool for F35 Production
- Wireless Audiometric Headsets (WHATS™) for In-Situ Hearing Evaluation
- Robotic Inspection Technology for Catapult Tubes on Navy Carriers
- Power Conversion Electronics for Next-Generation Combat Vehicles (NGCVs)
- Compact Swaging Machine for Navy Carriers
- High-Torque Fasteners (MORTORQ®) for Aerospace Assembly
- Corrosion Protective Coverings (Envelop®) for Navy Topside Assets
- NCS Cryocooler that Revived the Hubble Space Telescope
- Miniaturized Vacuum Pumps for the Curiosity Mars Rover and Future (ExoMars) Space Missions
- Edare LLC – A Creare Affiliate Focused on Low-to-Medium Volume Manufacturing of Creare-Developed Innovations for the Commercial and DOD Markets



Federal Sales $300 Million



3rd Party Revenue: Licensee revenue from Creare technologies

- MAG Industrial Automation Systems/5ME LLC – Cryogenic Machining Technology
- Shield Technologies Corporation – Envelop Coverings
- Phillips Screw Company - MORTORQ®
- FLUENT® Computational Fluid Dynamics Software Acquired by ANSYS®
- Mikros Manufacturing: A Leading Supplier of Ink-Jet and Fuel Injector Products
- FUJIFILM Dimatix – Inkjet Printheads for Commercial and Industrial Printing

1,243% Return on Federal SBIR/STTR Investment

2

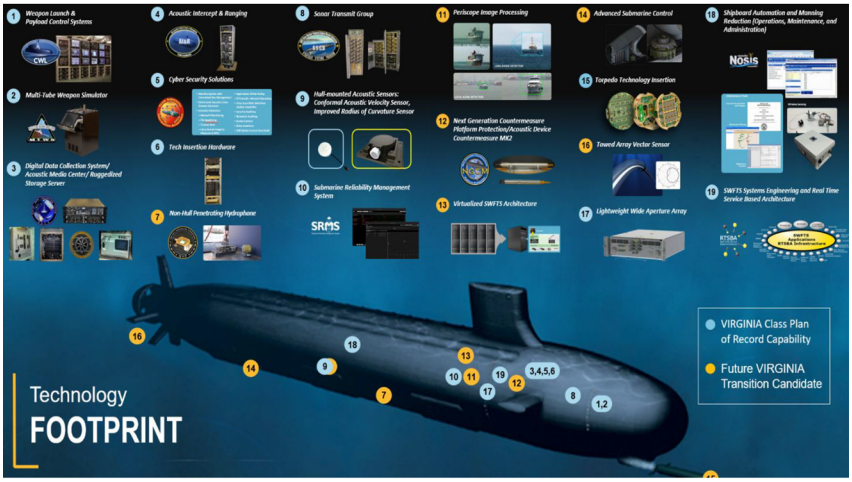


Table 5: Why SBIR Works: Designed for Success

- Federal R&D directed to solve Federal R&D challenges in support of agencies' missions
- Agencies select topics, select winners, make awards to meet their needs
- Merit selection based on science and technology
- Highly competitive: Only 1 in 20 proposals advances to the main Phase 2 R&D work.
- Leverages university research: some 50-70% of SBIR work is done either with direct university faculty involvement or employing former university faculty, focused into small business growth drivers.
- While performing R&D for Federal purposes, SBIR/STTR is simultaneously a unique seed fund for American technological innovation, stimulating early-stage innovation in pre-commercial technologies prior to stages at which Venture Capital or banks are interested.
- The impact on American industry is broad, not just on medical, software and IT, reinvigorating American industry from the ground up.
- At the same time, firms with SBIR-validated technologies attract subsequent VC investment as they advance towards products and market entry.
- American manufacturing on-ramp: SBIR focus on products is re-invigorating American manufacturing with a flow of new products designed and made in America.
- Small technologies businesses tend to grow their employment base in the US, and are less likely to outsource the jobs their technologies create.
- SBIR supports new startup formation and provides technical and commercialization business assistance, a virtual incubator for entrepreneurs across the country including in non-traditional locations for technology businesses including center cities and rural areas.

