



The NSRP SBIR Program



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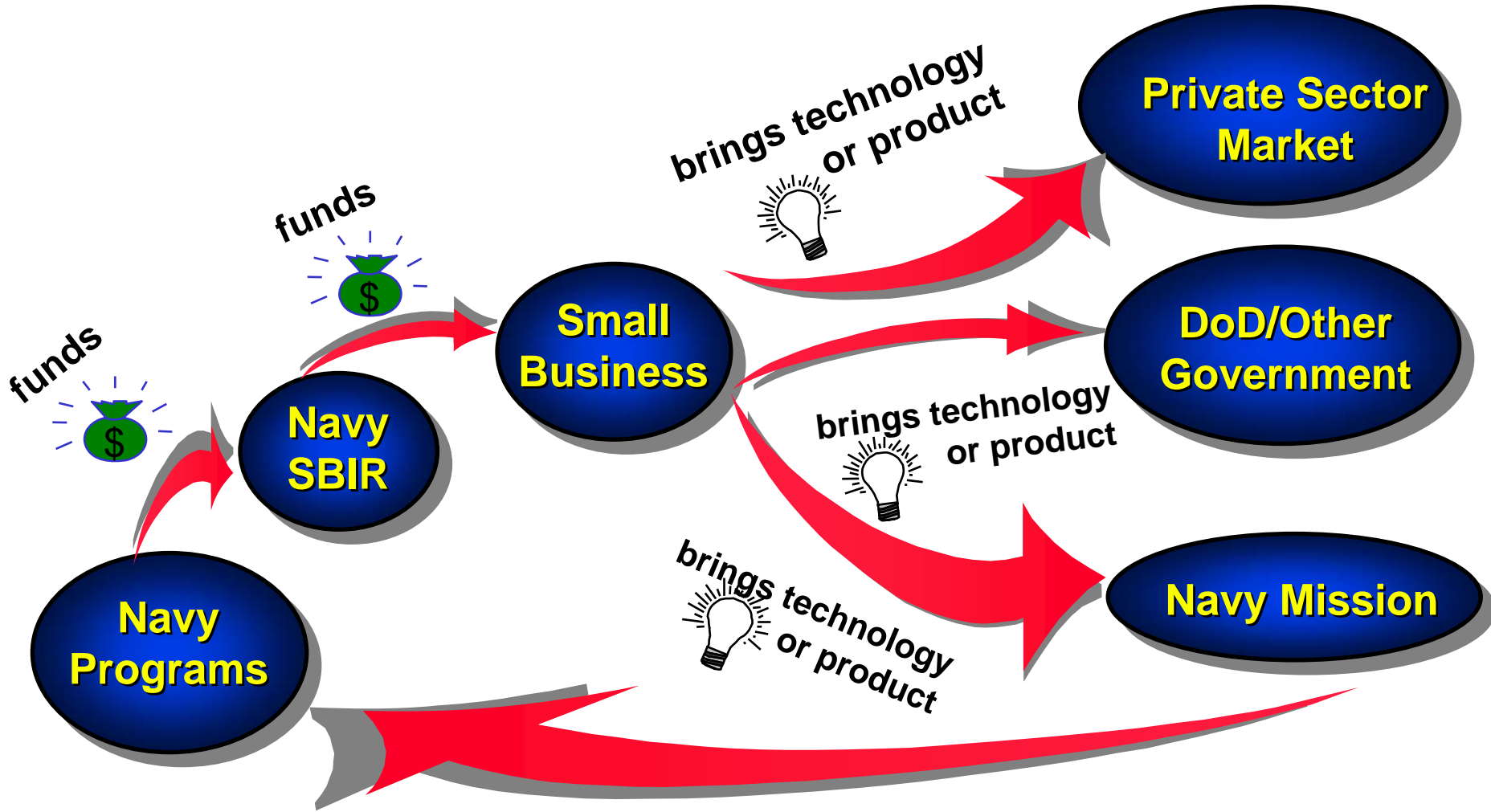
NAVSEA NSRP & MANTECH Program Manager

NAVSEA 05DM

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SBIR - Leveraging Investment in Small Business



