



Testimony of

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*Executive Director  
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Before the  
**United States House Small Business Subcommittee on  
Economic Growth, Tax and Capital Access**

**SBIR: Small Businesses Innovating America**

*April 16, 2024*

*On behalf of*

**The Small Business Technology Council**

[www.sbtc.org](http://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.*



Chairman Meuser, Ranking Member Landsman, members of the Committee, thank you for the opportunity to appear here today to discuss the importance of technological innovation to the United States, and role that SBIR and STTR plays in it.

I am Jere Glover, Executive Director of the Small Business Technology Council (SBTC) of the National Small Business Association (NSBA), in Washington, DC. 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.

When Arthur Obermayer was inducted into SBIR Hall of Fame at the White House as one of the key founders of the SBIR Program, he stated that next to the GI Bill after WWII, SBIR was the most significant pieces of legislation ever passed by Congress. After considering his comments, I'm inclined to agree with him.

Today, the SBIR program is the most successful innovation program in government. It has helped fund some of the most important new technologies in the world while generating massive economic returns, while using only 3.5% of the government's extramural R&D spending. Technologies you use every day were developed with SBIR funding, including the GPS on a chip and CMOS camera systems in your smart phone. SBIR is also the principle on-ramp for small businesses to enter the government innovation ecosystem, with around 40% of awards going to first-time winners. That equates to roughly 1,500 new businesses into SBIR every year.

The SBA, on the whole, has done a very good job of managing the SBIR and STTR programs, but they are severely understaffed. Today, the SBIR/STTR is nearly \$5 billion a year, but SBA's SBIR office has fewer employees now than when the program was less than \$1 billion a year. The office needs more manpower and funding to efficiently manage the program, and perform the duties that Congress requires of them.

One area that the programs could be improved is in the length and complexity of the solicitations, which place a huge paperwork burden on small businesses, particularly those who have not participated in the program before. Over the years requirement and regulatory creep has seen solicitations balloon to as much as 90 pages, and are often filled with dense legalese and regulatory jargon. Streamlining and simplifying the solicitation process would be the most impactful thing Congress could do to encourage new and non-traditional businesses to enter the program.



A second area for improvement would be increased focus on successful outcomes and transitions to new product and services, to further develop how best to recognize and advance the results of this highly productive program. Federal R&D through SBIR provides a country-wide incubator for new technology solutions needed by the Federal government and the economy.

## **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.
- 34 new medical devices and 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.
- 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
- Secretary of Defense Austin has recommended doubling down on SBIR/STTR
- 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
- 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 DOD Section 809 Panel Recommends doubling SBIR and RIF for DOD
- 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.



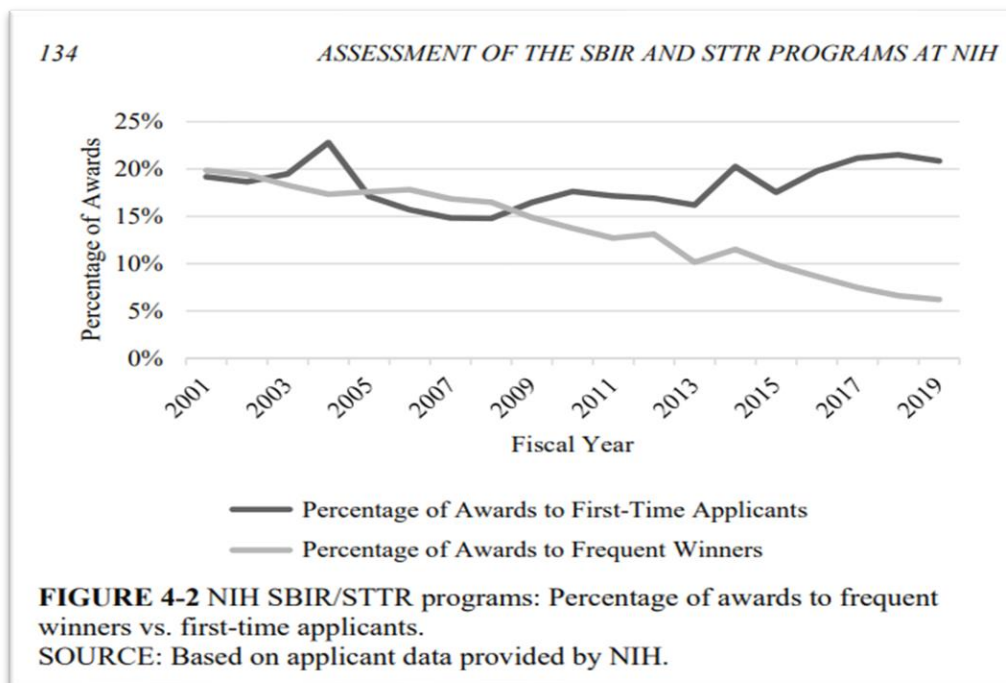
## **Why SBIR Works: Designed for Success**