National Academies of Science Studies of SBIR

(5,522 pages)

1. National Academies of Sciences, Engineering, and Medicine. *Assessment of the SBIR and STTR Programs at the National Institutes of Health*. Washington, DC: The National Academies Press, 2022. (271 Pages)

   "The NIH SBIR/STTR programs provide a critical and dedicated channel through which small and young firms are able to contribute in a meaningful and sustained way to research and innovation aimed at advancing life sciences innovation and ultimately health outcomes."

2. National Academies of Sciences, Engineering, and Medicine. *STTR: An Assessment of the Small Business Technology Transfer Program.* Washington, DC: The National Academies Press, 2016. (339 pages)

   "STTR is meeting its congressional objective of fostering cooperation between small business concerns and research institutions, and does so in some respects to an extent that SBIR does not."

3. National Academies of Sciences, Engineering, and Medicine. *SBIR/STTR at the National Institutes of Health.* Washington, DC: The National Academies Press, 2015. (376 pages)

   "The NIH SBIR program is having a positive overall impact. It is meeting three of its four legislative objectives, namely, stimulating technological innovation, using small businesses to meet federal R&D needs, and increasing private sector commercialization of innovations derived from federal R&D."

4. National Academies of Sciences, Engineering, and Medicine. *SBIR at the National Science Foundation.* Washington, DC: The National Academies Press, 2015. (366 pages)

   "the Committee finds that with one exception the NSF SBIR program is meeting its overall legislative and mission-related goals."

5. National Research Council. *SBIR at the Department of Defense.* Washington, DC: The National Academies Press, 2014. (444 pages)

   "SBIR projects at DoD commercialize at a substantial rate."

6. National Research Council. *Venture Funding and the NIH SBIR Program.* Washington, DC: The National Academies Press, 2009. (140 pages)

   "In its recent assessment of SBIR, the Committee found that the concept of the program is sound and recommended that the basic program structure of SBIR be preserved. Accordingly, the Committee recommends that SBA and the agencies should maintain an open competition that is based on scientific quality and commercial potential."

7. National Research Council. *Revisiting the Department of Defense SBIR Fast Track Initiative.* Washington, DC: The National Academies Press, 2009. (212 pages)

"The Fast Track Program should be continued, given its success in encouraging firms with little or no prior SBIR experience to innovate and commercialize their product."

8. National Research Council. *An Assessment of the Small Business Innovation Research Program at the National Aeronautics and Space Administration*. Washington, DC: The National Academies Press, 2009. (344 pages)

   "The NASA SBIR program stimulates collaboration, technological innovation, and generates new knowledge"

9. National Research Council. *An Assessment of the Small Business Innovation Research Program at the National Institutes of Health.* Washington, DC: The National Academies Press, 2009. (456 pages)

   "The NIH SBIR program is making significant progress in achieving the congressional goals for the program."

10. National Research Council. *An Assessment of the Small Business Innovation Research Program at the Department of Defense*. Washington, DC: The National Academies Press, 2009. (468 pages)

    "SBIR is in broad alignment with the needs of the DoD agencies and components."

11. National Research Council. *An Assessment of Small Business Innovation Research Program at the Department of Energy*. Washington, DC: The National Academies Press, 2008. (256 pages)

    "SBIR awards from the Department of Energy fund the development of technologies that, otherwise, might have developed more slowly, if at all."

12. National Research Council. *An Assessment of the SBIR Program.* Washington, DC: The National Academies Press, 2008. (402 pages)

    "The SBIR program is sound in concept and effective in practice."

13. National Research Council. *An Assessment of the SBIR Program at the National Science Foundation*. Washington, DC: The National Academies Press, 2007. (366 pages)

    "The National Science Foundation's (NSF) Small Business Innovation Research (SBIR) program is adding to the storehouse of public scientific and technological knowledge."

14. National Research Council. *SBIR and the Phase III Challenge of Commercialization: Report of a Symposium*. Washington, DC: The National Academies Press, 2007. (200 pages)

    "the Small Business Innovation Research (SBIR) program is the nation's premier innovation partnership program."

