

SBIR First Principles

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Overview

- SBIR Program
- Acquisition Regulations
- Contract Types
- Small Business Subcontracting
- Competition Requirements
- Contract Methods/Contracting Process
- Small Business Descriptions and Certifications
- An overview of government cost accounting practices and contractor responsibilities
- Proprietary Information and Intellectual Property (IP)
- Data Marking Requirements
- International Trade in Arms Regulations (ITAR)

Two Thoughts To Keep In Mind

- Rotate & Smooth
- Read & Mark

R&D Initiatives LLC

Founded in 2011

Mission: Help small high tech businesses to
Connect, Commercialize & Grow

SBIR Program

- According to the National Research Council*, it is the Main Source of Federal Funding for Early Stage Technology Development

**"An Assessment of the Small Business Innovative Research Program"*, National Research Council, National Academies Press: Charles W. Wessner, Editor, Committee on capitalizing on Science, Technology and Innovation; 2008
http://www.nap.edu/catalog.php?record_id=11989

*Legislation**

- Small Business Innovation Act of 1982; renewed in 1992, 2001 and CR #16 (through Dec18),???
- Federal agencies with \$100 million R&D budget must allocate 2.5% of their R&D budgets for small business awards
- Currently a \$2.5 billion per year program
 - Largest U.S. Partnership Program
 - Focus on New Firms & New Ideas in Existing Firms

*<http://www.nationalacademies.org>

*SBIR Characteristics**

- Addresses Government and Societal needs in security, energy, health & environment
- Funded by existing budgets
- Distributed ownership among federal agencies
- “Valley of Death” and Phase 2 gates

DoD SBIR Thrusts

- Stimulate technology innovation in Critical Technology Areas
- Encourage SBCs to meet R&D needs
- Encourage Minority & Disadvantaged Persons in Technology Innovation
- Commercialize DoD R&D

*WIN-WIN-WIN**

- Government agencies can solve their problems with minimal investment.
 - Public needs met with private sector innovation
- Entrepreneurs do not need to dilute ownership, can demonstrate quality to the capital market & grow/control intellectual property
- Universities can validate research funding & grow the regional job base
 - High quality science and technology jobs created

*<http://www.nationalacademies.org>

A Word About SBIR Topics

- Proposals are only submitted in response to solicitation topics. There is no such animal as an unsolicited SBIR proposal.
- DoD Engineers and Scientists author topics, but many of them are receptive to ideas on new topics
- The awarding component may have component specific instructions and unique topics
 - Read & Follow the Solicitation Instructions

*DoD Solicitation Schedules**

SBIR	Pre-Release	Open	Close
Solicitation 1	November	December	January
Solicitation 2	April	May	June
Solicitation 3	July	August	September

STTR	Pre-Release	Open	Close
Solicitation A	January	February	March
Solicitation B	July	August	September

*<http://www.acq.osd.mil/osbp/sbir/sb/schedule.shtml>

*US Government Participants** *(FY 2010)*

- **SBIR STTR**

- DOD - \$1,200M
- HHS - \$690M
- NASA - \$138M
- NSF - \$105M
- DOE - \$102M

- **SBIR Only**

- USDA - \$19M
- DHS - \$30M
- DOC - \$9M
- DoED - \$8M
- EPA - \$7M
- DOT - \$4M

*www.SBIR.gov

Participation

- US-Based, For-profit business with <500 employees
- All R&D must be performed in the US
- SB must control its research facilities, but access to special facilities is permitted
- The Principal Investigator's (PI) primary employment (51%) must be with the SB during the project, suggested at least 10% time
- SB is 51% US owned and independently operated (new legislation (HR 1425/SB 93) may change this)

