The Small Business Innovation Research (SBIR) program was established by Congress in 1982 to fund research and development (R&D) through small businesses of 500 or fewer employees. Eleven federal agencies participate in the program, including the Department of Defense.

The Small Business Technology Transfer (STTR) program was established in 1992 to fund cooperative R&D projects with small businesses and non-profit U.S. research institutions, such as universities. Five federal agencies participate in this program, including the Department of Defense.

Both programs focus on projects with the potential to develop into a product or service for defense or commercial markets.

PROGRAM STRUCTURE

The majority of Air Force topics will be released in the DoD’s first (.1) cycle of the SBIR solicitation and the first (.A) cycle of the STTR solicitation. However, in any year it may be possible that the Air Force participates in the second (.2/.B) and/or third (.3/.C) cycles if the need arises. There are three award phases:

**PHASE I**
- Feasibility study
- Up to $150K and nine months

**PHASE II**
- Full R&D effort
- Up to $750K initially for Air Force and two years

**PHASE III**
- Final development/production
- External non-SBIR funding
  (public sector and/or government sources)

PARTICIPATION

To participate in the Air Force SBIR/STTR Program, a company must qualify as a small business, including size and ownership requirements. Any Air Force organization with a valid need and intent to consider innovative technical solutions may sponsor a topic and utilize Air Force SBIR/STTR funding.

To participate in SBIR, small business must:
- Be the primary employer of the principal investigator (PI)
- Perform two-thirds of the research in Phase I and one-half in Phase II
- Perform the work in the United States

To participate in STTR, small business must:
- Perform at least 40 percent of work
- Partner with a U.S. research institution which must perform at least 30 percent of work (PI must be employed at the small business or the research institution)
- Perform the work in the United States

PROPOSAL EVALUATION

Air Force experts in a particular topic area evaluate proposals on:
- Soundness, technical merit and innovation of proposed approach
- Qualifications of the principal/key investigators and supporting staff
- Potential of technology for commercial application (government or public sector)
If you cannot reach someone on this list visit our website for the most current information.

**AIR FORCE RESEARCH LABORATORY** - Anissa Lumpkin | anissa.lumpkin.1@us.af.mil

Leads discovery, development and integration of war-fighting technologies for air, space and cyberspace forces

**AEROSPACE SYSTEMS** - Barbara Scenters | barbara.scenters@us.af.mil

Alternative fuels, unmanned vehicles, hypersonic vehicles, collision avoidance

**AIR FORCE OFFICE OF SCIENTIFIC RESEARCH** - Edward Lee | edward.lee@us.af.mil

Basic research, material and life sciences, math, physics

**DIRECTED ENERGY** - Wayne Mashburn | wayne.mashburn.1@us.af.mil

Laser systems, high power electromagnetics, weapons modeling and simulation

**711th HUMAN PERFORMANCE WING** - Jennifer Brown | jennifer.brown.20@us.af.mil

Training, decision making, forecasting, performance

**INFORMATION** - Denise Lee | denise.lee.1@us.af.mil

Advanced computing architectures, cyber operations, information exploitation

**MATERIALS AND MANUFACTURING** - Deborah Shaw | deborah.shaw.3@us.af.mil

Materials and advanced manufacturing technologies for aircraft, spacecraft, missiles, rockets and ground-based systems

**MUNITIONS** - Shirley Schmieder | shirley.schmieder@us.af.mil

Explosives, weapons integration, guidance, fuses, navigation, control

**SENSORS** - Julie Harris | julie.harris.1@us.af.mil

Antennas, radar, reconnaissance, electronic warfare, microelectronics

**SPACE VEHICLES** - Marla Trujillo | marla.trujillo@us.af.mil

Spacecraft technology, battlespace awareness, experiment integration and evaluation

**AIR FORCE SUSTAINMENT CENTER** - Donna Stacy | donna.stacy@us.af.mil

Provides depot maintenance, supply chain management and installation support

**AIR FORCE TEST CENTER** - Kevin Medina | kevin.medina.1@us.af.mil

Conducts developmental test and evaluation of air, space and cyber systems

**AIR FORCE LIFE CYCLE MANAGEMENT CENTER** - Walt Fenstermacher | a.fenstermacher.2@us.af.mil

Acquires and supports aircraft, engines, munitions, electronics, and cyber weapon systems and sub-systems