- 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 select industries like medical, software and IT. SBIR R&D reinvigorates 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.

## 2022 NAS Study on SBIR/STTR at NIH<sup>1</sup>

The most recent study of the SBIR program conducted by the National Academies of Science shed light on just how important SBIR is to the NIH innovation ecosystem. With only 3.5% of extramural R&D funding at NIH, the NAS found that companies in the SBIR/STTR programs “have introduced medicines that have had a profound impact on health and associated sales in the hundreds of millions of dollars.” Some of the other findings from this study include:

- From 1996 to 2020, SBIR/STTR awardees have introduced 99 new drugs. This accounts for 12% of all new drugs approved
- Over the same time period, SBIR/STTR awardees generated 16% of “priority review” new drugs approved
- Over the same time period, SBIR/STTR Awardees introduced 13 PMA and 2,475 510(k) approved medical devices. They also produced 8,974 trademarks.
- NIH also found that “small businesses that participate in the NIH SBIR/STTR programs, regardless of whether they are ultimately funded, have a higher potential for growth relative to the average small business in the United States, even after accounting for the fact that these firms are concentrated in high-tech sectors.”
- Data also showed that more awards are being made to first-time applicants



<sup>1</sup> 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.

## 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.

<p><b>GPS/WiFi/Bluetooth Chips</b> Physical Research/ Broadcom</p>  <p>GPS on a chip, and combined WiFi and Bluetooth communications used globally in cell phones and U.S. military systems, are derived from a DoD SBIR award to Dr. Reza Rofougaran.</p>	<p><b>CMOS Cameras</b> Photobit/Micron</p>  <p>SBIR supported Photobit in developing fast CMOS imagers for military use, now used in all cell phones and most other digital cameras.</p>
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Successful alumni of the SBIR program include: Qualcomm (cell phone communications), Symantec (computer security), Genzyme (biotech therapies), Affymatrix (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 (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.



## National Cancer Institute Economic Impact<sup>2</sup>

### One agency's remarkable success story

The recently finished SBIR/STTR economic impact study for the National Cancer Institute showed a return of \$3.68 in taxes for every dollar invested. (It's like printing money without the inflationary effect.) New innovations, good jobs, and we get back more in taxes than we invested. The study looked at 12 years and 690 NCI Phase II SBIR/STTR awards totaling \$787 million dollars to develop new medical devices, drugs, research tools and in-vitro diagnostics for treating cancer. The results were \$9.1 billion in sales, \$2.9 billion in tax revenues, and 107,918 new jobs, as well as 45 spinouts, 103 licenses, \$4.26 billion in added outside investment, and 103 of the companies being sold for another \$21 billion to invigorate the larger companies looking for new technologies. SBIR is a GDP and jobs engine producing high leverage economic power. SBIR success stories were for Breast, Lung, Prostate and multiple other cancers. There are literally thousands of success stories here, and all of our lives are better for them.