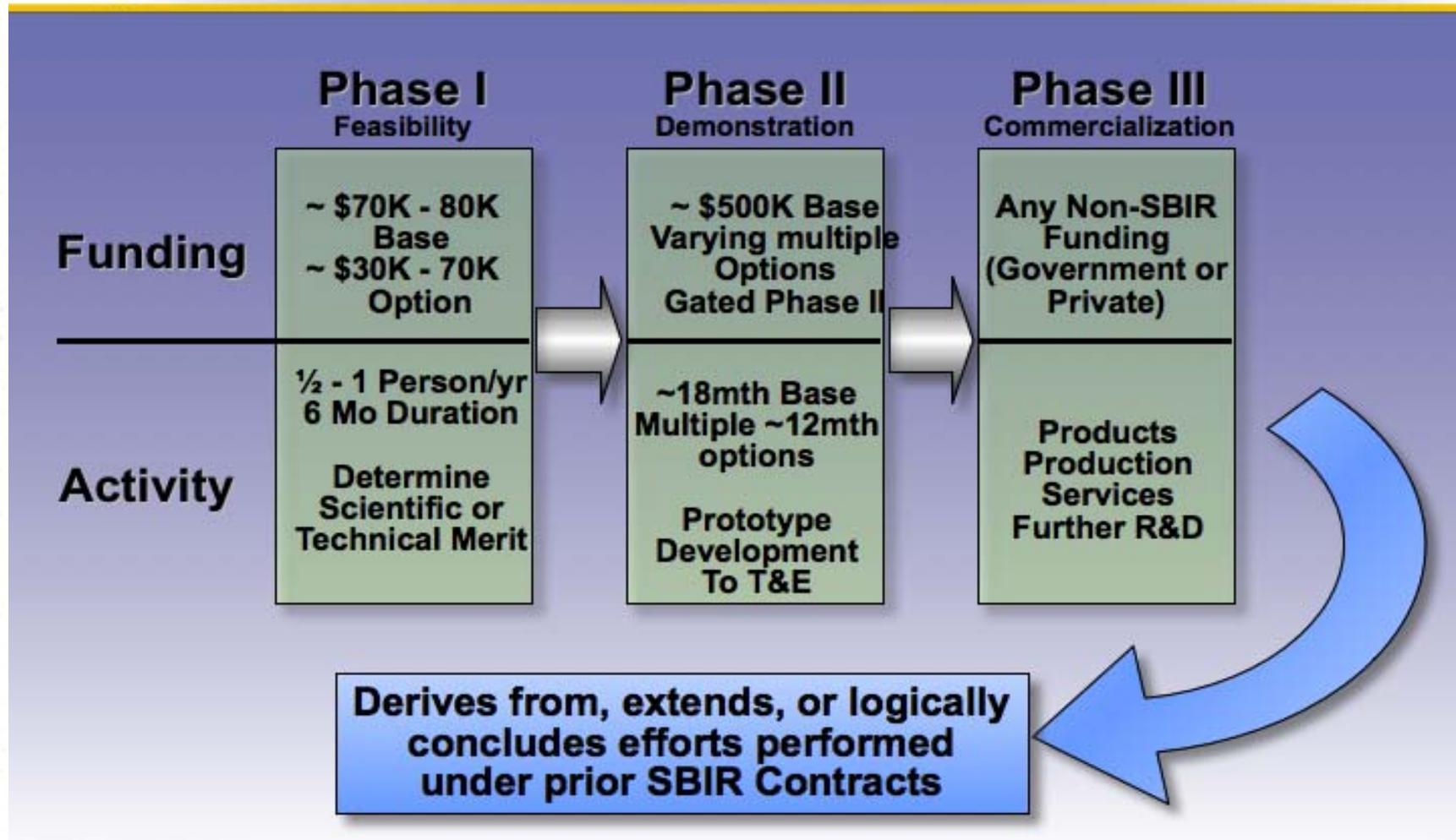
STTR vs SBIR Cost Distribution

	SBC	Subcontractors in aggregate	Non-profit US Research Institute partner	Discretionary: SB, University, Consultants, Subcontractors
SBIR PI	$\geq 67\%$	$\leq 33\%$		
SBIR PII	$\geq 51\%$	$\leq 49\%$		
STTR PI & PII	$\geq 40\%$		Up to 30%	Up to 30%

STTR requires involvement of a non-profit institution
 SBIR does not
 SB is always the applicant organization