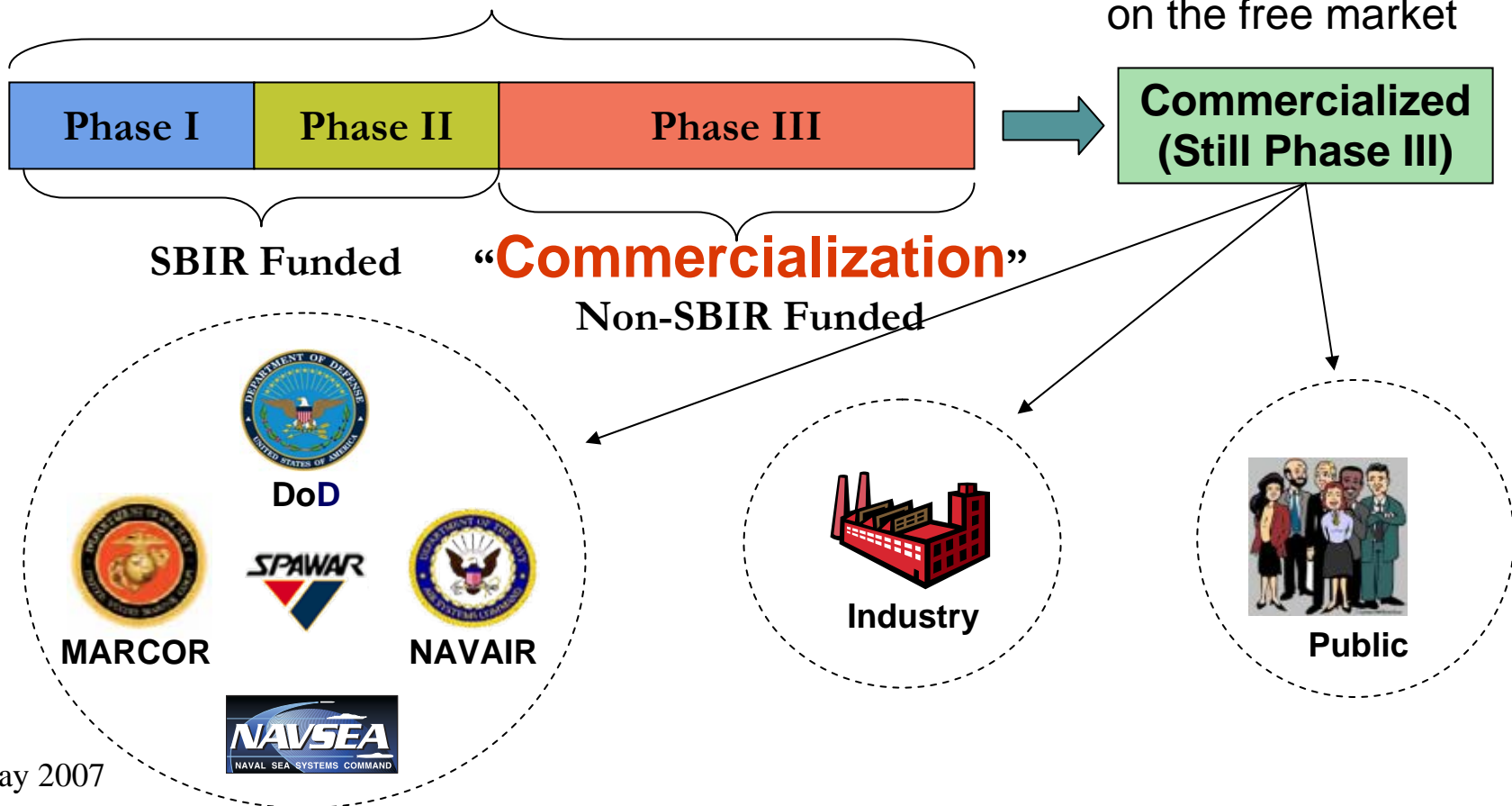
Total Annual SBIR Funding: ~ \$3.96M

Why Participate

- SBIR funding is R&D “tax” (2.5% - SBIR Admin)
- SBIR is not a “loan” - no repayment like Title III
- It’s Navy R&D Money: Panels can influence investments
- Use it to address SIP requirements
- Can use SBIR \$ to reduce risk
- Seed \$ for high-risk / high-payoff projects
- Seed \$ to leverage other funding sources (including NSRP)
- Direct transition of innovative shipbuilding & ship repair technologies to the industry via the NSRP
- Save \$ for Navy shipbuilding & repair programs

SBIR Technology Lifecycle

Small Business Innovation Research (SBIR)