<i>*dollar amounts in millions</i>	NCI ('98-'10)	
<b>Total Awards</b>	690	
<b>Total SBIR/STTR Award Investment</b>	\$787	
<b>Rate of Commercialization</b>	53%	
<b>Cumulative Sales</b>	\$9,144	\$11:1
<b>Follow-on R&amp;D</b>	\$957	\$1.2:1
<b>Total Value of Acquired Firms</b>	\$21,630	\$27:1
<b>Total Outside Investment Funding</b>	\$4,260	\$5:1
<b>Total Economic Output</b>	\$26,100	\$33:1

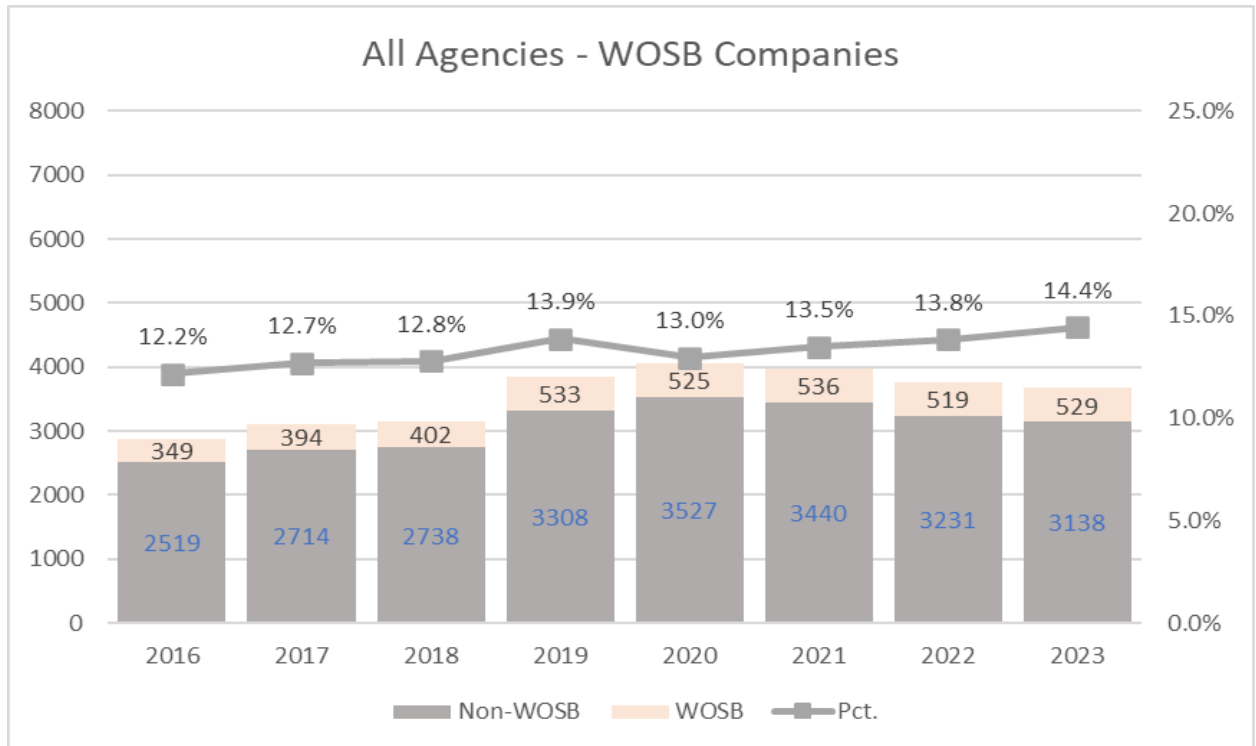
### DOD SBIR/STTR Has Also Had Tremendous Economic Impacts



<sup>2</sup> National Economic Impacts from the National Cancer Institute SBIR/STTR Program. Techlink, Inc; 2021