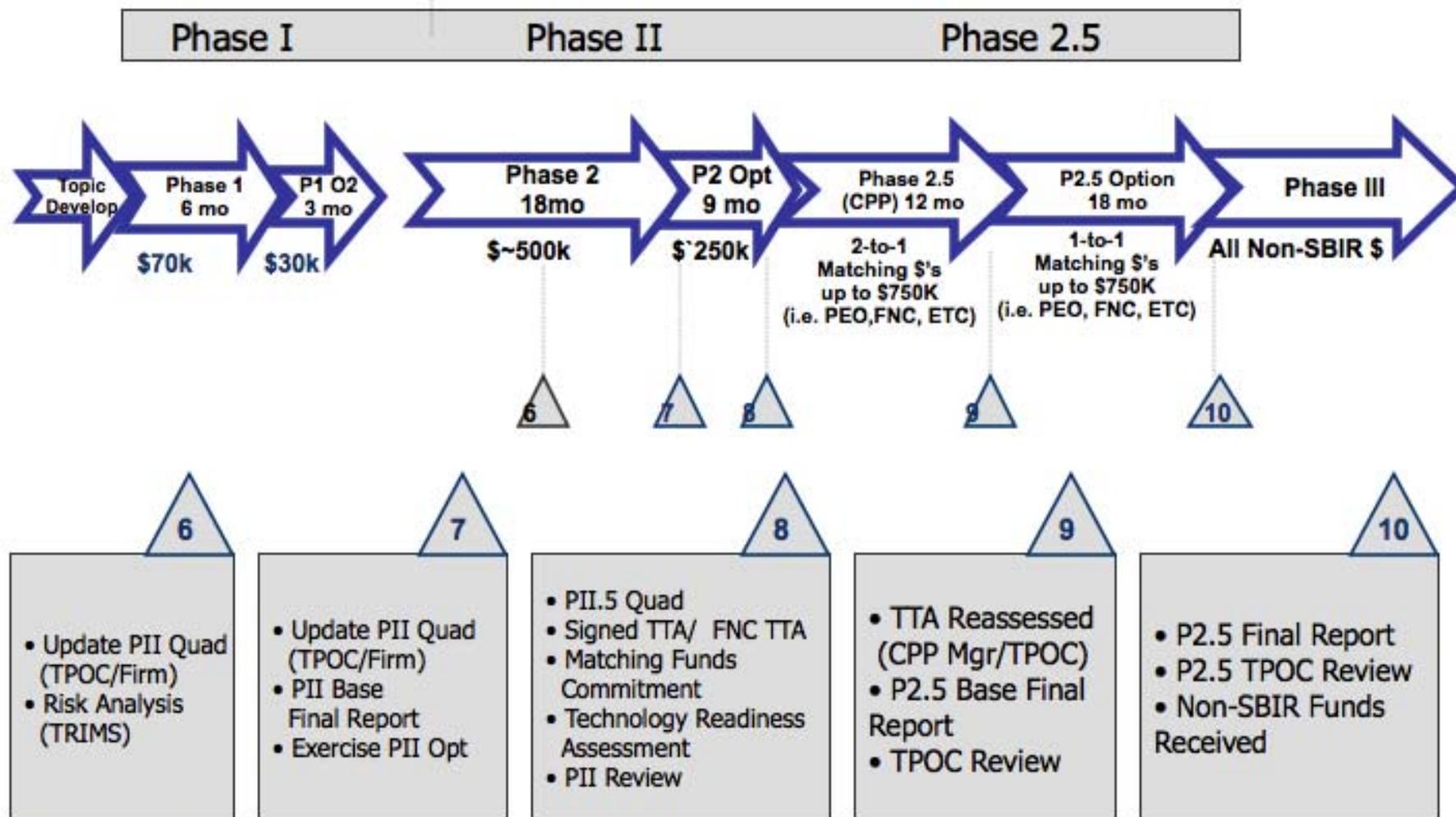
Program Phases *



*<http://www.navysbir.com/help.htm>



Gated Process *



PI Rules for STTR

- Official primary relationship between the the PI and SBC
- Sufficient opportunity to oversee Scientific & Technical direction
- PI can be a FT employee with the partnering research or academic institution
 - 10% effort usually does not violate FT status at the institution, but check with the institution

DoD Three Phase Program-1

- PI & PI Option Awards made competitively
 - Typically \$60K-\$100K
 - 6-9 months duration
- P2 Awards are invitation only
 - Based upon PI results & scientific, technical and commercial merit
 - Typically \$500K-\$750K (incrementally funded) and <24 months
 - Well defined deliverable
- Watchout: Each agency has unique Guidelines and Rules

DoD Three Phase Program-2

- Phase III
 - Obtain funding from the private sector or non-SBIR government funding
 - Develop prototype into a viable product or service for sale to the military or private sector
 - DoD helps with commercialization (See next Speaker; Jenny Servo)

DoD Programs are Component Specific-Read the Solicitation

	PI	PI Opt
Navy (Navair)	\$80K	\$70K
Navy Others	\$70K	\$30K
Army	\$100K	\$50K
AF	\$100K	-

*Items of Interests**

- On October 4th, 2011 the House of Representatives voted overwhelming (352/66) in favor of [H.R. 2608](#) thus extending the SBIR, STTR, and CPP programs until November 8, 2011 and then to Dec 18.
- SBA published in the [Federal Register](#) proposed amendments to the SBIR Program to raise the SBIR Phase I award threshold amount from \$100,000 to \$150,000, and the Phase II award threshold amount from \$750,000 to \$1,000,000.

