

Funding Opportunities Through the Department of Defense:

Current Defense Advanced Research Projects Agency (DARPA) Initiatives

⚙ Background

With projected expenditures of \$654.7 billion in 2009, the Department of Defense (the DOD) has by far the largest budget of any government entity. The 2009 Recovery Act added an additional \$7 billion to the DOD's annual budget, much of which is reserved for contractors and researchers doing business with the DOD.

As the DOD works to maintain military superiority, it is continuously funding new research, mostly through the Defense Advanced Research Projects Agency, commonly referred to as DARPA. While all projects funded through DARPA are ultimately expected to advance military goals, many of them have found valuable places in everyday society as well.

⚙ About DARPA

DARPA's mission statement is "radical innovation for national security." To achieve its mission statement, DARPA has developed a structure that categorizes its objectives into different technical offices. Within each technical office, the DOE appoints several program managers with expertise in the specific areas of that technical office. The program managers are given the authority to develop broad-based programs, and they select and invest in projects in the private sector to help achieve these goals.

There are two basic types of technical offices at DARPA: The Technology Offices and the Systems Offices. The Technology Offices tend to rely on early-stage developments and focus on new capabilities and component technologies that might have significant national security applications. The Systems Offices focus on specific solutions to military problems that lead to products that more closely resemble a specific military end-product. With both offices, DARPA groups its current focuses into what it calls its nine "strategic thrusts":

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1. **Robust, Secure, Self-forming Networks:** DARPA is developing a communication network to globally link air, ground and naval components. In addition, the network will be designed to form, manage, defend and heal itself, so that it always functions reliably and at a high speed.
2. **Detection, Precision ID, Tracking, and Destruction of Elusive Targets:** The focus of this strategic thrust is to develop a network-centric warfare system that increases communication between intelligence systems and combat systems.
3. **Urban Area Operations:** Due to increasingly urban combat scenarios, DARPA has focused attention on seeking new urban warfare concepts and technologies that would make a smaller U.S. force conducting operations in an urban area more effective
4. **Advanced Manned and Unmanned Systems:** DARPA is attempting to both improve the platforms of existing manned systems and increase the level of autonomy and robustness of unmanned systems. Unmanned systems are of increasing importance to free soldiers from dull and/or dangerous operations.
5. **Detection, Characterization and Assessment of Underground Structures:** This program is developing a variety of sensor technologies and systems to find, characterize, and conduct post-strike assessments of underground facilities.
6. **Space:** The goals of this program are to provide technology to provide rapid, affordable access to space and efficient in-orbit operations, situational awareness, protection of space assets, and expanding current space-based assistance to the military.
7. **Increasing the Tooth to Tail Ratio:** DARPA's focus under this program is to improve the support infrastructure of the military to help supply and maintain front-line operations to help them achieve full rapid deployability.
8. **Bio-Revolution:** This strategic thrust is a comprehensive effort to exploit the military potential of cutting-edge life sciences. It includes research in biological warfare defense, the development of vaccines, advanced medical treatment, and bio-related machinery.
9. **Core Technologies:** The core technologies strategic thrust is different from the other areas in that it operates at a more abstract level. While the other eight areas focus on current strategic circumstances, this area focuses on new technologies, particularly at the component level, that traditionally have served as the technological feedstocks for new ideas resulting in quantum leaps in U.S. military capabilities.

⚙ Finding DARPA Business Opportunities

DARPA's goal is to maintain the technological superiority of the U.S. military by sponsoring revolutionary, high-payoff research that bridges the gap between fundamental discoveries and their military use. To achieve these goals, DARPA focuses on the following when drafting grants and other related business agreements:

1. Developing innovative business relationships and practices;
2. Matching military requirements with technological opportunities;
3. Protecting information and ideas;
4. Creating agreements for investments in high-risk projects involving revolutionary technologies and systems; and
5. Promoting innovation by creating flexible strategy agreements.

