

Title: SBIR/STTR  
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What do the following innovative research projects have in common?

Marine Acoustics developed a handheld phrase translation system for a variety of minimally trained users in such diverse fields as crisis management, education, travel, recreation and military use in Afghanistan, Operation Iraqi Freedom, Victory Strike in Poland; and the U.S. Embassy in Kabul.

Aurora Flight Sciences developed a unique unmanned aerial vehicle (UAV), GoldenEye-100. This unmanned aerial vehicle was tailored as an affordable military and civilian UAV for low altitude reconnaissance, surveillance or target acquisition missions. GoldenEye-100 will be used for Homeland Security applications.

Using engine technologies developed and demonstrated under the DARPA Micro Aerial Vehicle program, D-Star developed technologies as needed to build an engine used to demonstrate flight capability of an Organic Aerial Vehicle with a JP-8 engine.

They were all funded under the DARPA SBIR or STTR Programs.

I am the program manager for the Small Business Innovation Research (SBIR) program and the Small Business Technology Transfer (STTR) Program.

How many of you are small businesses? GREAT!!!

I'm going to talk about money, lots of money, friendly money.

Twelve federal agencies participate in the Small Business Innovation Research (SBIR) Program. The fiscal year 2004 Small Business Innovation Research Program and Small Business Technology Transfer Program, that is, SBIR/STTR Combined budget is approximately \$2 billion.

Billions, I said! Of that, the Department of Defense has set-aside almost \$900 Million. DARPA's SBIR budget, which is included in the \$900M, is approximately \$64M.

Five federal agencies participate in the Small Business Technology (STTR) Program, with a fiscal year 2004 budget of about \$200 Million, which is included in the total of \$2 Billion. As I said, lot's of "friendly seed" money for high tech research and development.

Congress reauthorized the SBIR program through October 2008 and the STTR program through October 2009. You have plenty of time to participate in both programs.

The Department of Defense develops topics specific to war-fighter needs, and publishes 3 solicitations each year.

The FY2004.2 SBIR solicitation, with approx 50 topics, was posted on the web March 4th. You have until May 3rd to have technical dialogues with the topic authors. The DARPA and Navy topics can be reviewed by going to the DARPA homepage [www.darpa.mil](http://www.darpa.mil), and clicking on SBIR. The next DoD solicitation, FY2004.3 will be posted on the web May 1st, and will have topics from the Army, Navy, DARPA, and the Missile Defense Agency. Again, please take advantage of the two-month "technical dialogue" period, where you can talk to the topic authors.

The Department of Defense is the only department that posts the topic author's name, phone number and e-mail, with each topic, and encourages a technical dialogue. This ensures that small businesses understand the topic, understand the potential end-user, i.e., Army, Navy, Air Force, and helps them to make educated proposal decisions. It also allows the small business community access to the program managers who have the other 97.2 percent of the DoD budget.

SBIR is restricted to small businesses with 500 employees or less, however, DoD statistics over the past 4 years show that approximately 80% of SBIR awards went to companies with 20 people or less, in fact, 42% of DoD awards went to companies with 10 people or less.

Under SBIR, the company must be 51 percent owned and controlled by one or more individuals who are citizens of, or permanent resident aliens in the United States. Additionally, the Principal Investigator must be employed with the company 51 percent of the time.

Data rights developed under an SBIR contract belong to the company; however, the Federal Government has royalty free rights to technology developed under SBIR/STTR research efforts. We want the small business to successfully commercialize items of benefit to both the DoD and the public sector. All equipment bought by the small business with SBIR funds and any Government furnished equipment loaned to the small business during their Phase II contract period remain with the small business for 2-years after the end of their Phase II SBIR contract. This enables the small business to continue working on the project and bring the effort to commercialization.

The SBIR program has three phases. Phase I is where the small business thoroughly researches a selected topic, has detailed dialogues with the topic author, and compares the topic to their specific technological niche and business plan. If they decide to participate, they develop a 25-page feasibility study. The Phase I is generally 6 months long and generally receives \$100K in funding. If the small business is successful in their Phase I feasibility study, the DoD Topic Program Manager invites a Phase II proposal. A Phase II effort should be the proof of principle phase, which develops a prototype. The Phase II is generally 2 years long and generally receives \$750 thousand dollars in funding. Phase III is where the small business acquires NON-SBIR funds to continue the effort to commercialization.