SBIR 2.0

Building a "one-stop-shop" web portal with all solicitation topics available and searchable

Target time-frame between selection of a proposal and award to an applicant at less than 60 days for all agencies.

Evaluating opportunities to **clarify and simplify data rights** for the Federal Government and entrepreneurs.

Expanding bridge financing programs with a focus on Phase II matching programs.

Expanding use of the SBIR program to facilitate technology transfer from federal labs. Commercialization of intramural research via technology transfer. The National Institute of Standards and Technology, the Navy, the National Institutes of Health, and the Department of Transportation are participating.

Encouraging agencies to issue joint solicitations to work together to streamline topics for applicants and address areas of national priorities. NIH, DHS, DARPA, NSF and USDA are participating in a [joint SBIR Phase I solicitation for robotics](#). Topics close on December 20, 2010.

<http://www.sbir.gov/content/announcing-sbir-20>

*Federal and State Technology Partnership Program (FAST)**

\$100K per state

Total amount of Federal funding anticipated as \$2,000,000. A maximum of 20 awards will be made. Grant award amounts up to \$100,000. There is a matching fund requirement and resources should be noted in the technical proposal.

Purpose: Strengthen the technological competitiveness of SBCs in every state.

Outreach, financial support and technical assistance to technology-based small business concerns participating in or interested in participating in an SBIR program, including initiatives:

- (i) To make grants or loans to companies to pay a portion or all of the cost of developing SBIR proposals;
- (ii) To establish or operate a mentoring network within the FAST Program to provide business advice and counseling that will assist SBCs that have been identified by FAST Program participants and other entities, as good candidates for the SBIR and STTR Programs, and that would benefit from mentoring, in accordance with section 35 of the Small Business Act (15 USC § 657c);
- (iii) To create or participate in a training program for individuals providing SBIR outreach and assistance at the state and local levels; and
- (iv) To encourage the commercialization of technology developed through SBIR program funding.

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*DoD 2010 SBIR Statistics**

Fiscal Year	DoD Component	SBIR Budget	# Topics	# Ph I proposals	# Ph I awards	# Ph II awards
FY10	Army	244,355,000	176	3,240	434	202
	Navy	342,637,650	232	4,098	666	310
	Air Force	331,320,000	181	2,494	501	282
	DARPA	67,303,000	27	833	107	127
	DTRA	8,347,000	17	307	21	5
	MDA	90,323,000	35	553	126	77
	SOCOM	10,097,000	8	142	23	6
	CBD	14,647,000	10	127	21	19
	OSD	86,238,000	64	915	143	41
	DLA	2,356,200	1	55	6	2
	DMEA	2,166,000	2	35	4	0
	NGA	N/A	0	0	0	0
	All DoD	1,199,789,850	753	12,799	2,052	1,071

