Small Business Technology Council
of the National Small Business Association
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2016 SBIR/STTR Reauthorization
Strengthening a critical American high tech innovation and jobs engine

Congress has recognized the remarkable effectiveness of the Federal SBIR/STTR program in building America's high tech economy. The SBIR program is the most successful government commercialization program in the world. With only **3.4%** of Federal external research funding, the highly competitive small business-driven SBIR program and the aligned university-partnered STTR program contribute far more than their share of America's innovations, patents and quality jobs.

- **Innovations**: Consistently 22-25% of America's top innovations come from SBIR companies.
- **Patents**: ~5,500 per year, nearly as many as all American colleges and universities.
- **Quality Jobs**: Success stories across America from major agencies and states. Many large tech firms had their origins with SBIR projects, others licensed out their technologies or were acquired by larger businesses seeking their technology and products, and many smaller employers thrive selling products and services developed in the SBIR program.
- **Competitive:** Merit selection: 1 in 8 Phase I proposals is selected; only 1 in 20 reaches Phase II.
- **2015 Air Force SBIR study**: The newest SBIR study, for Phase IIs ending 2000-2013, analyzed 96% of $4 billion in awards for the average of seven years. Conclusions:
  - SBIR achieves its objective of developing new technology to support the defense mission.
  - 26% of awards led to new sales exceeding $1 million.
  - Average new jobs wage was $67,700/year.
  - $4 billion invested (13% of the federal SBIR total) boosted U.S. GDP by at least $25 billion.
  - Every Air Force SBIR dollar added $1 to military sales, $2.70 to civilian sales, and 50 cents of follow on investment, in addition to the broader multiplier effect upon the U.S. economy.
  - 10% of firms acquired for the SBIR technology; 7% licensed it or spun it off into a startup.
  - Increased taxes (federal, state, local) approximately equaled the total SBIR investment.
- **2016 Navy SBIR study (interim results)**: Phase IIs 2000-2013, 60% of awards analyzed to date.
  - Major contributions to Navy mission.
  - $7.9 billion in new sales ($3.8 billion military) on $1.7 billion awards analyzed to date.
  - 15% firms were acquired for the SBIR technology, 16% licensed it/spun it off into a startup.
  - Phase II new armor award generated $1 billion in sales saving American lives, cybersecurity software sold $600 million, new home video monitoring product sold $300 million.

The SBIR program asks our nation's small businesses, employing 34% of our scientists and engineers and led by American entrepreneurs, to convert American science into new scientific breakthroughs and useful innovations for commercial use. The resulting new products and services advance agency missions, meet market and societal needs, and create new sustainable high quality, high paying jobs while raising living standards. Multiple studies have documented the high performance of this SBIR portion of Federal R&D. Seventeen National Academy of Sciences studies have all concluded saying SBIR meets its Congressional goals. As a result, both Senate and House Small Business Committees have released current 2016 bills calling for lengthy or permanent reauthorization and strengthening the program, including increasing the proportion of Federal R&D invested in this highly productive program.

The role SBIR fulfills in America's innovation economy is innovating the often-long and risky path from fundamental science to products. America's universities are excellent at developing fundamental basic science and research, using some 35% of Federal external R&D with 6,363 U.S. patents issued in 2014. But the next step, converting basic science to innovations for new products and services and jobs, is a bottleneck in the pipeline. Such early stage innovation is too risky and low return for normal private investment. VCs and businesses themselves tend to invest in product opportunities after the technology risk is reduced. This leaves a large innovation gap, between basic science and marketable products.

As a result, America's fundamental scientific advances often lie fallow, not advancing to the marketplace as products and creating American jobs. Other countries have taken advantage of our imbalance to reduce America's technology lead, driven by more directed STEM-driven economic development mandates, lower labor costs, and building on American science. For example the European Union has now increased to over 16% the target R&D proportion provided to small businesses, far above America's overall 4% of Federal R&D expenditures (the majority from SBIR).

The SBIR program targets this current bottleneck in America's innovation pipeline. Results have shown the high payoff from focusing a very small portion of the Federal R&D budget upon agency-identified challenges to unleash the entrepreneurially-driven energies of our small businesses. These businesses are led by risk-taking small business entrepreneurs and research leaders (often originally from universities or other large research organizations - 60% of SBIR projects involve at least one founder with a university background, and formal small business-university SBIR collaborations are growing, now at 35-50% depending upon agency). Our small high tech businesses are driven to commercialize and grow, and efficiently convert science into innovation and jobs needed for our tech economy. The result is SBIR's high innovation productivity: using only 3.4% of the R&D budget to produce 22-25% of the major innovations, 5500 patents/year, and a stream of new products, services, and high quality jobs.

The U.S. needs more small business-driven innovation to help build a stronger America that can continue to out-compete the world. Small businesses by their entrepreneurial private sector nature do this well, creating over two-thirds of the net new jobs in the past 15 years. America needs more SBIR awards to transition more science and technology to innovations, patent, products and high quality jobs.

Some universities have opposed the proposed increase in the SBIR program, asking for more study and arguing that this shift to the small SBIR program will lead to lowered university research funding. We suggest this is short-sighted, as the purpose of Federal R&D is not funding but the development of new solutions for society, innovation, new products and services, jobs, and strengthening our international competitive position. An increase in SBIR funding will lead to more science converted to technology and products, benefiting everyone. Shifting more Federal external R&D to the SBIR program will build on America's strong fundamental science to create more innovations and more high quality job creation. This will strengthen the economy while boosting returns on Federal R&D, helping to further justify long term increases in Federal R&D investment, both basic and applied, also for the benefit of all Americans.

SBTC suggests Congressional action is justified now to strengthen America's economy. Timely reauthorization would help avoid the economic damage done by 14 temporary reauthorizations during 2008-2011, when business and SBIR agency uncertainty chilled long term planning and investment. The high performance of the SBIR program justifies permanently reauthorizing the program, further strengthening it, and boosting the relative share of Federal R&D invested in SBIR.