15. National Research Council. *SBIR Program Diversity and Assessment Challenges: Report of a Symposium*. Washington, DC: The National Academies Press, 2004. (200 pages)

    "SBIR facilitates the development and utilization of human capital and technological knowledge."

16. National Research Council. *An Assessment of the Small Business Innovation Research Program: Project Methodology*. Washington, DC: The National Academies Press, 2004. (124 pages)

17. National Research Council. *The Small Business Innovation Research Program: An Assessment of the Department of Defense Fast Track Initiative*. Washington, DC: The National Academies Press, 2000. (372 pages)

> ***"The SBIR Program is contributing to the achievement of Department of Defense mission goals. Valuable innovative projects are being funded by the SBIR."***

18. National Research Council. *The Small Business Innovation Research Program: Challenges and Opportunities*. Washington, DC: The National Academies Press, 1999. (186 pages)

> ***"SBIR [has a] history of supporting not only the growth of jobs and the overall economy, but also the missions of participating agencies."***

Mr. Miryekta - *Small business innovators are increasingly vulnerable to adversarial exploitation through foreign investments. Although current requirements mandate Foreign Ownership, Control, or Influence (FOCI) disclosures before receiving SBIR and STTR awards, nothing effectively prevents these companies from accepting investments from entities tied to the Chinese Communist Party (CCP) after receiving federal funding. In your opinion, how can Congress close this loophole and ensure U.S. taxpayer-funded technologies are not falling into the hands of our adversaries?*

Congressman LaLota,

This is a great question and an excellent topic to develop. Thank you for asking it.

I believe the right way to close this loophole is through a two-pronged response. Both prongs depend on creating the right incentive structures. First and foremost, we must instill self-policing behavior within our own companies. Second, we must disrupt the CCP strategy. We will never overcome adversarial predatory behavior through simple policing of bad actors. The US has neither the resources nor the will to neutralize the thousands of CCP collectors and proxies in US. Even then, this would be working within the terms set by the CCP and a losing model.

The first prong of the response must be to incentivize good behavior within our own companies. Continuous monitoring should be required to ensure SBIR, STTR, USG contract recipients, and CFIUS reviewed companies do not engage in adversarial technology transfer or influence operations after being assessed by the foreign ownership, control, and influence (FOCI) due diligence teams. This mission will require resources and while it focuses on safeguarding developing capabilities, Congress can also amend the Foreign Agent Registration Act (FARA) to disincentivize this behavior and obstruct the CCP's strategy.

Continuous monitoring is a daunting task due to the number of recipients of federal grants and contracts and it should be incrementally implemented. I suggest the USG starts with a continuous monitoring program that sets realistic goals: for example, spot checks for 20% of recipients with an additional 20% added each year. The penalties for companies in violation must be intensified to create self-policing behavior, which is the only way to neutralize the CCP's strategy with its multitude of collectors and abundance of resources.

The second prong must work to modify CCP strategy. To achieve this, please consider a Foreign Adversarial Agent Registration Act (FAARA) or amendment to the FARA with an emphasis on civil prosecutions. I believe this would be extremely effective. The CCP creates $90m-400m funds out of thin air in the US. Criminal prosecutions are extremely rare with tech transfer agents and agents of influence and active measures as the tradecraft used by foreign agents makes reaching the *beyond-a-reasonable-doubt* threshold of criminal cases very hard to reach. However, reaching the 51% threshold of *preponderance-of-evidence* of a civil case is much easier to obtain in relation to CCP technology transfer agents and agents of influence. More importantly, if even a few moderate-to-large CCP funds get drained by civil suits in the US, this will modify behavior and we are likely to see the CCP stop creating large funds in the USA. In the CCP context hemorrhaging resources is considered a sign of incompetence which is the Party's Achilles heel. The CCP values their capital far more than their personnel and this would

very likely deny the CCP a long-used and effective exploitation channel and modify their behavior.