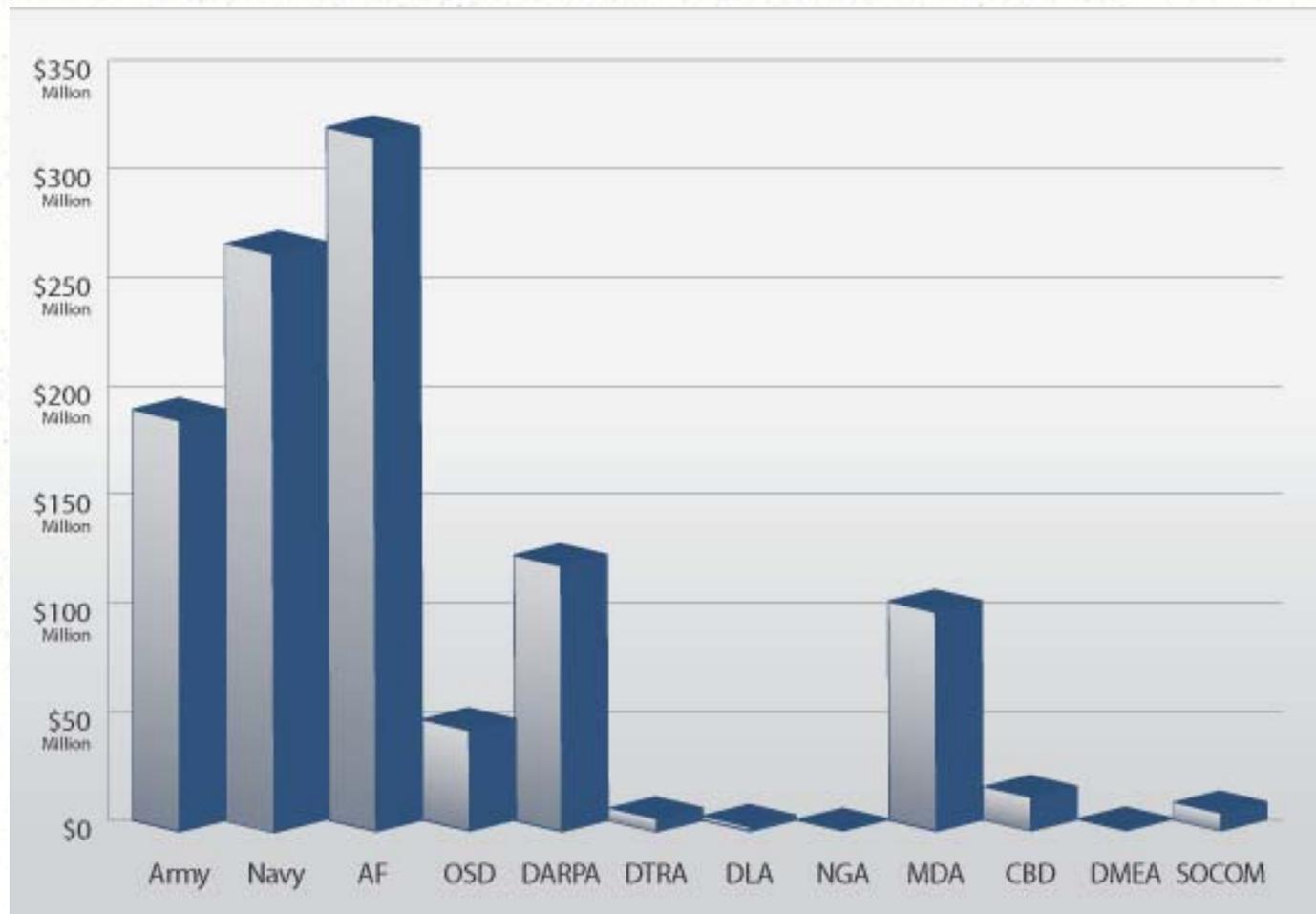
*<http://www.acq.osd.mil/osbp/sbir/about/sbirAnnualReport.shtml>

*DoD 2010 STTR Statistics**

Fiscal Year	DoD Component	STTR Budget	# Topics	# Ph I proposals	# Ph I awards	# Ph II awards
FY10	Army	29,323,000	29	446	64	22
	Navy	41,116,518	50	804	151	46
	Air Force	39,758,000	37	309	125	59
	DARPA	8,076,000	0	0	9	16
	MDA	10,839,000	4	33	25	12
	OSD	6,048,000	6	54	9	3
	All DoD	135,160,518	126	1,646	383	158

*http://archive.sba.gov/idc/groups/public/documents/sba_homepage/sba_fast_program_annnc.pdf

*Total Awards by Component 2010**



Benefits of SBIR vs STTR

- Higher Funding available for SBIR
- Get re-imbursed for G&A applied to any consultants
- No Academic Partner necessary
 - Reduces lawyer's & agreement fees
 - No academic indirect costs applied
- SBIR “Unique Right”-more later

Benefits of STTR vs SBIR

- SBC's lack a creditable PI
- PI's desire to remain with the university
- Access academic facility resources
- Higher subcontracting percentages available

STTR Burdens

- IP agreement
- “Budget and Certification of Research Firm” required
- Conflict of Interest issues
- Publish Results-Do you want to reveal your secret sauce?
- Grad Students; inexpensive but sometimes unreliable; ITAR concerns-more later

Contracts & Grants

- A Contract is an agreement to provide goods or services that are a direct benefit to the procuring agency
 - The agency has a requirement
 - Well defined deliverables
- A Grant is an agreement to accomplish something for a public good in exchange for money, property or services
 - The agency is looking for good ideas
- Grants don't have Phase IIIs

Being Competitive

- Try to understand the procuring activity's philosophy
- Understand the review process and the psychology of the reviewers; visit if you can
- Have a Plan; Keep the end result in mind
- Understand and follow the rules
- Engage the TPOC in a Dialogue

Grants

- Register with grants.gov
- Get a DUNS #
- Register with the Central Contract Registry
 - EBIZ POC
 - PW (MPIN)
- Complete grants.gov registration and authorize AORs
- 21 days to complete
- Help desk is 1800-518-4726

Getting Started

The screenshot shows a web browser window with the URL <https://www.dodsbir.net/>. The browser's address bar also shows "DoD SBIR Resource Center ..." and "Google". The website header features the Department of Defense logo and the text "DEPARTMENT OF DEFENSE Resource Center Small Business Innovation Research" with the URL www.dodsbir.net.