## Women and Socially and Economically Disadvantaged Participation<sup>3</sup>

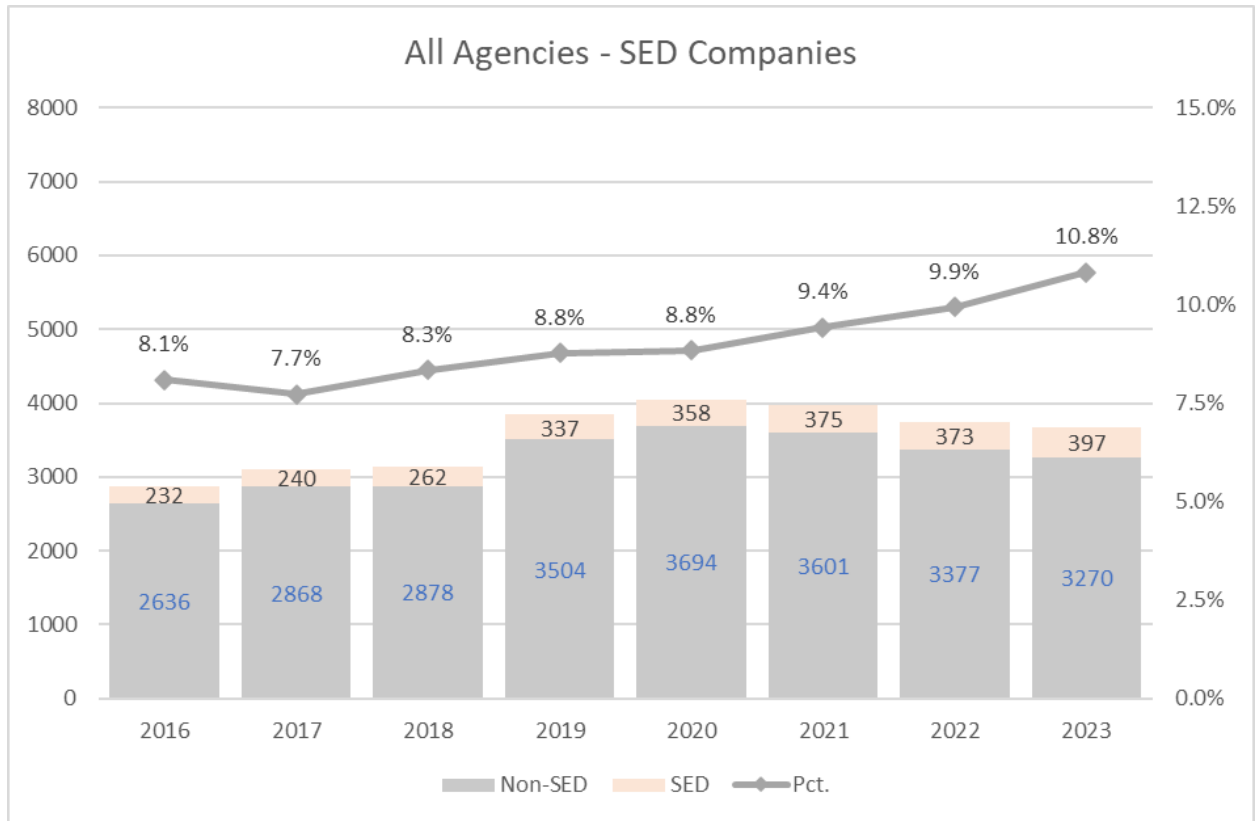
- SBA and the Participating Agencies continue to enhance outreach and provide resources to support women-owned and socially and economically disadvantaged small businesses to participate in the SBIR/STTR Program.
  - In 2020, SBA’s Office of Investment and Innovation (OII) partnered with the National Women’s Business Council (NWBC) to study’s Women’s Inclusion and Participation in the SBIR and STTR Programs ([https://nwbc.gov/wp-content/uploads/2023/11/Women-In-SBIR-Report\\_NWBC\\_Final\\_2020-08-07.pdf](https://nwbc.gov/wp-content/uploads/2023/11/Women-In-SBIR-Report_NWBC_Final_2020-08-07.pdf)).
  - Between 2011 – 2018, that study found:
    - 13.3% of Phase I awards went to WOSB.
    - The study also found that 13.1% of Principal Investigators (those leading the scientific research and development efforts) are Female, across all companies (WOSB and Non-WOSB).
  - Based on publicly available data on SBIR.gov, the share of WOSB receiving is the highest it’s been in recent history, in 2023 14.4% of SBIR and STTR awards went to WOSB.