**AIR FORCE NUCLEAR WEAPONS CENTER** - Wallace Clark | wallace.clark.1@us.af.mil

Acquires and sustains affordable, timely and effective nuclear weapon systems

**F-35 JOINT STRIKE FIGHTER PROGRAM OFFICE** - Jennifer Webb | jennifer.webb@jsf.mil

Defines next-generation strike aircraft weapon systems for the Navy, Air Force, Marines, and U.S. allies

**SPACE & MISSILE SYSTEMS CENTER** - Warren James | warren.james@us.af.mil

Develops, acquires, fields and sustains military space systems

**AIR FORCE CIVIL ENGINEER CENTER** - Joe Wander | joseph.wander@us.af.mil

Provides civil engineering services, requirements, RDT&E and systems acquisition supporting Air Force operations

**AIR FORCE SPECIAL OPERATIONS COMMAND** - Rhys Macbeth | william.macbeth.1@us.af.mil

Organize, train, equip, maintain and provide special operations airpower to combatant commanders

**AIR FORCE MEDICAL SUPPORT AGENCY** - Sherry Goodman | sherry.a.goodman.civ@mail.mil

Provides comprehensive consultant support and policy development to the Air Force Surgeon General

**ONLINE RESOURCES FOR SMALL BUSINESSES**


Air Force Tech Transfer: www.wpafb.af.mil/t2/

Defense Innovation Marketplace: www.defenseinnovationmarketplace.mil

Federal Government Business Opportunities: www.fbo.gov

Proposal Submissions: https://sbir.defensebusiness.org

HTTPS://WWW.AFSBIRSTTR.AF.MIL | AFSBIRSTTR-INFO@US.AF.MIL
The Air Force Small Business Technology Transfer (STTR) Program, established in 1992, expands funding opportunities in the federal innovation research and development arena to public/private sector partnership joint venture opportunities between small business and U.S. nonprofit research institutions, such as universities. While both the Small Business Innovation Research (SBIR) and STTR programs focus on projects and services with the potential to develop a product for military or commercial sectors, the feature of the STTR program is the requirement for the small business to formally collaborate with a research institution in Phase I and Phase II. STTR’s role is to bridge the gap between performance of basic science and commercialization of resulting innovations.

Small business has long been a source of innovation, but the risk and expense of conducting research and development can be beyond the means of many small businesses. Conversely, nonprofit research laboratories are instrumental in developing high-tech innovations. STTR combines the strengths of both entities by introducing entrepreneurial skills to high-tech research efforts. The technologies and products transferred from the laboratory to the marketplace yield small business profits during commercialization and stimulates the U.S. economy.

Each year, federal agencies with extramural research and development budgets that exceed $1 billion are required to reserve 0.45 percent of the extramural research budget for STTR awards to small businesses. The Air Force administers its own individual program within guidelines established by Congress and the STTR policy directive and awards are made on a competitive basis after proposal evaluation.

The mission of the STTR program is to support scientific excellence and technological innovation through investment of federal research funds in critical Department of Defense priorities to build a strong national economy and military.

The program’s goals are as follows:

- Stimulate technological innovation;
- Foster technology transfer through cooperative research and development between small business and research institutions;
- Increase private sector commercialization of innovations derived from federal research and development.

STTR program eligibility requirements include:

- Applicant is for-profit business based in the United States;
- Partnership with U.S. research institution;
- Formal cooperative research and development efforts;
- At least 40 percent of the work is performed by a small business, while 30 percent of the work is performed by a research institution.
The STTR program is structured in three phases:

**PHASE I:** The objective of Phase I is to establish the technical merit, feasibility, and commercial potential of the proposed research and development efforts and to determine the quality of performance of the small business prior to providing further support in Phase II. STTR Phase I awards are normally $150K for one year.