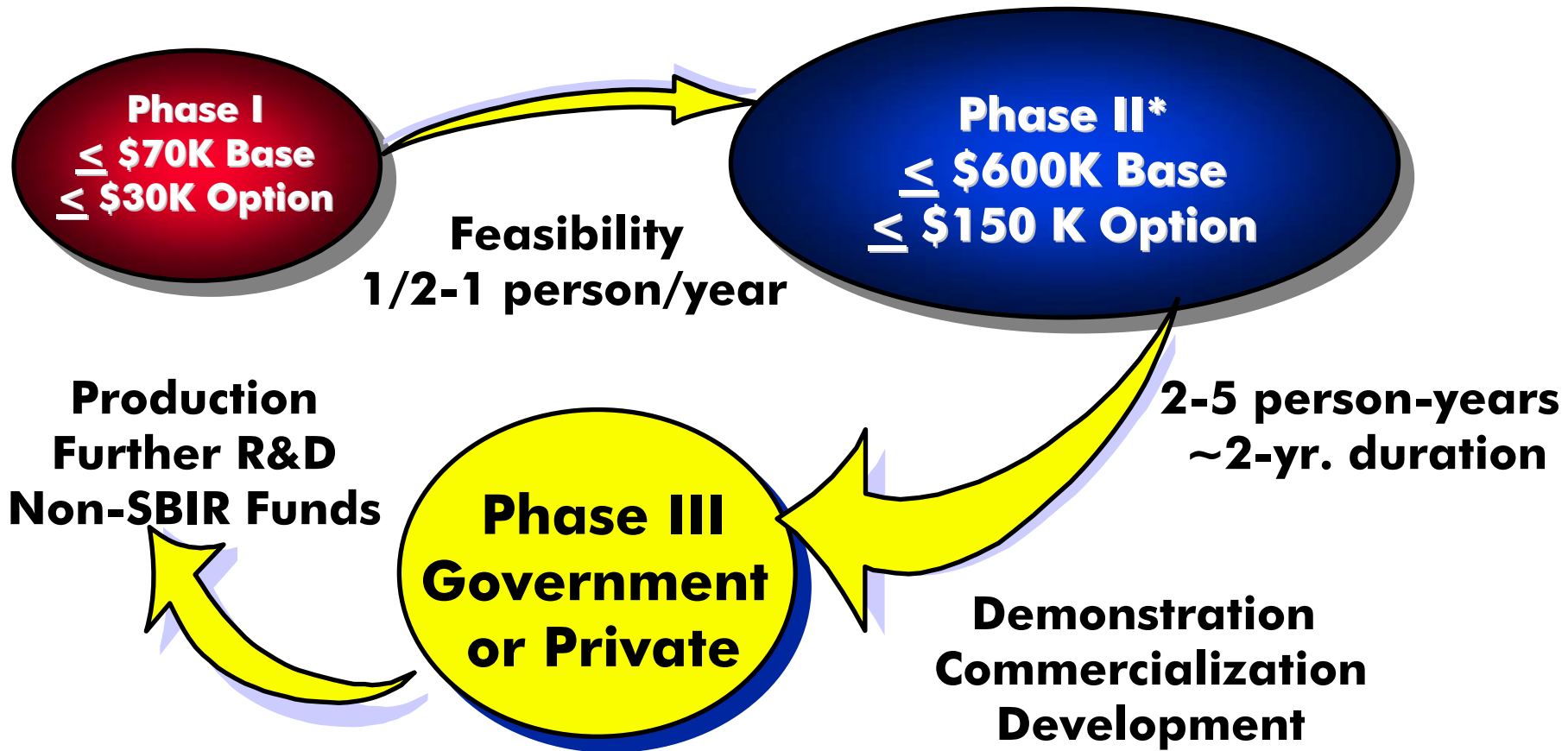
Products available to defense systems and platforms and/or on the free market

What to Expect

- Phase I determines technical feasibility
- Phase II demonstrates a viable prototype product or process
- Phase III provides viable product or service for Military and/or private sector markets
- SBIR Program offers rapid contracting into Phase III
(All required competition is performed in Phase I)



