



Small Business Support Team 703-526-4170 | sbir@darpa.mil http://www.darpa.mil/work-with-us/for-small-businesses



# DARPA's Mission

#### **Breakthrough Technologies and Capabilities for National Security**

# Communications/ Networking Military Application 1960s 1970s









2010s



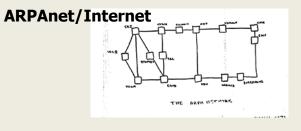
1980s

1990s

2000s

2020s

#### Commercial Transition





**Microelectronics:** VLSI, CAD, manufacturing, IR, RF, MEMS

# **Information Technology:** timesharing, client/server, graphics, GUI, RISC, speech recognition



Revolutionizing Prosthetics

**Hypersonics & LEO** 



Materials Science: semiconductors, superalloys, carbon fibers, composites, thermoelectrics, ceramics

DARPA's role: Pivotal early investments that change what's possible



## Characteristics of DARPA

- \$3B funding Agency all research is performed extramural (no inhouse DARPA labs)
- Interested in compelling outcomes that provide new capability
  - Revolutionary change (not evolutionary extensions or incremental gains)
  - High risk tolerance If the outcome of a project is certain, with only dollars and time needed to complete the work, it may not be a program for DARPA.
- Agency is Program Manager centric Bottom up and active management
  - Program Managers are transitory (2 5 year tours) Sets rapid pace

#### **SBIR**

3.2% of all extramural RDT&E

FY19 - \$100M

**STTR** 

.45% of all extramural RDT&E

**FY19 - \$12M** 



## DARPA Structure





Dr. Steven Walker (Director)

Dr Peter Highnam (Deputy Director)



Where Technical
Programs are
managed and
BAAs are written
to create
breakthroughs

Technical Offices
Office Directors
Program Managers

Support Offices
SBPO, Comptroller,
Contracts, etc.

- Advanced S&T, above and beyond Service Labs; not requirements driven.
- Revolutionary, high-payoff research that bridges the gap between fundamental discoveries and ultimate defense use.



# **DARPA Technical Offices**



BIOLOGICAL TECHNOLOGIES OFFICE

Biology for security

- Outpacing infectious disease
- Neurotechnology
- Gene editing & synthetic biology



DEFENSE SCIENCES OFFICE

- Frontiers in math, computation & design
- Limits of sensing & sensors
- Complex social systems
- Anticipating surprise



INFORMATION INNOVATION OFFICE

- Symbiosis: partner with machines
- Analytics: understand the world
- Cyber: deter cyber attack



MICROSYSTEMS TECHNOLOGY OFFICE

- Electronics: drive solutions for DoD access/ infrastructure
- Spectrum: focus on usability of highly-adaptive systems
- Sensors: enable high-end capabilities to proliferate into the field



STRATEGIC TECHNOLOGY OFFICE

- Lethality: resilient killchains over invulnerable systems
- Surprise: heterogeneity over uniformity
- Continuous speed: agility and adaptability over performance



TACTICAL
TECHNOLOGY
OFFICE

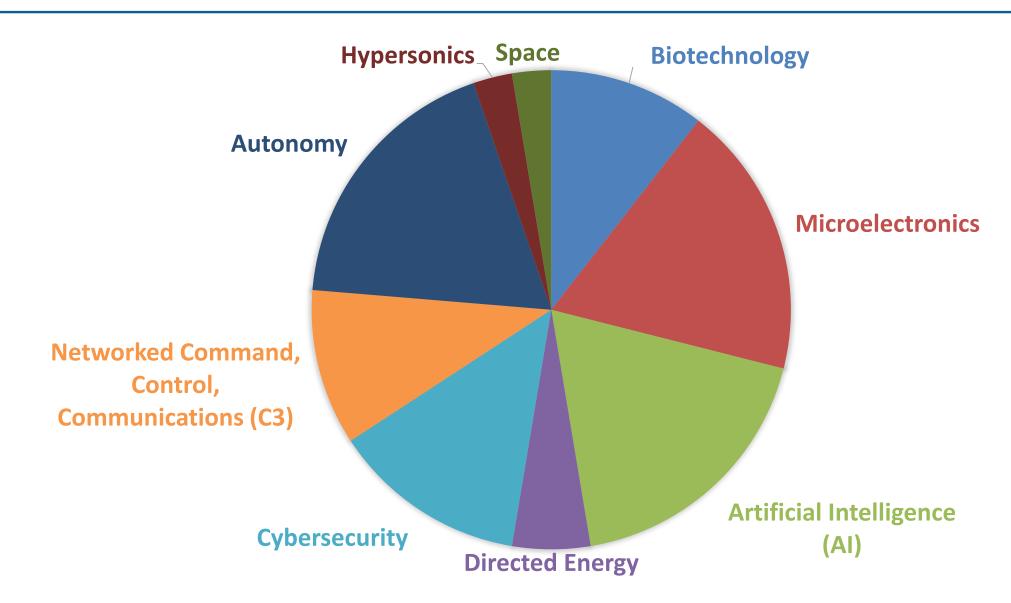
Enterprise disruption: platforms, systems, & technologies that enable new warfighting constructs