<sup>3</sup> Data and info from Small Business Administration Office of Innovation



- Awards to Socially and Economically Disadvantaged Small Businesses are also on an upward trend, with 10.8% of SBIR/STTR Awards going to such firms in 2023 – again amongst the highest in recent years.



- Targeted Outreach, Education, and Engagement
  - A number of outreach initiatives, including the SBA-led and coordinated SBIR/STTR Road Tours – which bring agency representatives into underserved areas (geographic and demographic) to raise awareness about the programs in partnership with Federal and State Technology Partnership (FAST) program recipients. The SBA provides both a week of virtual outreach and engagement and has recently re-launched the in-person tours and have already visited 10 states and Puerto Rico since July 2023, and will visit another 10 states by the summer.
  - Applicant Assistance and Phase 0 Programs – have also been implemented using administrative pilot program funding to help new applicants, including women and socially and economically disadvantaged companies. While not totally attributable, the NWBC women-study noted



## 2024 GAO Report on Multiple Award Winners<sup>4</sup>

As part of the 2022 SBIR and STTR Extension Act of 2022, The Government Accountability Office was required to perform a study into the performance of firms that have won 50 or more Phase II awards between 2011 and 2020. The report, released in March 2024 reinforced the need for both new and experienced firms in the SBIR ecosystem. It noted that experienced firms often provided capabilities and resources that newer firms couldn't provide. From the report (pg 16):

*“Officials from six agencies with the highest percentages of awards to multiple awardees said that multiple awardees have helped meet their specific R&D needs.<sup>26</sup> The officials provided several explanations for why multiple awardees may be well-suited to meeting their agencies’ R&D needs, but they did not cite any specific metrics as part of their explanations:*

**Alignment with needs.** *Department of Energy (DOE), DHS, DOD, and NASA officials said that multiple awardees often work in niche areas that align with agency R&D needs. For example, NASA officials said few businesses have expertise in heliophysics—the study of the sun and how it affects space.*

**Experience.** *DHS, DOD, and NASA officials said that multiple awardees may better understand federal R&D needs because of past experience with the SBIR/STTR programs.*

**Resources.** *DOD, DOE, and NASA officials said that multiple awardees may have more resources than other awardees, which may be used for proposal preparation and equipment investments. DOE officials said that startups may not have the laboratories, equipment, and other necessary physical capital that multiple awardees have.”*

The report also strongly pushed back against the argument that the presence of multiple award winners made SBIR less competitive (pg 9):

*Multiple awardees, which represented less than 1 percent of all Phase II awardees (22 of 6,865), received approximately 10 percent of Phase II awards and dollars from FY 2011 through 2020 (see table 2). For information broken out by each business, see appendix III. However, we found that the SBIR/STTR award process was competitive, based on a common measure of market concentration.*

*We found that the SBIR/STTR programs had a Herfindahl-Hirschman Index (HHI) value of 11 and 10 for Phase II awards and dollars, respectively, from FY 2011 to 2020. HHI approaches zero when a market is occupied by a large number of firms of relatively equal size and reaches its maximum of 10,000 points when a market is controlled by a single*

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<sup>4</sup> Government Accountability Office (2024) *SMALL BUSINESS RESEARCH PROGRAMS: Increased Performance Standards Likely Affect Few Businesses Receiving Multiple Awards*. GAO-24-106398



*firm. HHI values greater than 1,800 indicate highly concentrated markets that may lack sufficient competition. To calculate HHI, we squared the market share of each small business—in this case measured by the number of Phase II awards or award dollars each business received in the period we reviewed—and then summed the resulting numbers.*

## **Need to 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.

In recent years, many efforts have been made by various defense components to speed up technology transitions from high-tech small businesses. Focusing on Dual-use commercial technology, use of other transaction authorities, or OTAs, and enticing Venture Capital-backed firms with matching funds are some of the ways that the DoD and its services have tried to accelerate technology transition and insertion.