SBIR Project Phases



*varies by component

STTR

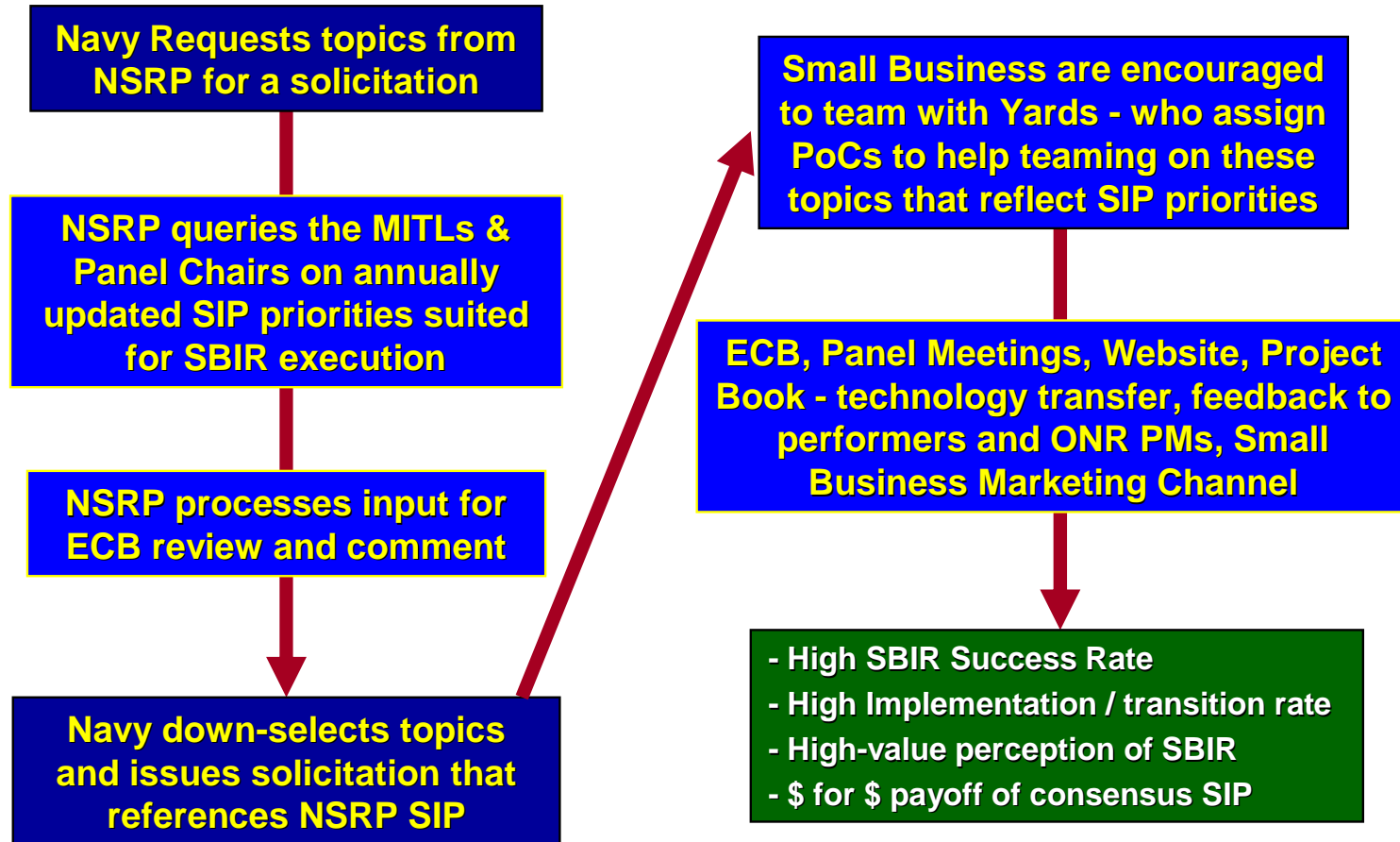


- Sister program to SBIR
- Established by Congress in 1992 with a similar statutory purpose as SBIR
- Major differences between SBIR & STTR
 - STTR requires the small business to have a research partner consisting of:
 - a University,
 - Federally Funded Research and Development Center (FFRDC), or a
 - qualified non-profit research institution.
 - Small business must be the prime contractor
 - Must perform at least 40% of the work,
 - Research partner must perform at least 30% of the work.
 - Balance can be done by either party and/or a third party.