The main content area is organized into three vertical columns:

- SEARCH**
 - AWARDS**: DoD SBIR & STTR Awards (with a trophy icon)
 - TOPICS**: Current DoD SBIR & STTR Topics (with a dartboard icon)
 - SITIS**: Interactive Topic Info System (with a Q&A icon)
- INTEREST**
 - [ABOUT SBIR/STTR](#)
 - [CURRENT SOLICITATION](#)
 - [SELECTION LISTINGS](#)
 - [CONFERENCES](#)
 - [DESK REFERENCE](#)
 - [MAJOR ACQUISITION LIAISONS](#)
 - [RAPID INNOVATION FUND](#)
 - [SBIR ANNUAL REPORT](#)
 - [STTR ANNUAL REPORT](#)
 - [FAST TRACK/PHASE II ENHANCEMENT](#)
 - [COMMERCIALIZATION PILOT PROGRAM](#)
- HELP**
 - HELPDESK**: Answers Questions About DoD SBIR & STTR (with a helpdesk icon)
 - WEBSITE**: Main Website for More Information (with a globe icon)
 - LISTSERV**: Subscribe to Receive Program Notices and Updates (with an @ icon)
 - CONTINUOUS LEARNING**: A library of SBIR Program Resources (with a person reading icon)

At the bottom, there is a **SUBMISSION** section with a "submit" button icon and the text "DoD SBIR/STTR Proposal Submission". A footer bar contains the text "PRIVACY AND SECURITY POLICY". The browser's status bar at the bottom right shows a zoom level of 110%.

SBIR Registration

- Register online
 - <http://www.dodsbir.net/submission/Signin.asp>
- Additional Items needed upon award
 - Federal Tax ID
 - DUNS Number
 - Cage Code (CCR)
- Designate POC
- Upon completion, you will receive an on-line confirmation

DoD Electronic Submission

- Be cognizant of submission deadline
- Proposal elements required
 - Cover Sheet
 - Technical Proposal
 - Cost Proposal
 - Company Commercialization Report
- Tutorial @
 - <http://www.dodsbir.net/tutorial/>

Proposals

- Limited to 25 pages
- Exceptions (20 Pages) max
 - Army
 - USAF
 - MDA
 - DLA

DoD Technical Proposal Sections

Identification and Significance of the Problem or Opportunity

Phase I Technical Objectives

Phase I Work Plan

Related Work

Relationship with Future Research or Research and Development

Commercialization Strategy

Key Personnel

Facilities/Equipment

Subcontractors/Consultants

Prior, Current, or Pending Support of Similar Proposals or Awards

*Features, Advantages & Benefits**

- “A feature describes a fact or characteristic of a product or service. It usually says what the product or service is.” (Novel antenna material, electrically small antenna technology, distributed aperture)
- “An advantage is something we think might be a benefit to a customer.” (Weave antenna into soldier's clothing)
- “A benefit is something your customer has said they want. It shows what the product or service will do for them.” (mobile soldier network, reduced size and weight of antenna)

*<http://sales-skills.net/course-topics/features-advantages-benefits/>

Coaching Points-1

- Talk to the TPOC-What problem is he/she trying to solve? Who is the customer? Who voiced the problem? Who needs the solution? These can help you formulate a Commercialization Plan.
- Formulate questions that are advantageous to your firm, not to your competitor
- Concise Statement of the Problem
- Concise Statement of the Objective
- Concise Statement of the Approach
- Concise Statement of the Innovation that solves the problem: What is the state of the art how do you improve on that? Do a literature search.

Coaching Points-2

- Concise statement of commercialization plan and any “spin-off” benefits
- How will you measure performance?
- Detailed Workplan and Schedule
 - Open Project is free and compatible with MS Project (\$700/\$1000)
 - Can be used to develop Costs as well
 - Amazon: Open Project Manual (\$13)

Coaching Points-3

- Work Plan
 - Where will it be done? Who will do the work?
- Risks and Risk Mitigation
- Key personnel: PI credentials (Very important)
- Identify Contractors or Subs and what tasks they will perform
- Reference Relevant Publications
- Commercialization strategy; market need, size of market
- Facilities and Equipment

Award or Not

- Internal Gov review of proposal
- Status of process posted on website
- Debrief upon written request within 30 days
- Request a debrief to understand your strengths and weaknesses