**Crosscutting themes** 

- Eliminate highvalue assets
- Exploit crossdomain seams
- Enable decisionmaking asymmetry



# FY19 SBIR/STTR Topic Areas





# Seedlings vs. Programs vs. SBIR/STTR

#### Seedlings (Office Wide/Open Office BBAs)

- Open to all capable sources
- Usually submitted through Office-Wide BAA
- Small short duration (6-9 months) projects
- Move concepts from "disbelief" to "mere doubt"
- May lead to the next generation of program ideas

#### **Programs**

- Open to all capable sources
- Proposals solicited through specific program BAAs
- Often multi-year, multi-disciplinary efforts
- Technology development to move from "possibility" to "capability"

#### SBIR/STTR

- Open to eligible small business concerns
- Usually submitted through DoD SBIR/STTR BAA
- Phase I feasibility up to \$225K
- Phase II prototype development up to \$1.5M
- May lead to the next generation of program ideas



# Streamlined and Competitive Process

#### **BAA Characteristics**

- No common Statement of Work
- Varying technical approaches/solutions are anticipated
- Proposals are evaluated with technical quality and approach as the main factor
- Communication with proposers allowed during the open period of the BAA
- White papers or proposal abstracts may be solicited
- Industry Days where PMs brief interested communities on the program solicitation

#### BAA Types

- Tech Offices will issue program-specific BAAs throughout the year
- 1-year Office-Wide BAAs with a more general scope (rolling submission process)



# How To Participate in the Program?

#### Step 1 – Determine Eligibility

Review complete eligibility requirements at <u>SBIR Policy Directive</u>

#### Step 2 – Find a Topic

Review announcements at <a href="https://sbir.defensebusiness.org">https://sbir.defensebusiness.org</a> to identify topics of interest.

#### Step 3 – Ask Questions

 During the announcement period, communication between small businesses and topic authors is highly encouraged.

#### Step 4 – Prepare your Proposal

 All proposals are initially screened to determine responsiveness with submission requirements published in the DoD SBIR/STTR Program Announcement and supplemental DARPA instructions. FOLLOW INSTRUCTIONS!

#### Step 5 – Submit Proposal

• All SBIR/STTR proposals must be prepared and submitted electronically through the DoD SBIR/STTR Electronic Submission website at <a href="https://sbir.defensebusiness.org">https://sbir.defensebusiness.org</a> and in accordance with the program announcement.

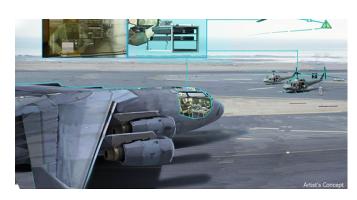
#### For More Info Visit:

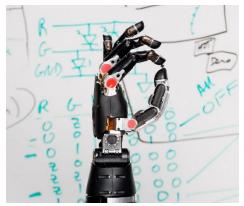
http://www.darpa.mil/work-with-us/for-small-businesses/participate-sbir-sttr-program



# DARPA makes pivotal investments in ideas that lead to breakthrough technologies for national security.

To maximize the pool of innovative proposal concepts it receives, DARPA strongly encourages participation by all capable sources: industry, academia, and individuals.







http://www.darpa.mil/about-us/about-darpa



# **Technology Transition Support**

Goal - to maximize SBIR/STTR companies' potential to move their technology beyond Phase II, and into other research and development programs for further maturity

- No cost to participants Costs covered by DARPA SBPO
- Automatic participation upon Phase II award
- SBPO assists performers by providing business planning advice, identifying funding and collaboration opportunities, and maintaining access to an extensive network
- Feedback on Commercialization Plans and marketing materials
- Assist in Phase II Enhancement application processes
- Weekly opportunity alert sent to all current and past performers
  - Daily FedBizOps posting reviews for new solicitations
  - Agency level SBIR/STTR solicitations
- Topical conferences and training events
- Alumni list maintained for targeted technology requests



# Doing Business With DARPA

- Do Your Research Become familiar with the challenges and opportunities of National Security.
- Visit <u>www.grants.gov</u> or <u>www.fedbizopps.gov</u> to view DARPA Broad Agency Announcements (BAAs), Research Announcement (RAs), and Requests for Proposals (RFPs).
- Visit <a href="https://sbir.defensebusiness.org/">https://sbir.defensebusiness.org/</a> to view DoD SBIR and STTR Program Announcements.
- Contact a DARPA Program Manager (PM) about your idea prior to submitting a white paper or proposal to gain insight into the general need for the type of effort. PMs are the key to working with DARPA.

http://www.darpa.mil/about-us/about-darpa

# Small Business Programs Office (SBPO)

http://www.darpa.mil/work-with-us/for-small-businesses

Jason Preisser Program Director



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