In addition, in the past decade there have been numerous board 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.<sup>5</sup>

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 in 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 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.

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<sup>5</sup> Brown, Mike. "The Big Disconnect: Defense R&D And Warfighter Capabilities" *Forbes.com*. March 26, 2024

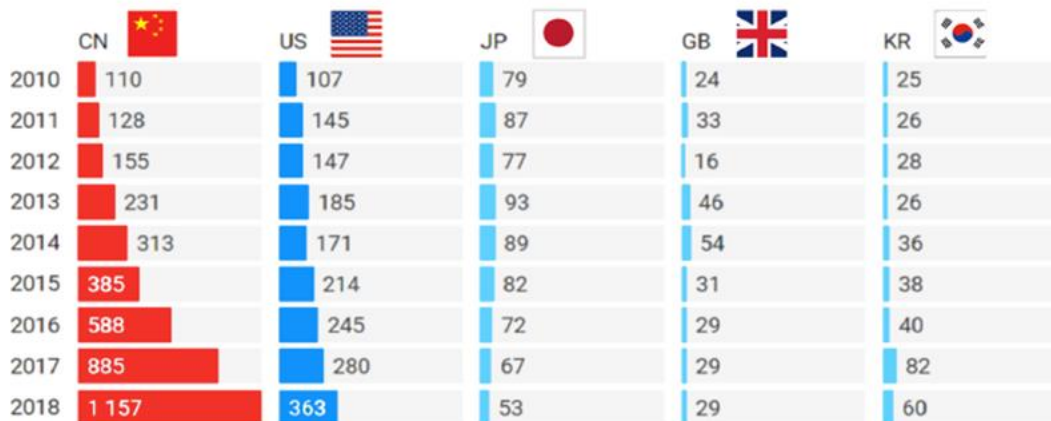
## U.S. Innovation Leadership in the World is Challenged

When the SBIR was created, the United States was the undisputed leader in innovation. All venture capital was invested in U.S. companies and we had a very strong patent system. Today our leadership in innovation is threatened, other countries are doing more to support small business and innovation in their countries. The European Union has committed to investing 20% of its R&D in small businesses.

France has created a \$13 billion dollar fund. China is eating our innovation lunch. American venture funds are investing in Chinese firms; China has close relationships with many U. S. universities to develop U.S. funded technology and even has a \$616 million fund to commercialize U.S. university research. America has dropped to #11 in the Bloomberg Innovation Index. Foreign firms file more patents in the U.S. than resident firms. The need for SBIR and its ability to supercharge American innovation has never been greater.

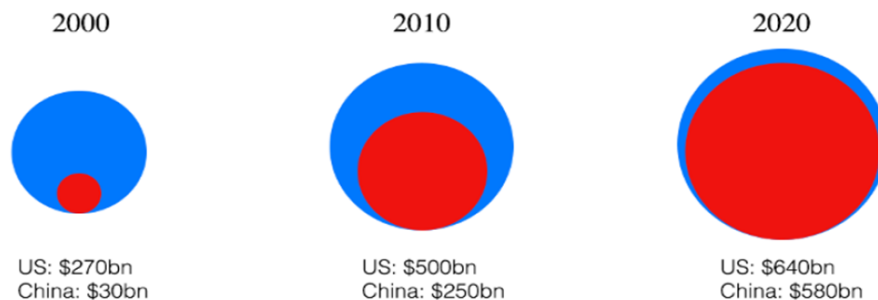
### Quantum Patents Per Year

Source: "Quantum Technologies Patents, Publications & Investments," Le Lab Quantique



### U.S. and China Gross Expenditures in R&D

Source: AMACAD "The Perils of Complacency"; OECD Main Science and Technology Indicators