The key to working with DARPA is through one of its program managers. DARPA program managers develop programs to meet various military goals corresponding to the nine strategic thrusts. However, a company or inventor should not constrain their ideas by DARPA's current strategic thrusts, programs or how they think DARPA will react to the idea. Even though DARPA may not appear active in a particular area doesn't mean the agency won't be interested in a great technological idea. There have been many cases in the past where program managers built new programs based on original ideas that were presented to them.

In order to better illustrate DARPA's current focuses, each DARPA technical office maintains a list of current programs and strategic thrust areas. For a list of each program, by office, visit http://www.darpa.mil/off_programs.html. DARPA also recently published a 53-page strategic plan, available at <http://www.darpa.mil/Docs/StratPlan09.pdf>.

Additionally, approximately every 18 to 24 months, DARPA holds a Systems and Technology Symposium (DARPA Tech) to share and discuss its priorities for future programs and interests. The next DARPA Tech is expected to be held in August of 2010.

⚙ Applying for DARPA Opportunities

As explained above, the best approach to obtaining DARPA funds is to identify the area within DARPA that will be most receptive to a potential applicant's invention and then to discuss the idea with a program manager in that area. Ultimately, a successful

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applicant will obtain a grant or a joint research venture through one of the three programs described below.

Before a company can apply to any grant or joint research venture, however, it must register with the Central Contractor Registration system. As this process may take several weeks, any company considering doing business with the DOD should register as soon as possible to get this step out of the way.

Prior to submitting any proposals, potential applicants are also encouraged to submit a white paper. The white paper allows the submitter to make a detailed, written explanation of the idea/concept. A white paper allows for feedback from a DARPA program manager and, if appropriate, may result in a formal proposal submittal.

Broad Agency Announcement (BAA)

BAAs are the most common method of obtaining DARPA funding. A BAA is a competitive solicitation used to obtain proposals for basic and applied research and tends to be somewhat open-ended in scope. Each technical office has an office-wide BAA that covers a broad range of topics and is usually open for one year.

BAA proposals are evaluated on their individual technical merit and are not compared to other proposals. Proposals are selected based on technical importance with respect to DARPA programs and funding availability. If DARPA selects a BAA proposal, the award may be in the form of a contract, assistance agreement or some other type of agreement. The proposal can list the type of preferred agreement. However, the appropriate type of award is subject to negotiation. BAAs are posted on the Grants.gov website (www.grants.gov) and can also be reviewed at the DOD website.

Requests for Proposal (RFP)

While less common than the BAAs, an RFP is a specific solicitation for DARPA research. It lists the project requirements, solicitation provisions, proposal preparation instructions, and the evaluation method for the review of proposals. These are generally released when a program has a specific issue they are trying to solve, in many cases to bridge a gap in research and development. Like BAAs, RFPs are posted on the Grants.gov website (www.grants.gov) and can also be reviewed at the DOD website.

Small Business Programs

DARPA encourages the development of small businesses with innovative ideas. As a result, DARPA has special opportunities set aside exclusively for small businesses (see <http://www.darpa.mil/sbir/>). Early-stage small businesses can obtain grants through the Small Business Innovation Research (“**SBIR**”) and Small Business Technology Transfer (“**STTR**”) programs.

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To qualify for an SBIR grant, a business must be a U.S.-based, for profit business with 500 or fewer employees. The DOD will grant up to \$850,000 for initial projects. Projects that advance in technology and require additional funding are funded through the normal DARPA programs (i.e. not SBIR).

STTR grants are similar to SBIR grants, except that they require that a private company collaborate with a large, nonprofit research institution. An entity is allowed to apply for both SBIR and STTR grants, and obtaining funds through one does not preclude the company's ability to obtain funds through the other.

Additional Information

In addition to DARPA, the DOD has other funding sources available through its procurement offices as well as the new Near Term Energy-Efficient Technologies Program Plan, which was created in May 2009 out of the Recovery Act. Carr & Ferrell maintains information on these and other funding sources, and continually updates its materials on such opportunities.

For more information, or if we can be of assistance in any of your funding or other corporate needs, please contact Barry Carr, Jill Fishbein or Rob Keller of Carr & Ferrell's Corporate Group at 650-812-3400.