Shipbuilding Topic Process

Shipyard pull of the technology and their active participation in the process leads to implementation



Proposed NSRP SBIR/STTR FY08 Topic Calls

Summary of NSRP SBIR Topics in FY08

Cycle	Sponsor	# NSRP Topics	Prelim Topic Areas	Poll MITLs/PCs for Topics	Topic Due to ECB	Topic Due to SBIR Rep	Topic Due to Sponsor	Topic Due to ONR	Solicitation Pre-Release	DoD Accepting Proposals	DoD Proposal Deadline
8.1	PEO Ships	2	TBD	ongoing	1-May-07	14-May-07	29-May-07	13-Jul-07	10-Dec-07	9-Jan-08	1-Feb-08
8.2		2	TBD	ongoing	1-Oct-07	14-Oct-07	14-Nov-07	5-Jan-08	21-Apr-08	19-May-08	18-Jun-08
8.3		2	TBD	ongoing	7-Jan-08	21-Jan-08	21-Feb-08	4-Apr-08	28-Jul-08	25-Aug-08	24-Sep-08
ManTech Shipbuilding Initiative	ONR	1	TBD	ongoing	1-May-07	14-May-07	13-Jun-07	13-Jul-07	10-Dec-07	9-Jan-08	1-Feb-08
STTR	ONR	TBD	TBD	ongoing	15-Aug-07	30-Aug-07	30-Sep-07	30-Sep-07	22-Jan-08	19-Feb-08	19-Mar-08

NSRP Topics will be submitted to the FY08 STTR Topic Call for consideration.

Navy SBIR & STTR Funding



Organization	FY05	FY06	FY07
NAVAIR	\$108M	\$146M	\$127M
NAVSEA	\$59M	\$65M	\$66M
ONR	\$46M	\$43M	\$40M
SPAWAR	\$15M	\$23M	\$35M
MARCOR	\$12M	\$12M	\$15M
ONR STTR	\$29M	\$35M	\$34M

Way Ahead

- CONOPS to ECB
- SBIR Panel Participation



Get the most updated information on the Navy program

<http://www.navysbir.com>



The screenshot shows the Navy SBIR/STTR website interface. The top banner features the text 'Small Business Innovation Research' and 'DEPARTMENT OF THE NAVY' over a background of a globe and a ship. The 'OFFICE OF ONR NAVAL RESEARCH' logo is also present. A left sidebar contains a navigation menu with links: About SBIR/STTR, Submission, What's New, Solicitation, Search Database, POC's & Links, Success Stories, FAQ's, ONR Home, Contents, and Home. The main content area is divided into two columns, each with a heading and a brief description: About SBIR/STTR, Submission, What's New, Solicitation, Search Database, POC's/Organizations/Link's, Success Stories, and FAQ's.

Small Business Innovation Research
DEPARTMENT OF THE NAVY

OFFICE OF ONR NAVAL RESEARCH

About SBIR/STTR
Learn how the program works; who can participate; how to get started and other general information.

Submission
You must access this site when submitting a Phase I or II proposal to the Navy. Navy requires electronic submission of appendices A, B, & E and project summary reports.

What's New
Review recent award winners, new requirements, upcoming conferences and late breaking news.

Solicitation
Review current topic solicitation and instructions along with links to other Government SBIR solicitations.

Search Database
Identify technology that you can use in your program. Find out who is working in certain technology areas by searching Phase I & II Abstracts, Summary Reports and Success Stories.

POC's/Organizations/Link's
Links to all Navy SBIR Program Offices, and other helpful organizations and websites.

Success Stories
Review SBIR funded efforts that have successful transitions. Gain access to detailed information on technology that is ready to be implemented into your application.

FAQ's
Review our collection of frequently asked questions about the SBIR and STTR Program.

DOD Web Site: <http://www.acq.osd.mil/sadbu/sbir/>

Back Up

Potential NSRP SBIR Goals

- **Focus a portion of SBIR program funds into shipbuilding and repair technologies**
- **Leverage SBIR funds as a means to execute the R&D strategy defined in the NSRP Strategic Investment Plan, focusing on those areas of the Plan that fit well with the SBIR program**
- **Deliver SBIR shipbuilding and repair technologies that save money in Navy shipbuilding and repair programs**
- **Maximize impact of SBIR funding on topics that will exhibit high transition rate on multiple future ship programs.**
- **Implement SBIR projects that have a high probability of transition to Phase III**
- **Complement other means of NSRP Strategic Plan execution, such as commercializing earlier NSRP R&D**

