



**Testimony of John Williams
Director of Innovation and
Technology
Office of Investment and Innovation
U.S. Small Business Administration**

**before the
House Committee on Small Business**

**Hearing on “Small Business Innovation Research and Small
Business Technology Transfer Programs”**

March 8, 2022

Testimony of John Williams
Director of Innovation and Technology
Office of Investment and Innovation
U.S. Small Business Administration

Good morning, Chairwoman Velázquez, Ranking Member Luetkemeyer, and distinguished members of the committee. Thank you for the invitation to discuss the nation's Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) Programs, and the role the Small Business Administration has in leading them. SBA's mission is to help small businesses start, grow, and expand. And within the Office of Innovation and Technology we deploy resources, training, and policy that ensure the most innovative small businesses and startups have the opportunity to compete for federal research and development funding. Our role is to build a national inclusive innovation ecosystem that supports all innovators so that the best and brightest can succeed. The SBIR and STTR programs, which we like to refer to as America's Seed Fund, function as the heart of this ecosystem.

I've had the personal pleasure of devoting more than 35 years to public service. In the first 10 of those years, I worked at a Navy Lab managing advanced manufacturing projects, many executed by our largest defense prime contractors. I then moved to the Office of Naval Research where I was first exposed to the SBIR program and got the opportunity to work with small business innovators who demonstrated a unique drive and passion for advancing innovation and transitioning technology. These small business innovators ignited a passion within me and provided a fulfilling opportunity to work directly with them managing numerous SBIR and STTR projects before serving 15 years as the Director of the Navy's SBIR/STTR and Technology Transfer program offices.

During my time at the Navy, my primary focus was on helping small firms transition their technology into Navy systems and platforms. To support their navigation of the complex Federal acquisition processes, we developed special programs that provided awardees with business and commercialization assistance that culminated in an annual innovator showcase. This showcase facilitated exchanges between entrepreneurs and the follow-on funding sources within the Department of Defense (DoD), the largest prime system integrators, and other marketplace stakeholders. These initiatives were especially valuable to the more geographically rural and new program entrants. Through these, and other initiatives, the Navy led DoD in Phase III funding throughout my tenure.

In 2014, I excitedly accepted the opportunity to serve as the Director of Innovation and Technology at the SBA, with responsibility for leading the coordination of the SBIR and STTR programs across all the federal agencies.

The Office of Innovation and Technology supports SBA's mission, and our nation, by ensuring that innovative US-based high-tech startups and small businesses have the tools, resources, and support to start, grow, and expand. We do this by working to ensure that America's Seed Fund (the SBIR/STTR programs) provides a competitive funding opportunity for our innovators. This includes establishing policy, providing federal-wide program oversight and

monitoring, and increasing awareness through outreach – with a particular emphasis on underserved geographic and demographic communities.

Additionally, we work with participating agencies on data-gathering and reporting, and provide significant training to tech entrepreneurs, external organizations, resource partners, and others across the federal government through our Train-the-Trainer initiative. We manage the SBIR.gov platform, which is designed to be a one-stop shop for potential applicants, but also provides transparency into the awards made by the Federal agencies. SBA also provides direct resources to innovation ecosystem support organizations that provide innovative startups the pre-launch, mentoring, and scaling support they need to successfully win SBIR or STTR awards.

Our current funded innovation ecosystem partners include 84 Growth Accelerator Fund recipients distributed across 43 states, the District of Columbia, and the territories. The Growth Accelerator Fund conducts a prize competition for accelerators and incubators to speed the launch, growth, and scale of high-tech small businesses. We also manage the Federal and State Technology (FAST) Partnerships program with awards in 32 states and Puerto Rico. Through FAST, we provide funding and guidance to organizations executing state/regional programs with a focus on increasing the number of SBIR/STTR proposals leading to successful awards, with a specific focus on underserved geographic areas, women, and socially or economically disadvantaged individuals. Central to our innovation ecosystem-funded programs are the SBIR and STTR programs, America's Seed Fund.

America's Seed Fund provides competitive, merit-based opportunities for innovative, US-based small businesses to pursue high-risk scientific and research endeavors with a focus on commercialization. These programs are a critical component of our national innovation ecosystem, facilitating job creation, de-risking technologies – often at the pre-seed stages – while addressing significant societal and national defense requirements.

America's Seed Fund represents the nation's largest source of non-dilutive seed funding, meaning these investments do not require companies to sacrifice equity in their small business. Across the 11 participating Federal agencies more than \$4 billion is provided through competitive awards to US-based companies, owned and operated by US citizens, with 500 or fewer employees, annually. The structure of the program, which has been maintained over its 40-year history, works optimally. It requires Federal agencies with an extramural research and development budget of more than \$100 million to expend 3.2 percent with innovative small businesses. Federal agencies with an extramural research and development budget of more than \$1 billion are required to expend an additional .45 percent with innovative small businesses that partner with non-profit research institutions. This program structure means the SBIR and STTR programs do not require separate appropriations, and therefore, do not result in additional costs to the taxpayer.