*SBA SBIR Policy Directive on Data Rights**

- The September 24, 2002 Small Business Administration Small Business Innovation Research Program Policy Directive
 - Is the Final Directive
 - Has the Force of Law
 - Clarified Phase III Rights
- The Directive favors SBIR firms, but SBIR firms must know of its provisions to protect their rights

* http://conferencing.uwex.edu/conferences/sbir2011/documents/david_metzger_SBIRDataRights-TheGoodTheBetterandTheBest.pdf

SBIR “Unique Right”

- SBIR Data Rights Clause must be inserted into all SBIR Contracts
- **“Under the SBIR Data Rights Clause:*
 - Agencies must protect and cannot disclose all data generated under an SBIR funding agreement, (except for limited purposes)
 - Protection period starts on contract start date and lasts for:
 - 5 years for defense contracts from the end of the project
 - And 4 years for non-Defense contracts from the end of the contract”
- http://conferencing.uwex.edu/conferences/sbir2011/documents/david_metzger_SBIRDataRights-TheGoodTheBetterandTheBest.pdf

Warning

- Some KO's and Prime Contractors are not aware of the “Unique Right”
 - Primes will flow down data rights clauses
 - Unique Right clause should be “inserted”
 - See Metzger
- “Derives from, extends or logically concludes efforts performed on prior SBIR contracts” covers a lot of territory!
- Get some legal help if necessary

Data Rights Sources

- PHASE III SBIR Data Rights: Subcontracting presented at the Navy Opportunity Forum, June 8, 2011 Presented by David P. Metzger, Esq., Partner, Arnold and Porter LLP
- http://www.navysbir.com/docs/Navy_Partnering_Manual_public_release.pdf
- http://conferencing.uwex.edu/conferences/sbir2011/documents/david_metzger_SBIRDataRights-TheGoodTheBetterandTheBest.pdf

*Markings**

- Mark all SBIR generated data with the data rights legend found at:
 - DFARS 252.227-7018
 - FAR 52.227-20
- Add that the rights “role over” to subsequent related contracts

* http://conferencing.uwex.edu/conferences/sbir2011/documents/david_metzger_SBIRDataRights-TheGoodTheBetterandTheBest.pdf

*Pre-existing Data**

- “SBCs must preserve rights in their own proprietary data (and that of others) they bring to the contact:
 - IDENTIFY data that brought to the contract
 - ASSERT rights to it
 - Describe the BASIS for the assertion
 - Provide the NAME/COMPANY asserting right”
- The SBIR Data Rights clause requires this
- Failure to do so can result in forfeiture of rights in data brought to the contract”

[*http://conferencing.uwex.edu/conferences/sbir2011/documents/david_metzger_SBIRDataRights-TheGoodTheBetterandTheBest.pdf](http://conferencing.uwex.edu/conferences/sbir2011/documents/david_metzger_SBIRDataRights-TheGoodTheBetterandTheBest.pdf)

SBIR/STTR Interactive Topic Information System (SITIS)*

- **Purpose: Provide technical clarification on solicitation topics.**
- **Questioner and Respondent remain anonymous and all technical questions and answers are posted electronically for general viewing.**
- **Questions that deal with the technical aspect of a specific topic in the DoD SBIR FY2012.1 Solicitation will be accepted in *SITIS* through December 28, 2011. Once DoD begins accepting proposals on December 12, 2011, questions may only be submitted through the *SITIS* system.**
- **View *SITIS* Quick Scan daily.**

*<http://www.dodsbir.net/sitis/>

Accounting

- Defense Contract Audit Agency provides F&A advice to procurement personnel
 - Accounting Requirements: Pamphlet, DCAAP 7641-90; "Information for Contractors"
 - <http://www.dcaa.mil>
- SF 1408: List of accounting requirements
 - End of Chapter 2 “Pre-Award Survey”
- FAR Part 31: Cost accounting principles and procedures
- FAR Part 30: Cost Accounting Standards Board rules and regulations (Don't apply to SBCs) ⁵⁰

Contract Types-1

- Firm Fixed Price requires a much less strict accounting system
 - Primarily used for Phase 1
 - Could be FFP-LOE similar to T&M
 - Recommend milestone deliverables like monthly reports to improve cash flow
- Cost reimbursable contracts are issued if the accounting system is adequate to determine the costs associated with the contract FAR 16.301.3(a)

Contract Types-2

- Contractor must submit a completion voucher with 120 days of the completion of the fiscal year in which the contract was finished. FAR 52.116-7(d)(5)
- Pub 334 “Tax Guide for Small Businesses” and other forms available @ <http://www.irs.ustreas.gov>