**PHASE II:** The objective of Phase II is to continue the research and development efforts initiated in Phase I. Funding is based on the results achieved in Phase I and the scientific and technical merit and commercial potential of the Phase II project proposed. Only Phase I awardees are eligible for a Phase II award. Phase II awards do not typically exceed $1.5 million in total costs for two years.

**PHASE III:** The objective of Phase III, where appropriate, is for the small business to pursue commercialization objectives resulting from the Phase I/II research and development activities. The STTR program does not fund Phase III; Phase III may involve follow-on, non STTR funded research and development or production contracts for products, processes or services intended for use by the U.S. Government.

Steps for seeking STTR opportunities include:
- Review forthcoming solicitations;
- Review past award winners;
- Review STTR policy directives and guidelines at www.sbir.gov;
- Search technology areas and identify opportunities that are a good fit;
- Submit proposals aligned with core strategies or areas of expertise.
The Air Force SBIR\STTR Commercialization Readiness Program (CRP) accelerates the transition of SBIR\STTR-developed technologies into real-world military and commercial applications. CRP provides a strategic process that links Air Force centers and the Air Force Research Laboratory to evaluate and align needs with innovative solutions. Since its inception in 2006, CRP has helped improve technology transition outcomes by connecting stakeholders and leveraging investments from outside the SBIR/STTR Program, also known as Phase III funding.

The Air Force SBIR\STTR CRP team consists of SBIR acquisition R&D technology analysts (TAs), who are integrated into the centers, technical directorates and program offices to assist in developing topics and identifying mechanisms for SBIR\STTR projects nearing completion.

Commercialization makes technology more readily available – thereby bringing down its cost – and provides an opportunity for small business to grow and profit from its work, which generates a measurable impact on the national economy.

Three key elements must be present to initiate the transition process:
- Defined customer (Air Force Program Office, major defense contractor, etc.)
- Defined need (driven by the customer)
- SBIR\STTR technology that meets a need and shows high potential for providing viable results

Stakeholders can participate in the Air Force SBIR\STTR CRP in several ways:

SBIR\STTR Awardees
- Work with the technical point of contact (TPOC) to identify technology needs and customers for the solutions
- Work with the TAs after the CRP process is initiated
- Participate in Small Business Industry Days (SBIDs)

Major Defense Contractors
- Suggest topic ideas for consideration
- Participate in SBIDs and Technology Interchange Meetings (TIM)
- Work with the TPOCs and TAs to identify potential SBIR\STTR solutions to technology gaps

Air Force Customers
- Participate in generating and sponsoring SBIR\STTR topics
- Participate in Center/Program Executive Officer sponsored SBIDs
- Work with the TAs to identify transition candidates
The Air Force Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) Programs expedite the transition of innovative technologies to the warfighter through the Commercialization Readiness Program (CRP).

If you cannot reach someone on this list visit our website for the most current information.

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SPACE & MISSILE SYSTEMS CENTER
Natalya Turner | natalya.turner.1.ctr@us.af.mil
The Air Force Small Business Innovation Research Technology Acceleration Program (SBIR TAP) is a program that assembles companies that have received Small Business Innovation Research contracts from the federal government and identifies promising SBIR technologies that have not yet been developed for a commercial market.

The program supports small businesses in assessing the commercial viability of their technology, creating actionable commercialization plans, and seeking investment capital. It is without cost to selected participants.

The SBIR TAP program addresses technologies of interest both to AFRL and to the commercial market segments including the following:

- Advanced Manufacturing
- Big Data: data warehousing, management, analytics
- Cyber Security
- Energy: storage and generation
- Environmental Monitoring
- Health Care
- Human Performance Enhancement: sense, assess, augment
- Internet of Things
- Personalized Learning
- Precision agriculture
- Automated transportation

Here is how the program works; each interested small business is asked to participate in a 30-minute introductory interview during which the program details and a brief overview of the SBIR technology is discussed. Further discussions may occur following the interview. The final selection of participants is made by a panel from the Air Force SBIR Office based on the following criteria:

- Alignment of Small Business Research with Air Force SBIR TAP technology commercialization focus areas
- Assessment of the commercialization potential of the SBIR technology
- Small Business willingness and ability to attend and actively engage in all 6 work sessions
The Air Force SBIR TAP program provides 25-30 SBIR recipients with a customized support program, designed to accelerate the commercialization of SBIR technologies into new market spaces. Participants use visual tools and models structured around nine questions to identify the business value inside a science or technology innovation.

