

NAVAIR SBIR / STTR PROGRAM

July 23 2024

Presented To:

SBA/ SBIR Program Event

Presented By:

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NAVAIR SBIR / STTR
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FY23 NAVAIR SBIR Program

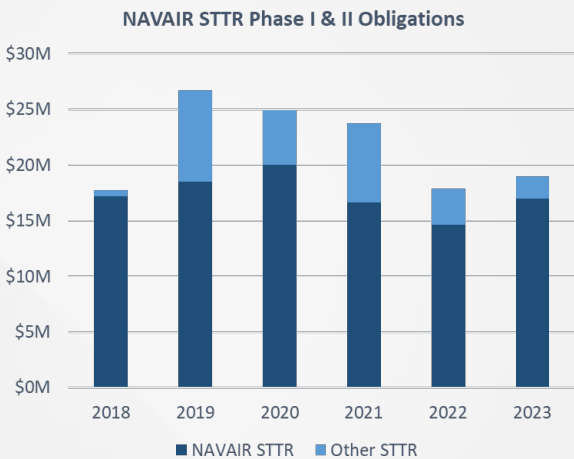
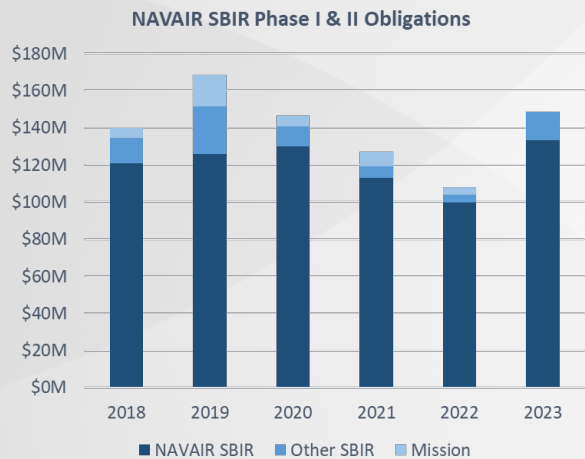
FY23 BUDGET AND CONTRACTS

Program	FY23 Budget	FY23 Research Topics
SBIR	\$128.3M	41
STTR	\$18.9M	13

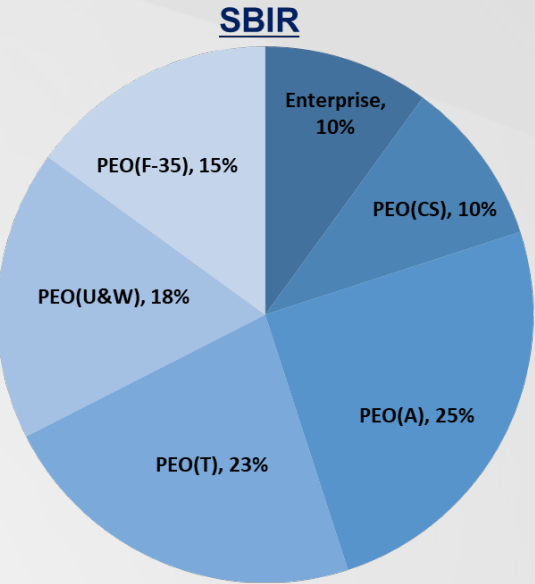
SBIR/STTR Contracts	Phase I Awarded	Phase II Awarded	Phase II.5 Awarded	Active Contracts
	138	57	8	209

Phase III Contracts	Number Awarded	Total Obligated	Phase III Contract Value
	100	\$53.7M	\$412.8M