SBIR Project Phases

- **Phase I determines the scientific or technical merit and feasibility of an idea. It is typically a six-month effort funded at approximately \$100K (\$70K feasibility and \$30K option).**
- **Phase II awards are made to firms on the basis of their Phase I results. Phase II is the principal research or research and development effort and is expected to produce a well-defined deliverable product or process. Phase II awards are generally a two-year effort at approximately \$750K (\$600K demonstration plus \$150K option).**
- **Phase III work is not funded by the SBIR program. By Phase III the small business is expected to pursue commercial application or transition from an SBIR-funded status to funding from Navy or other government appropriations. The latter transition is the goal because it is a means for improving naval products and processes.**

NSRP SBIR Roles



- **Navy**: Defines the number and timing of topics for NSRP input, manages the internal Navy topic vetting process, participates in proposal reviews, includes provisions in solicitations and Navy oversight that stimulate proposers to engage with NSRP panels for technology transfer.
 - **Navy PoC**:- NAVSEA NSRP Program Manager’s office
- **NSRP Industry Team**
 - **Executive Control Board (ECB)**:
 - Approve all topic ideas prior to final submission to Navy
 - Support the provision of shipyard points of contact for small businesses who are responsive to related SBIR solicitations
 - Approve the NSRP staff budget to support the SBIR interaction and the costs of shipyard volunteers (Panel Chairs and Major Initiative Team Leaders) who will provide the subject matter expertise to identify topics and recommend industry response to project results
 - **Panel Chairs**:
 - Work with their respective Major Initiative Team Leader to submit ideas for topics when requested
 - Facilitate technology transfer of SBIR projects at Panel meetings
 - Serve as a resource to small businesses to better understand shipyard needs and provide points of contact.
 - **Major Initiative Team Leaders**:
 - Work with their respective Extended Major Initiative Teams—which include affiliated Panel Chairs—to develop proposed topics when requested
 - Submit topics to ECB via Executive Director
 - Monitor progress of SBIR and related projects in their assigned Major Initiative area to identify and report synergies, potential duplication and other feedback as appropriate
 - Serve as a resource to small businesses to better understand shipyard needs and provide points of contact
 - Ensure SBIRs are factored into NSRP Strategic Investment Plan updates and planning
 - **Executive Director**:
 - Facilitate the involvement of ECB, MITLs and Panels in the Navy SBIR program
 - Publicize SBIR projects in NSRP communications channels

NSRP SBIR FY08 Topic Volume

	1 st solicitation in FY	2 nd solicitation in FY	3 rd solicitation in FY	Annual Summary for FY
Number of Topics	2	1	1	4
Number of Phase I awards per topic	6	3	3	12
Total number Phase I contracts	6	3	3	12
Total Phase I Funding	\$480K	\$240K	\$240	\$960K
Phase II Awards (from prior topics)	2	1	1	4
Total Phase II funding	\$1.5M	\$750K	\$750K	\$3M

Proposed NSRP SBIR Cycle



- Jul – In addition to direct Navy engagement with the Panels, the Navy POC will provide any topical interest area requests from Navy customers (i.e. Program Managers, PEOs, Ship Design Managers and Technical Warrant Holders).
- Jul – The Executive Director forwards the Navy customer interest areas to the MITL Leads and Panel Chairs for socialization within their Panels.
- Aug – The Navy POC sends a "demand signal" to the Executive Director indicating the number of anticipated topics for that year.
- Sep – The Executive Director requests appropriate SBIR topics from the MITL Leads and Panel Chairs.
- Dec – MITL / Panel Chairs submit topics to the Executive Director.
- Jan – (concurrent with annual ShipTech event) – MITL / Panel Chair sub group meeting with designated Navy reps to discuss, filter and vet the submitted topics.
- Feb – The Executive Director submits the prioritized list of topics to the ECB.
- Mar/Apr – The ECB finalizes and approves the prioritized NSRP Topic List for that year.