Also see

<http://www.acq.osd.mil/osbp/sbir/sb/resources/deskreference/deskreference.pdf>

- [SBIR/STTR Help Desk](#) or phone 866-SBIRHLP (866-724-7457)

Time Card System

“Approved” by DCAA

Explicitly identify work performed on each contract separately (Charge # System)

Enter time daily

Change Tracking

Errors must be

Corrected and Initialed & Dated

Approved and Initialed & Dated by a Supervisor

Cannot be arbitrarily changed at a later date

Low end accounting systems and Excel can't do this

Usually defaults to a paper time card for SBCs

Getting Paid-Fixed Price Contracts

- For Fixed Price contracts FAR subpart 32.111(a)(2) requires Clause FAR 52.232.2
 - Provides for Acceptance(by Technical Monitor) and Payment:
 - FFP - Form DD250
- FAR 46.315 requires Clause FAR 52.246.15
 - FPLOE – Certificate of Conformance
 - Used when conditions of FAR 46.504 apply, i.e. low risk

Getting Paid-Cost Reimbursable Contracts

- FAR 16.307 requires clause FAR 52.216.7
 - Cost Plus Fixed Fee or Cost Reimbursable Cost Sharing Contracts
 - Allow invoicing every 2 weeks, less time for a SBC, for actual costs incurred
- Guidance
 - DCAA Pamphlet 7641.90 - Information for Contractors
 - DCAM 7640.1 - Contract Audit Manual₅₅

ITAR Technology

- DoD SBIR Objectives: Stimulate technology innovation in Critical Technology Areas (Applicable WIN Forum items listed below)
 - Information Systems Technology
 - Air Platforms
 - Ground & Sea Vehicle Technology
 - Sensors, Electronics, Electronic Warfare
 - Space Platforms
 - Battlespace Environments

*International Traffic in Arms Regulation**

“TITLE 22--Foreign Relations

CHAPTER I--DEPARTMENT OF STATE

SUBCHAPTER M--INTERNATIONAL TRAFFIC IN ARMS REGULATIONS

§ 120.2 Designation of defense articles and defense services.

The Arms Export Control Act (22 U.S.C. 2778(a) and 2794(7)) provides that the President shall designate the articles and services deemed to be defense articles and defense services for purposes of this subchapter. The items so designated constitute the United States Munitions List and are specified in part 121 of this subchapter. Such designations are made by the Department of State with the concurrence of the Department of Defense. For a determination on whether a particular item is included on the U.S. Munitions List *see* §120.4(a).”

*Defense Articles (120.3)**

“§ 120.3 Policy on designating and determining defense articles and services.

An article or service may be designated or determined in the future to be a defense article (see §120.6) or defense service (see §120.9) if it:

- (a) Is specifically designed, developed, configured, adapted, or modified for a military application, and
 - (i) Does not have predominant civil applications, and
 - (ii) Does not have performance equivalent (defined by form, fit and function) to those of an article or service used for civil applications; or
- (b) Is specifically designed, developed, configured, adapted, or modified for a military application, and has significant military or intelligence applicability such that control under this subchapter is necessary.

The intended use of the article or service after its export (*i.e.* , for a military or civilian purpose) is not relevant in determining whether the article or service is subject to the controls of this subchapter.”

*http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&tpl=/ecfrbrowse/Title22/22cfrv1_02.tpl

*Technical Data (120.10)**

Technical data means, for purposes of this subchapter:

- (1) Information, other than software as defined in §120.10(a)(4), which is required for the design, development, production, manufacture, assembly, operation, repair, testing, maintenance or modification of defense articles. This includes information in the form of blueprints, drawings, photographs, plans, instructions or documentation.

*Foreign person (120.16)**

120.16 Foreign person.

Foreign person means any natural person who is not a lawful permanent resident as defined by 8 U.S.C. 1101(a)(20) or who is not a protected individual as defined by 8 U.S.C. 1324b(a)(3). It also means any foreign corporation, business association, partnership, trust, society or any other entity or group that is not incorporated or organized to do business in the United States, as well as international organizations, foreign governments and any agency or subdivision of foreign governments (e.g., diplomatic missions).

Working with Universities

- Many Graduate Students are Foreign Nationals
- Graduate Students often perform the bulk of the technical work
- Publishing results is often the goal of the university research
- Cautionary note: Obtain written guidance from the KO, not the TPOC, on the use of foreign persons on your contract & get approval to publish

Final Thoughts

- Rotate & Smooth
- Read & Mark

Connect, Commercialize & Grow

R&D INITIATIVES

GUIDING INNOVATION

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