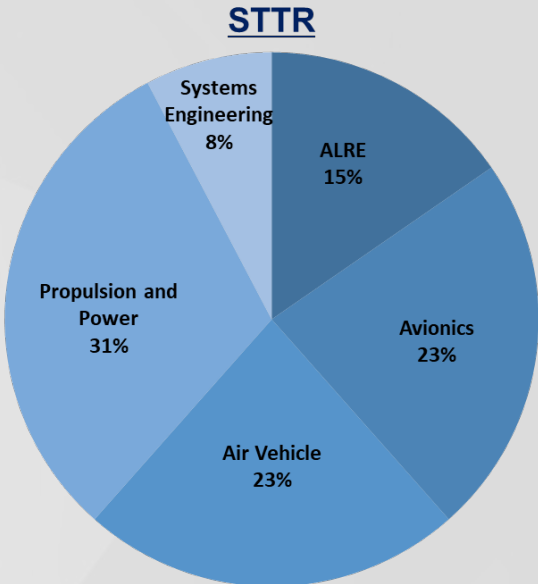
SBIR/ STTR OBLIGATIONS PAST 6 YEARS



FY23 SBIR/STTR TOPIC DISTRIBUTION



FY23 by PEO

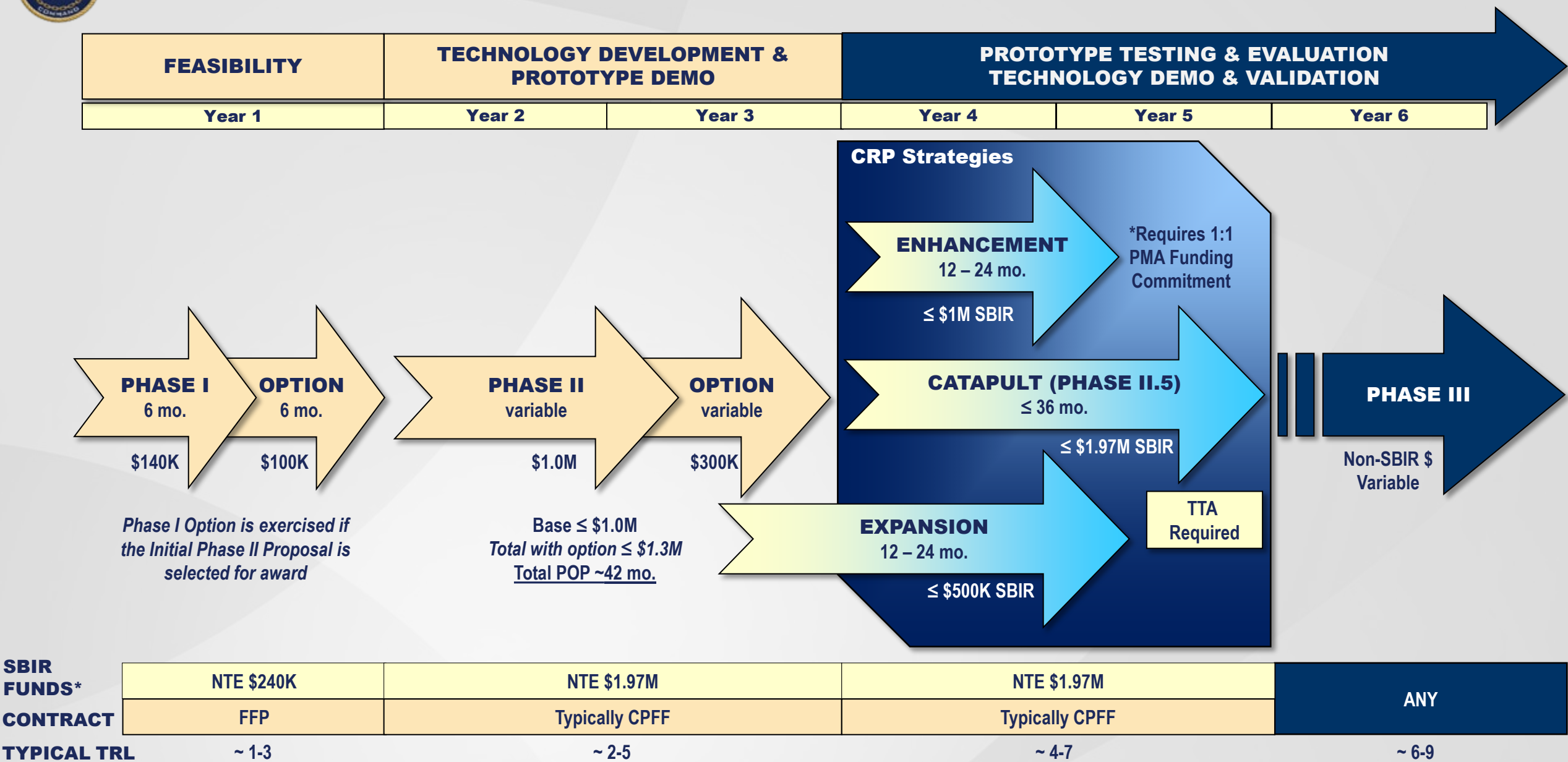


FY23 by S&T Domain

- SBIR Research Topics allocated based on PEOs RDT&E Budget
- SBIR/ STTR Obligations includes Phase I, II and II.5 contracts
- Phase III funding is non-SBIR, transition sponsor funding
- Other SBIR/ STTR funding is leveraged from other agencies/ SYSCOMs with surplus funding



NAVAIR SBIR/ STTR Award Structure





NAVAIR Research Areas of Interest



Enabling technologies:

- Improved materials and manufacturing processes
- Technologies to reduce dependence on global positioning systems
- Advanced electronics with reduced size, weight and power requirements and expanded capabilities in high-temperature environments
- Artificial intelligence, machine learning, autonomy, human systems interface, network and sensor technologies to enable manned and unmanned systems to operate as an effective hybrid team
- Quantum sensors, computers and networks

Technologies to improve readiness and sustainment:

- Next-generation repair technologies for metals and composites (i.e., particle deposition/cold spray)
- Advanced manufacturing technology and 3D technical data
- Corrosion prevention, prediction, detection and removal technology
- Physiological episode protection and aeromedical/man-machine interface challenges
- New fuel bladder materials and advanced manufacturing processes
- Improved maintenance capabilities
- Next-generation metrology
- Improved supply chain management through data analytics
- Prognostics and health management enabled by machine learning and artificial intelligence
- Distance support/remote training of fleet maintainers and operators
- Technologies to automate current and future flight deck operations, increasing deck efficiencies and aircraft readiness in all weather conditions to enable round-the-clock operations

Technologies to improve warfighter performance:

- Training and education instructional technologies and strategies that support the requirements of forward-deployed warfighters and training environments
- Human performance modeling, assessment and ergonomic design
- Human system design to reduce manned and unmanned operator workload, enhance decision-making and improve situational awareness