Naming and shaming has also been highly effective in thwarting adversarial activity and creates discord amongst CCP actors. In my experience in the field, I noticed that no American, no matter how pro-CCP, wants to be labeled a registered adversarial agent. Furthermore, I observed a real guilt complex from the ethnically Chinese who have thrived on US soil when forced to face that they are doing harm to the American way of life. DoD's 1260H list announces commercial enterprises that assist the People's Liberation Army. By doing so, not only are listed entities blocked from the DoD, but their industry colleagues keep a very sharp eye on them. They become commercially ostracized and reported on when they act against US interests. The same paradigm can be created with CCP agents of influence. The root of CCP legitimacy is in its success modernizing China. To highlight their incompetence throws them into disarray.

To change the paradigm of the USG nurturing technologies which are then vulnerable to transfer by adversarial actors Congress has the power to write laws to create self-policing behavior for both CCP actors and their US proxies with a focus on identifying them as agents of the CCP and targeting their capital.

Dr. Marinelli – *Can you elaborate on how the risks of 'commoditizing' our technological capabilities to a level where they become indistinguishable from commercial products, making them easily replicable by our adversaries, threatens our national security and what steps we should take to ensure that cutting-edge innovations—particularly those funded through SBIR and STTR—retain their strategic advantage and are not easily exploited by foreign adversaries like China?*

Response from Dr. Marinelli

Congressman LaLota, thank you for your question. The primary concern is the ability of our adversaries to reverse-engineer commercial technology by purchasing a sample or through the related published patents. China has an industrialized economy, and a significant science and engineering technology base, much of it educated in the US, that routinely engages in this activity. The suspicion that the Chinese Large Language Model *DeepSeek* is built on Open AI's ChatGPT is only the latest example of this form of technology transfer.

Explicit in the drive to bring more venture capital into the Defense Industrial Base is the need for defense-specific technology to have a commercial variant that allows the sales of the resulting product to scale in quantity to a level that allows the venture investors to recover their investment.

Quoting for the recent Defense Industrial Board study entitled SCALING NONTRADITIONAL DEFENSE INNOVATION**:** "*Despite successfully developing innovative solutions, these vendors struggle to scale quickly to meet the needs of the warfighter while satisfying their investors.*" The report further states that "*expanding the defense industrial base, must be accompanied by a corresponding effort from the DoD to adapt its innovation funding model to better support the integration of commercial, dual-use technologies into its existing systems.*" Finally, if scaling is not achieved the report concludes that "*sustaining this momentum will require more "wins" (or "points on the board," as DIU Director Doug Beck frequently underscores) to justify continued investment.*"

It should be noted that the attempt to employ "dual-use" in defense technology was a widely acknowledged failure of the Clinton Administration as an attempt to reduced defense expenditures after the collapse of the Soviet Unition – long before the rise of China as an industrial competitor.

Hence, our concern is that:

1. The venture capital funding model inherently exposes innovative defense technology to our adversaries through the dual-use scaling imperative.
2. Our adversaries, and explicitly but not exclusively China, have the ability to rapidly reengineer and manufacture the technology to a form that negates our advantage without incurring much of the development cost. This process is the "commoditization" of that technology.
3. Our forces will be denied the "third offset" advantage as a result of this strategy, potentially fighting a war against China, closer to their supply chain and against armed forces that enjoy a 4:1 population advantage in fielding those forces.

February 20, 2025

Dear Chairman Williams and Ranking Member Velazquez,

We write to request a formal waiver to allow us to sit on the Committee on Small Businesses Hearing on Wednesday, February 26th entitled, "*Fostering American Innovation: Insights into SBIR and STTR Programs*."

As Chairman and Ranking Member of the House Select Committee on the Chinese Communist Party (CCP), we have been deeply engaged in efforts to counter the theft of U.S. technology by People's Republic of China (PRC) companies and individuals and to strengthen research security at American universities. Given these priorities, we would welcome the opportunity to waive on to your upcoming hearing, which is critical to ensuring that technology developed through SBIR and STTR grants—funded by American taxpayers—is safeguarded against intellectual property theft by the PRC.

We greatly appreciate the opportunity to provide opening statements and question the witnesses being bought before your important Committee.

Sincerely,

John Moolenaar
Member of Congress

Raja Krishnamoorthi
Member of Congress