The goal is assisting SBIR companies in moving their technology from a research phase to marketable solutions for business or consumer demand and to help them grow. Participants attend 16 hours of training over the course of four weeks.

The program consists of engaging, fast-paced and highly-relevant work sessions, facilitated by certified instructors. Companies receive training based on the Wendy Kennedy “So what? Who cares? Why you?” approach to commercial success. Each program is developed around the unique small business teams and their technologies – no “cookie cutter” approaches are used. Participants develop actionable and specific commercialization plans, aligned with the existing support services and organizations so that commercialization assistance continues after the Air Force SBIR Program formally ends.

In summary, the Air Force SBIR TAP supports small businesses in assessing the commercial viability of their technology, creating actionable commercialization plans, and seeking investment capital. The program is without cost to the selected participants. To ensure that any interested SBIR companies have access, the program will be delivered in targeted geographic locations.
The Air Force Small Business Innovation Research/Small Business Technology Technology Transfer Program has deviated from the norm to deliver critical tools to the warfighter at a faster pace and to provide small businesses with access to a $100B+ market.

In 2018, the Air Force SBIR/STTR Program began to allocate resources toward special topics. These special topics — which differ from traditional SBIR/STTR topics in multiple ways — are intended to accelerate the development of technology while reducing barriers for small businesses and leveraging new methods of doing business.

Special topics allow the Air Force SBIR/STTR Program to act more as a commercial seed fund. Among the differences from traditional proposals, the special topics involve:

- An application process that requires a five-page technical proposal and 15-page “pitch” (slide) deck, instead of the traditional 20-page technical proposal;
- Phase I contract awards of between $50,000 and $150,000 and a three month period of performance, compared to $150,000 and nine months; and
- Numerous awards for each Phase I, which are typically limited to only two awards.

For some of the special topics, small businesses will go through a government sponsored commercially facilitated technology acceleration process, similar to the pathway for commercial startups, prior to the Phase II process. Additionally there will be a reoccurring open innovation topic that looks for dual use technologies that can quickly and cheaply solve Department of Defense problems.

Participating DoD Innovation, Technology Acceleration Organizations

- **AFWERX** – Established in 2017 by the Secretary of the Air Force, AFWERX is a catalyst for agile Air Force engagement across industry, academia, and non-traditional contributors to create transformative opportunities and foster an Air Force culture of innovation. Its technology startup accelerator is a boot camp for small businesses that offers high impact mentorship, and a fast-paced curriculum, guiding promising teams through the processes of problem/solution validation and business model validation. Contact AFWERX here: [http://afwerxdc.org/join/](http://afwerxdc.org/join/)

- **MD5** – Born out of a summer study at New York University in 2015, the National Security Technology Accelerator concept was transformed into the MD5 program office at the height of the Defense Innovation Initiative. Like its sister organizations, the Defense Innovation Unit, Experimental (DIUx), and the Strategic Capabilities Office (SCO), MD5 represents divergent thinking and executes non-traditional approaches to problem solving that increase the permeability between the public and private domains.

- **AFRL** – Leads the discovery, development and delivery of warfighting technologies for the U.S. air, space and cyberspace forces. Through unparalleled research, tomorrow’s technology and strategic partnerships, AFRL gives our warfighters unmatched advantage in the field. Balancing a legacy of success with a pursuit of innovation, AFRL is uniquely positioned to support the warfighter’s urgent needs and evolving demand to defend America. Among a number of innovation efforts, AFRL has been running technology accelerators and is conducting three separate accelerators around SBIR Special Topics of PNT, Human-Centered ISR and Data Analysis for Space.
Epic streamlining and simplification of proposal process

Provides Air Force innovation "store fronts" through out the country

Achieving success metric in 3 months
The Air Force received 3,544 proposals for 316 SBIR topics. 291 Phase I and 315 Phase II contracts were awarded.