NSRP SBIR Topic Development Guidelines



- The topic should describe a focus area (e.g., design tools, skills retention, hazardous material reduction, workforce productivity/safety, composite structural affordability). These areas should be specific enough for a small business to recognize the focus area and how its technology might be pertinent.
- There should be another level of specificity provided that identifies particular areas of interest within the focus area – for example, the design tools focus could be on process simulation, facility optimization for flexible operations, or dynamic scheduling.
- The topic write-up should emphasize innovation and should be looking for highly innovative, high-payoff solutions. A topic seeking solutions that are readily available or appear to require a straightforward development effort will not be successful.
- The topic should not identify a solution. It should identify a problem that allows the small business to propose an innovative solution. For example, the topic, “improved lighting system for drydocks” may be important to a shipyard, but wouldn’t be seen as requiring innovation by the SBIR sponsoring activity.
- Quantifiable measures of the issue or pending impact of no action help support the worthiness of the topic. An example might be an OSHA or EPA requirement that can’t currently be met and a resulting incremental cost to shipyards.
- Websites, Points of Contact and other publicly-available references are provided to aid the proposer in understanding the technology area and the associated shipyard issues/limitations.
- Additionally, shipyards are encouraged to solicit small businesses to develop solutions (proposals) and to partner with them in these projects. The benefit to the participating shipyard is funding to support the SBIR development and a head start on evaluating and implementing solutions arising from these projects. The small business must spend two-thirds of the Phase I funding and one-half of the Phase II funding in-house. So, it is possible that as much as 40% of the total effort could be used to fund outside participation, including that by non-Small Business shipyards.

STEPS INVOLVED IN MANAGING AN SBIR TOPIC

1. Develop Topics
 - a. Talk to Panel Chairs and ATI
 - b. Develop Concise topic description
 - c. Run through NAVY NSRP management and NAVSEA Tech Codes
 - d. Submit topic and revise as needed
 - e. Report Status
2. Topic Question and Answer Period
 - a. 30 day period when all interested people can inquire about topic
 - i. Involves telecons (20 to 30 calls during period)
 - ii. Arranging for Interface with panel member/NAVSEA
3. Proposal Period
 - a. Questions received and must be answered in writing within 2 day period
 - i. 4 or 5 inquiries received in 5.1
 - ii. Must identify evaluators for proposal and set up for web-base evaluation
 - iii. Report status
4. Evaluation Period
 - a. Oversee Evaluation
 - i. Monitor that evaluators are participating
 - ii. Review draft scores and ask for reevaluations when score are markedly different
 - iii. Review all proposal for relevance to topic and length of proposal
 - iv. Review all evaluations and nominate selections for award
 - v. Report Status
5. Prepare for Contracting
 - a. Assist in pitting together contract request
6. TPOC duties
 - a. Set up Kickoff Meeting
 - i. Invite Government experts and advise of shipyard contacts
 - ii. Government participation may require funding support
 - iii. Set up administrative details of contract
 - b. Receive and Review Progress Reports
 - i. Sign and transmitt DD 250
 - c. Set up appropriate contacts for contractor and attend necessary meetings
7. Prepare for Phase II Awards
 - a. Determine likely number of awards
 - b. Review Phase II plan and final report
 - c. Notify successful and unsuccessful Phase I participants
 - d. Assist in Phase II contracting

What to Expect



- Intellectual property rights belong to small business
 - Contractor owns technical data under SBIR contract for 5 years
 - 5 years from delivered date of the last deliverable on contract
- Intellectual property rights can extend past 5 years
 - If SBIR contract states previous SBIR data developed under prior SBIR contract is protected
 - Then data rights are extended to 5 years after completion of follow-on SBIR contract (delivered date of the last deliverable)

SBIR Topic Criteria Used in OSD Topic Review Process



1. Topics will solicit R&D and not procurement.

The distinction is that R&D projects involve technical risk– i.e., technical feasibility has not yet been established. Procurement projects, by contrast, do not involve technical risk – i.e., technical feasibility has been fully established.

2. Topics will fall within one or more of DoD's key technology areas.

3. Topics will allow the performing company "significant flexibility."

Topics that seek a solution to a specific military requirement shall be drafted to allow the proposing company significant flexibility in formulating its approach to meeting the technical goals; and request "innovative" or "creative" approaches to meeting the technical goals.

4. Topics will include examples of possible phase III dual-use applications.

Each topic shall include a paragraph listing:

one or more potential phase III military applications of the technology; and
one or more potential commercial applications of the technology ("spin-off"), or one or more existing commercial technologies that potentially could be inserted into defense systems as a result of the SBIR/STTR project ("spin-on").

5. Topics will not duplicate each other.

Two topics that seek different applications of the same technology are not considered duplicative; likewise, a broad topic and a narrow topic in the same technology area are not considered duplicative if they can reasonably be expected to attract a different (albeit partly overlapping) set of proposals.

6. Topics will be clearly written.

DoD's Key Technology Areas

(from the Defense Technology Area Plan)



The following is an outline of the Defense Technology Area Plan.