- Life-support technologies and personal protective equipment spanning from physiological state monitoring, to hearing/eye protection, to helmet-mounted displays, to crashworthy seating systems that optimize warfighters' physical and cognitive performance, effectiveness, safety and survival

Technologies to improve warfighting capability:

- Technologies to improved shared battlespace awareness
- Fully networked command, control and communications
- Flight controls, handling qualities, propulsion, materials and aerodynamic technologies to improve maneuverability and agility
- Improved transport and employment of personnel, internal and external cargo, weapons and sensors
- Technologies to increase range, speed and endurance of naval aircraft and weapons
- Technologies to protect all manned and unmanned aircraft, including passive and active susceptibility reduction, aircraft countermeasures, electronic protection and increased crashworthiness
- Technologies to project aeronautical-based lethal and directed energy effects against air, surface, surfaced submarine and land targets in any operational theater
- Dynamic mission planning and execution technologies
- Networked and collaborative electronic attack technologies
- Hypersonic technology, including thermal management, lightweight/resilient materials, sensors/subsystems, flight separation and propulsion systems



Demonstration & Experimentation

NAVAIR SBIR/ STTR program management office will assist with coordinating activities, government expertise, venues, access and other support to identify and facilitate opportunities for demonstration and experimentation, test and evaluation of SBIR/ STTR technologies.

Demonstration (Lower TRL)

- Assessing technologies in a laboratory, range or on an aircraft during a ground test event.
- Evaluate a technology's maturity in a relevant environment and capture stakeholder feedback on the merit, feasibility and commercial potential of technologies prior to acquisition testing and evaluation.

Experimentation (Mid to High TRL)

- Coordinating industry technologies into mission-relevant environments across the DON for experimentation and testing, including fleet exercises and other warfare center events.
- Opportunities for industry partners to access to Department of Navy Modeling and Simulation Naval Integrated Live Virtual Constructive Environment events, program office and SBIR/STTR opportunities.