The Air Force received 316 proposals for 37 STTR topics. 61 Phase I and 42 Phase II contracts were awarded.

**FY 2018 Total Air Force SBIR|STTR Funding**

- **SBIR**: $535,234,092 M
- **STTR**: $81,597,172 M
- **Total**: $636,831,264 M

**KEY IMPROVEMENT INITIATIVES**

**SBIR TAP**

An effort between the Air Force, Air Force Research Laboratory, Wright Brothers Institute and The Entrepreneurs Center that provided approximately 30 SBIR Phase I contract recipients with a program designed to accelerate commercialization of technology.

- Participating companies have raised $8.6 M in investment to date
- Companies seeking Phase II have an 87% success rate

**SPECIAL TOPICS AND TECH ACCELERATOR PARTNERSHIPS**

The Air Force allocated resources toward special topics intended to reduce the barriers for small business and allow the Air Force SBIR|STTR Program to act more like a commercial seed fund.

- Epic streamlining and simplification of proposal process
- Provides Air Force innovation "store fronts" throughout the country
- Achieving success metric in 3 months

**AIR FORCE CONTRACTING SPRINT**

Contracting officials and innovators from across the Air Force awarded more than 100 contracts in 40 hours.

- Epic streamlining and simplification in Air Force contracting
- Solicitation to contract award cut from 180 days to a few days

**TECH WARRIOR ENTERPRISE**

An effort between the Air Force and Wright State Research Institute’s National Center for Medical Readiness enables technology testing and demonstration alongside special operators and first responders, which allows small businesses to push the limits of promising new technologies in a by integrating them with users in a relevant setting.

18 Tech Warrior CONNECT

- 3 Tech Warrior OPS events provided special operator and first responder communities with early demonstration of small business technologies

Tech Warrior Enterprise activities resulted in:

- 9 Phase I awards + $580 K
- 4 Phase II awards > $9 M
- 3 Phase II+ awards > $7 M
- Non-SBIR funding > $18.8 M
- 2 venture capital offers > $2.5 M
- 1 grant = $100 K

**INTERAGENCY AGREEMENT WITH GSA**

This allows organizations to obtain Phase III assisted acquisition services support from The General Services Administration on a fee-for-service basis.

**SBIR|STTR Funding by State**

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**FY2018 ROI**

- $2,726,966,764.65 B

**https://www.afsbirsttr.af.mil | afsbirsttr-info@us.af.mil**
MARKETING AND COMMUNICATIONS

2018 Success Stories and quad charts available at https://www.afsbirsttr.af.mil

- 685 projects transitioned since FY2015
  - 5x increase in 8 years
  - Projects achieving success 58% faster than in FY2010

2018 Videos available on YouTube and DVIDs (search Air Force SBIR|STTR)

- Double the number of subscribers from previous years
- > 8% increase in video views

Outreach Events
Reach >2.6 K attendees

SBIR|STTR support staff available by emailing: afsbirsttr-info@us.af.mil or calling: 1-800-222-0336

COMMERCIALIZATION READINESS PROGRAM

The Air Force SBIR|STTR CRP Program accelerates the transition of SBIR|STTR technologies into real world military and commercial applications.

- 172 CRP Projects demonstrate transition success
- Total cost savings at over $1 billion

Air Force Non-SBIR
$109,858,473

Other Government
$29,456,000

DoD Non-SBIR
$36,075,000

Small Business Industry Days
Air Force Sustainment SBID
235 attendees representing small business, major defense contractors and government officials

Technical Interchange Meetings
5 major defense contractors (Boeing, Harris Corporation, Northrop Grumman, Raytheon, Rolls-Royce)
47 small businesses
45+ one-on-one meetings discussing 67 SBIR project

COMING SOON

Air Force SBIR|STTR Center of Excellence

- Creates 40+ jobs
- Consolidates program management, contracting, and financial management
- Fully-operational by October 2019