The funding is provided in phases, with multiple layers of competition. Initially companies compete for a Phase I award, ranging from \$50,000 to \$275,000 to fund 6 to 12 months of proof-of-concept research. After completing Phase I, innovators compete for a Phase II award, ranging from \$400,000 to \$1.8 million for prototype development, completed over 12 to 24 months. The Phase I and Phase II SBIR or STTR award creates the opportunity for Phase III, non-SBIR/STTR funding for the government to acquire, transition, or further the development of the projects.

Last year, America's Seed Fund, through the 11 participating agencies, provided \$4 billion in non-dilutive funding across more than 7,000 awards—with winners in every state. These investments supported more than 4,000 innovative startups and small businesses, de-risking advanced technologies that address societal and national defense needs that go on to find commercial success. Importantly, over the last few years, nearly half (46%) of these firms are First-Time program winners. Bringing new entrants into the program, especially women, and socially or economically disadvantaged individuals, and individuals from underserved geographic areas, including our rural communities, has been a priority for SBA. Since I started this position, the percentage of new entrants has increased more than 30 percent.

Importance of Extending these Programs Today

For nearly 40 years, the SBIR and STTR programs have served as critical and needed innovation seed funding for US-based advanced technology firms. The programs have been studied, extensively. The National Academies of Sciences and Engineering and Medicine (NASEM) have completed over 20 studies and continue to document that these programs are highly competitive, and a critical tool used to convert American research into next-generation technologies. As mentioned previously, the program is designed in a way to not add to taxpayer costs, but instead, to increase competition within the federal research and development marketplace by leveraging the ingenuity of small high-tech companies.

When I think of these programs, I wholeheartedly believe that every proposal and award is an opportunity to enhance our national innovation competitiveness. That's why I thank the Committee, especially Chairwomen Velázquez and Ranking Member Luetkemeyer, for their support to ensure that the SBIR and STTR programs and current pilot initiatives are extended as-is, while the Committee continues its work on a fuller reauthorization.

Under current law, SBIR and STTR will expire at the end of September of this year. The time from a solicitation opening to the Phase I's being awarded spans between six and twelve months. My concern is that, if Congress does not extend the programs soon, agencies may start to delay new solicitations due to the potential that the SBIR and STTR program authority will expire. This would create a gap in new starts that cannot be made up.

Federal offices executing the programs will face inefficiencies but can also absorb the impact of the uncertainty and instability to some degree. The real burden will fall heavily on small business innovators, especially new program entrants.

I still recall the consternation and concern from small businesses and the bureaucratic challenges for agencies that resulted from the 14 short-term extensions to the programs between 2008 and 2011. Through an extension of the programs and legislated pilots months in advance of the authorization deadline, we can provide stability and certainty around America's Seed Fund and keep the focus on funding the most promising innovators to bolster American competitiveness while the Committee continues its important work on a broader reauthorization.

America's Seed Fund, throughout its 40-year history, has supported and contributed to entities like Qualcomm, Intuitive Surgical, Illumina, 23&Me, iRobot, and Sonicare. I am a strong advocate for these programs because I see how this funding supports our nation's people, enhances

our national defense capabilities, and supports the discovery of significant health innovations. Here are a few examples:

Attracting and Supporting the Brightest Innovators

Jennifer Doudna, Ph.D. and Rachel Haurwitz, Ph.D., co-founded Caribou Biosciences to commercialize the pioneering biopharmaceutical research in 2011. SBIR funding was a part of their journey when the company received two Phase I awards, one from the National Science Foundation (NSF) and one from the National Institutes of Health (NIH) in 2013. In 2020, Dr. Doudna was recognized with the award of the Nobel Prize in Chemistry. While the credit of this work is solely that of Dr. Doudna, and her collaborators – it is illustrative of the type of innovators the SBIR and STTR programs attract.

National Defense Capabilities

An often-overlooked benefit of the SBIR and STTR programs are their ability to provide innovative, cost-saving, capabilities for our national defense. One such example is the Navy’s USS Virginia (SSN) Class attack-submarine. The Navy’s Program Executive Office for Submarines strategically uses the SBIR and STTR programs as a tool for risk reduction, innovative technology insertion, and replacement of obsolete components, and, possibly most importantly, to establish competition where there was none. The Virginia Class submarine features nearly 40 different SBIR/STTR technologies representing more than \$1.5B in Phase III investments.

Propelling Societal Health

The National Academies of Science, Engineering, and Medicine recently completed an assessment of the SBIR and STTR programs within the National Institutes of Health (NIH) and documented that the SBIR and STTR programs supported the development of, “99 drugs between 1996-2020 — a total that includes 16 percent of all such treatments that made a ‘significant’ advance over other available treatments.” To put these contributions in drug development in context, SBIR/STTR is less than four percent of NIH’s extramural R&D budget and NIH R&D is just part of total U.S. spending on drug-related research, which is also funded by foundations, businesses, and other agencies.

While I often share that the Department of Defense found a 22:1 return on investment of its SBIR/STTR programs, I believe it’s also helpful to think of these investments as tools to attract and support our brightest innovators, enhance our national defense, and generate societal benefits.

I thank you for this opportunity to appear before you today, and I look forward to working with the Committee as you reauthorize these important programs.