\*In billions U.S. 2020 dollars

<https://www.csis.org/analysis/chinas-pursuit-defense-technologies-implications-us-and-multilateral-export-control-and>



## **SBIR Reauthorization Recommended Provisions**

### **1) Make SBIR/STTR permanent**

The SBIR program has a proven, successful track record for nearly 40 years, and STTR for nearly 30 years. Multiple economic impact studies as well as over a dozen NAS studies have been conducted over the decades that have proved the programs innovation and unparalleled productivity of American small business skill, hard work, and entrepreneurship. The time has come to make the programs permanent to enable the sustained investment and returns that come from longer term perspectives.

#### ***1a) Make SBIR Phase III Permanent***

If permanence for the entire program is not supported, consider including a provision that would only make Phase III permanent. During the last reauthorization period when it looked like there was going to be a lapse in authority, the DOD announced that Phase III preferences and data rights protections would also lapse. This possibility could severely impact the DOD's innovation ecosystem. DOD does over \$2 billion a year in Phase III funding and has been heavily using Phase III's sole-source provision to increase the speed with which they can transition technology. Even if there is a lapse in SBIR that means no more Phase I or II awards, Congress should ensure that Phase III mechanisms still remain for legacy SBIR projects.

#### ***2) Increase DOD SBIR allocation increase to 7%***

Follow the Section 809 Panel's recommendation to double the SBIR allocation to further unleash high-tech small business' innovative and economic potential by increasing the allocation at DOD to 7%. Small Businesses generate 25% of key innovations despite receiving only 3.2% of federal R&D budget. SBIR has proven to be more successful than any innovation program in the government, and should be given greater investment.

#### ***3) Increase DOD STTR allocation to 1%***

STTR has shown to be successful, but at only 0.3% of the federal extramural R&D is simply too small to make a difference. Increasing the allocation at DOD to 1% will facilitate greater collaboration between universities generating next generation basic research and innovative small businesses who can translate that research into commercializable technologies.

Finally, the Sec. 174 R&D tax amortization requirement continues as a huge burden on small innovative businesses, and a major disincentive to perform research. Firms that participate in SBIR are particularly burdened due to the fact they are required by law to spend nearly 100% of SBIR funds on research, and often don't have cash on hand to pay tax on top of it. While we commend the House of Representatives for passing a Sec. 174 fix in an overwhelming bipartisan vote, it is essential to America's innovative economy that the Senate act to pass it as soon as possible.