For content, please refer to the full Plan at https://ca.dtic.mil/dstp/99_docs/dtap/dtaps.htm

- 1. Air Platforms** -- Fixed-Wing Vehicles; Rotary-Wing Vehicles; Integrated High Performance Turbine Engine Technology (IHPTET); Aircraft Power; High-Speed Propulsion and Fuels.
- 2. Chemical / Biological Defense** -- CB Detection; CB Protection; CB Decontamination; CB Modeling and Simulation; Medical Chemical Defense; Medical Biological Defense.
- 3. Information Systems Technology** -- Decisionmaking; Modeling & Simulation Technology; Information Management Assurance & Distribution; Seamless Communication; Computing and Software Technology.
- 4. Ground and Sea Vehicles** -- Ground Vehicles; Surface Ship Combatants; Submarines.
- 5. Materials / Processes** -- Materials and Processes for Survivability, Life Extension, and Affordability; Manufacturing Technology; Civil Engineering; Environmental Quality.
- 6. Biomedical** -- Infectious Diseases of Military Importance; Combat Casualty Care; Military Operational Medicine; Medical Radiological Defense.
- 7. Sensors, Electronics and Battlespace Environment** -- Radar Sensors; Electro-Optical Sensors; Acoustic Sensors; Automatic Target Recognition; Integrated Platform Electronics; Radio-Frequency Components; Electro-Optical Technology; Microelectronics; Electronic Materials; Electronics Integration Technology; Terrestrial Environments; Ocean Battlespace Environments; Lower Atmosphere Environments; Space/Upper Atmosphere Environments.
- 8. Space Platforms** -- Launch Vehicles; Space Vehicles; Propulsion [Integrated High-Payoff Rocket Propulsion Technology (IHRPT)].
- 9. Human Systems** -- Information Display and Performance Enhancement; Design Integration and Supportability; Warrior Protection and Sustainment; Personnel Performance and Training.
- 10. Weapons** -- The Weapons area has three broad categories. 1) Conventional Weapons: Countermine/Mines; Guidance and Control; Guns; Missiles; Ordnance; Undersea Weapons; and Weapon Lethality / Vulnerability. 2) Directed-Energy Weapons: Lasers; and High-Power Microwave. 3) Electronic Warfare: Threat Warning; Self-Protection; and Mission Support.
- 11. Nuclear Technology** -- Warfighter Support; Systems Effects and Survivability; Test and Simulation Technology; Scientific and Operational Computing.

SBIR Management: TPOC's



- Facilitates panel interactions (meeting presentations, etc...)
- Manages project execution: Functions as COR
- Administers contract & monitors progress
- Usually topic writer
- Provides technical expertise and guidance
- Responsible for small business interface
- Prepares Phase II proposal documentation
- Assists with Phase III transitions
- Facilitates Fast Track possibilities

SBIR Management: Transition Sponsors



- Stays current on requirements and needs
- Plans, identifies budget & facilitates Fleet transitions
- Analyzes, plans & facilitates other DOD & Commercial transition opportunities
- Facilitates communication between TPOC's, PO POC's & SBIR Manager
- Provides technical expertise and guidance
- Facilitates Fast Track possibilities

Business Process (SP-11) Focused SBIR Projects



- Cost-as-an-independent variable process for systems analysis (SEA II-[N05-039](#))

Systems Technologies (SP-12) Focused SBIR Projects



- STEP-NC application for steel production Affordable part library (ONR II [N03-105](#))
- Creating the Industry-wide virtual pipe shop with STEP s/w (SEA Ph II [N05-039](#))
- Enhancement of common parts catalog with engineering data (ONR Ph II [N05-039](#))

Facilities, Tooling and Risk Management (SP-13) Focused SBIR Projects

- Machinery health monitoring for shipyard productivity (ONR II [N03-105](#))

Shipyard Production Process Technologies (SP-16) Focused SBIR Projects

- Inclusion of surplus / on-hand material in the common parts catalog
Development of shipboard electrical analysis & production (SEA-Pro) software (SEA II-[N04-212](#))
- Pultrusion-based phenolic foam replacement for balsa in Navy ship structures (SEA II-[N04-212](#))
- Digital video photogrammetry (ONR II [N03-105](#))
- Joining of very large, low-cost pultruded advanced composite structures in shipbuilding (ONR II [N02-049](#))