Eligibility: NAVAIR Phase II SBIR/ STTR projects that reach an appropriate level of maturity, are most likely to be prototyped, and required for all Catapult second Phase II projects



Upcoming SBIR/STTR BAAs

- NAVAIR is participating in 24.4 DoD SBIR Open Topic Call
 - Pre-release: 13 June 2024 **(Open Now!)**
 - BAA opens: 01 Aug 2024
 - BAA close (proposals due): 04 Sep 2024
 - Open Topic AMA Event held June 26, 2024
 - Full webinar recording, slides, answered Q&As available at www.navysbir.com/open_topic.htm
- NAVAIR will be participating in 25.1/A DoD SBIR Open Topic Call
 - Pre-release: 04 Dec 2024
 - BAA opens: 08 Jan 2025
 - BAA close (proposals due): 05 Feb 2025
- Submit proposals via the Defense SBIR/STTR Innovation Portal (DSIP) at: <https://www.dodsbirsttr.mil>



Current Opportunity – DoN Open Topics



- Seeking commercial solutions to meet specific mission critical Naval needs
- No customer memorandums of understanding required
- A small business concern may only submit one (1) proposal to each open topic.
- Phase I approach to adapting commercial solution
 - to fill a capability gap
 - improve performance, or
 - modernize an existing capability
- Phase II
 - competitive selections based on results of Phase I and initial Phase II proposal
 - tailored awards to transition technology
- Eligibility for DoN transition programs to facilitate technology transition

Current Opportunity – DoN Open Topics



N244-P01 NAVAIR Open Topic for Advanced Robotic Automation for Fleet Readiness

- Advance the automation of industrial processes within Fleet Readiness Centers (FRCs).
- Enhance efficiency, quality, safety, pollution prevention, and productivity through the integration of advanced robotic technologies.
- Technology areas of interest:
 - Advanced Robotic Systems Integration for Aircraft Maintenance and Repair
 - Human-Robot Collaboration and Safety in Aviation Maintenance, Repair or Overhaul (MRO)
 - Emerging Technologies for Autonomous Aviation Maintenance

Current Opportunity – DoN Open Topics



N244-P02 NAVSEA Open Topic for Sustainment and Obsolescence

- Commercial technology to address Navy needs regarding sustainment and obsolescence.
- Products that will reliably and safely get Navy assets back in the field as quickly as possible.
- Areas of focus:
 - Material Quality, Readiness, and Availability
 - AI/ML Generated Work Instructions
 - Additive Manufacturing Tools and Processes Advancements (afloat and ashore applications)
 - Cold Spray Technology Advancements
 - Shipyard and Maintenance Operational Logistics Improvements
 - Rapid Manufacturing to address urgent part obsolescence needs
 - Digital Twins for system lifecycle sustainability and design evolution

Current Opportunity – DoN Open Topics



N244-P03 NAVWAR Open Topic for Advanced Data Integrity and Control Methods

- Develop a method to assure integrity, and control access and distribution for information on any device or network.
- This topic seeks the development of technology that will provide for these critical capabilities independent from controls provided by networks, applications, platforms, or database technologies.
- Required attributes:
 - Data controls are independent of any application, platform, network, or database
 - Ability to integrate external identity sources (NIS)
 - Resiliency to node and/or connectivity failures
 - Resiliency to encryption manipulation techniques
 - Rapid recovery/reconstitution capability
 - Minimal effort to deploy and scale
 - Distributed architecture (resiliency increases with scale)

Current Opportunity – DoN Open Topics



- Open Topic Proposal Template:
https://navysbir.com/links_forms.htm
- May submit only one (1) proposal per open topic
- Phase I feasibility
 - Base: 4-month, \$75K
 - Option: 6-month, \$100K
- May not propose Technical and Business Assistance (TABAs)
- May not propose Government Furnished Equipment (GFE)
- Do not recommend proposing use of Human Subjects, Animal Testing, or Recombinant DNA



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QUESTIONS?

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