SBIR proposals are evaluated against three criteria. The most important criterion is soundness of the approach, technical merit and innovation. The next criterion is the scientific and technical qualifications of the Principal Investigator. Everyone asks me, "Does the Principal Investigator have to have a PhD?" The answer is no. The Principal Investigator has to be highly qualified to perform the research and must have a commercialization vision. The last evaluation criterion is commercialization for DoD. Commercialization means developing something that helps the war-fighter win the war. Commercialization also means having the vision to identify non war-fighter applications for the technology and developing something for the public sector.

A small business can conduct all of their SBIR research themselves, or they may chose to subcontract one-third of the Phase I and one-half of the Phase II. A small business should consider subcontracting if it brings value to the effort. Universities make good partners, especially Historically Black Colleges and Universities and Minority Institutes. They have access to renowned subject matter experts and unique equipment and test facilities.

DARPA participates in all three of the DoD SBIR Solicitations each year. DARPA Program Managers develop topics, evaluate the proposals and make funding recommendations. Our Phase I contracts are funded at \$99 thousand dollars and last for about 6-months. Our Phase II contracts are generally 2-years long and generally funded at \$750 thousand dollars. However, we have several Phase II efforts valued at over \$2 million. It is not unusual for a DARPA Program Manager to augment their SBIR effort using their project funds from an ongoing DARPA program. SBIR is a highly competitive program. Generally speaking, DARPA awards one Phase I contract for every 10 proposals received and deemed excellent, with about 50% of the Phase I awards moving into Phase II contracts. DARPA also collaborates with the Army, Navy and Air Force and co-funds SBIR programs of mutual interest.

I am going to change the subject, and move on to the Small Business Technology Transfer (STTR) Program. Five Federal agencies participate in the STTR Program.

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Within the DoD, the STTR program is similar to the SBIR program, in that topics are developed by DoD Program Managers and consolidated into one DoD Solicitation each year. The DoD STTR Solicitation is posted on the web every January.

The DoD STTR budget is about \$100 million each year, of which, DARPA's portion is about \$7 million.

The STTR program differs from SBIR, on three distinct issues. First, the small business must have a partner.

The small business receives the contract award; however, they cannot submit a proposal and win an award, without a research institute as a partner. A research institute is defined as any university or non-profit research institute, or any Federally Funded Research and Development Centers, such as Sandia National Lab, Oak Ridge National Lab, and MIT Lincoln Lab. Etc.

Second, the small business must complete 40% of the research and the partner must complete 30% of the work. The other 30% is at the discretion of the small business.

They can bring in a third partner, or increase both their percentage and their partner's percentage.

The third difference is the employment of the Principal Investigator. The PI can be employed by the small business or the research institute.

This allows university personnel to keep their job with the university and participate in high-tech research and development with the small business, at the same time.

STTR is also a three-phase program. Phase I is a feasibility study, Phase II is proof of principle and Phase III is commercialization. Phase I's generally receive \$99 thousand in funding and Phase II efforts generally receive \$750 thousand in funding. STTR proposals are evaluated using the previously described SBIR criterion.

DARPA's current STTR program is about \$7 million. Our Program Managers develop about 10 topics each year, which are featured in the DoD STTR Solicitation. As with an SBIR, STTR topics also include the author's name, phone number and e-mail. Small Businesses were encouraged to contact the topic authors during the January/February time frame to discuss the specifics of the topic.

As you can tell the SBIR and STTR programs are my favorite subjects and I would love to answer questions and discuss these programs with you later.

The DoD and DARPA have many SBIR and STTR Success stories.

I have invited LCDR Dylan Schmorow, from our Information Processing Technology Office, to discuss his experiences with the SBIR Program.

THANK YOU Dylan

Thank you for your attention, I hope to see you at our SBIR/STTR exhibit.

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