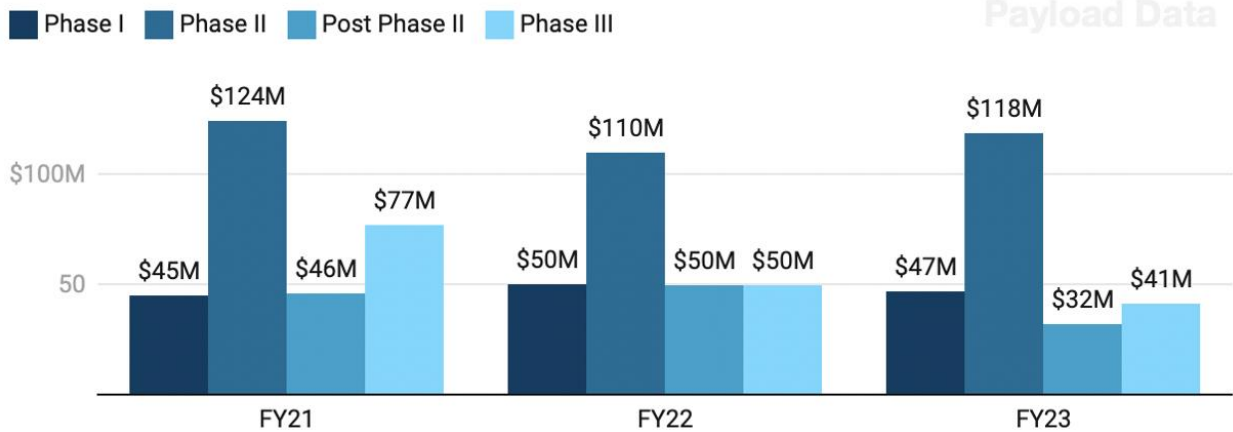
## Appendix A

### Recent Agency Phase III Data

#### DOD Phase III Obligations FY2018-May FY2023 By Service

	Navy	Air Force	Army	DOD-Wide
2018	\$743,134,063	\$391,936,154	\$151,651,706	<b>\$1,385,384,688</b>
2019	\$674,313,088	\$528,850,815	\$113,341,936	<b>\$1,542,102,717</b>
2020	\$893,977,509	\$855,060,886	\$170,912,517	<b>\$2,225,111,809</b>
2021	\$885,365,745	\$937,641,933	\$282,145,294	<b>\$2,282,820,127</b>
2022	\$1,082,602,557	\$1,091,788,967	\$311,936,495	<b>\$2,730,167,580</b>
2023	\$1,195,358,978	\$1,543,919,026	\$293,837,077	<b>\$3,390,000,915</b>
<b>Totals</b>	<b>\$5,474,751,940</b>	<b>\$5,349,197,781</b>	<b>\$1,323,825,025</b>	<b>\$10,151,306,888</b>

### NASA SBIR Total Dollars Awarded by Phase



Source: NASA SBIR/STTR Program Management Office

### DOE Phase III Guidance

In addition, The Department of Energy, which historically has not utilized Phase III, has for the first time issued guidance on Phase III statutes and policy. SBTC is encouraged by this first step and hopes that DOE will soon embrace Phase III in its procurement.

- <https://science.osti.gov/sbir/Phase-III-Guidance>

## **Appendix B**

### **National Academies of Science Studies of SBIR**

(5,251 pages)

1. 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.”*

2. 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.”*

3. 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.”*

4. 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.”*

5. 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.”*

6. 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.”*

7. 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”*

8. 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.”***

9. 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.”***

10. 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.”***

11. 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.”***

12. 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.”***

13. 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.”***

14. 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.”***

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

16. 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.”***

17. 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.”***





## Appendix C

### State-by-State SBIR/STTR Figures for House Small Business Committee<sup>6</sup>

<b>Pennsylvania</b>		
Year	SBIR/STTR	
	# Awards	\$ Amount
2019	260	\$153,940,871
2020	282	\$161,433,610
2021	243	\$171,058,185
2022	265	\$209,683,206
2023	229	\$197,170,232
<b>2019-2023</b>	<b>1279</b>	<b>\$893,286,104</b>

<b>Ohio</b>		
Year	SBIR/STTR	
	# Awards	\$ Amount
2019	329	\$160,157,955
2020	287	\$138,680,250
2021	317	\$144,013,879
2022	266	\$146,388,779
2023	278	\$170,337,880
<b>2019-2023</b>	<b>1,477</b>	<b>\$759,578,743</b>

#### California

2023 {1233}  
 2022 {1285}  
 2021 {1409}  
 2020 {1496}  
 2019 {1403}

#### Minnesota

2023 {73}  
 2022 {86}  
 2021 {74}  
 2020 {79}  
 2019 {96}

#### Maine

2023 {17}  
 2022 {7}  
 2021 {17}  
 2020 {15}  
 2019 {9}

#### Missouri

2023 {40}  
 2022 {48}  
 2021 {51}  
 2020 {57}  
 2019 {62}

#### Kansas

2023 {27}  
 2022 {20}  
 2021 {27}  
 2020 {26}  
 2019 {21}

#### Texas

2023 {27}  
 2022 {20}  
 2021 {27}  
 2020 {26}  
 2019 {21}

#### New York

2023 {320}  
 2022 {307}  
 2021 {296}  
 2020 {335}  
 2019 {287}

<sup>6</sup> <https://www.sbir.gov/sbirsearch/award/all>