



AFWERX
AFVENTURES

AFVENTURES 101

***current as of 11 January 2024**

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MISSION

AFVentures funds emerging technologies to deliver Air Force and Space Force capabilities and broaden access to disruptive innovation. Transforms the national security innovation base by attracting and scaling small businesses via government and private capital.

VISION

Collaborates with small businesses to develop and deliver disruptive Air and Space capabilities.

DAF STRUCTURE

DAF



SecAF



SAF/AQ

MAJCOM/FieldCOM



AFMC

AFMC Centers



AFRL

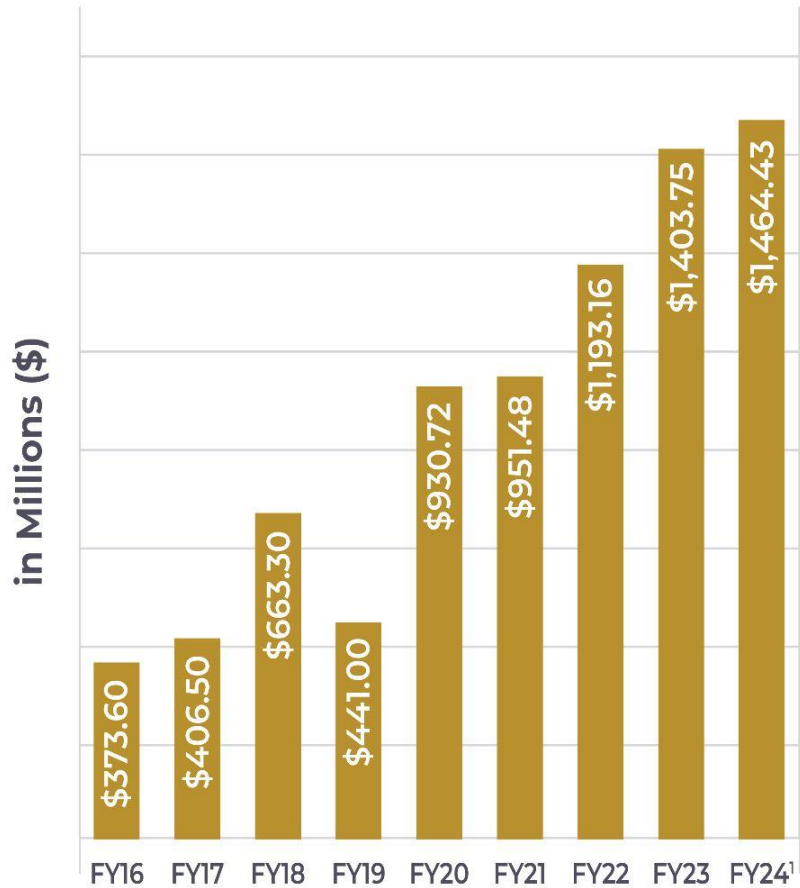
AFRL Mission
Organizations
AFWERX

AFWERX | SPACEWERX

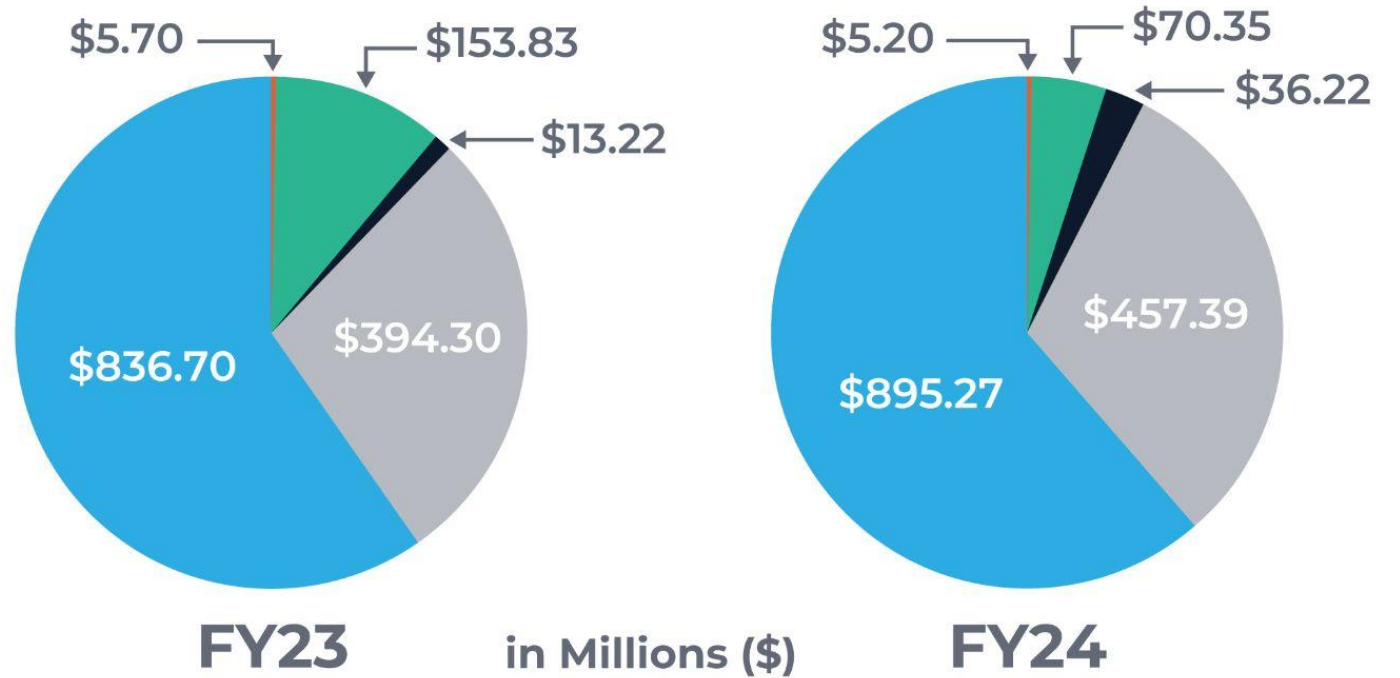
AFVENTURES

FUNDING THE FUTURE

AFWERX Funding Profile



¹FY24 SBIR/STTR assumes 7% AF increase and 16% SF increase; actuals TBD based on FY24 DAF RDT&E extramural budget



AFWERX / SPACEWERX 3.0 OVERVIEW

Prioritize, Synthesize, Mature, Access, and Measure

Foster DAF's community of innovation

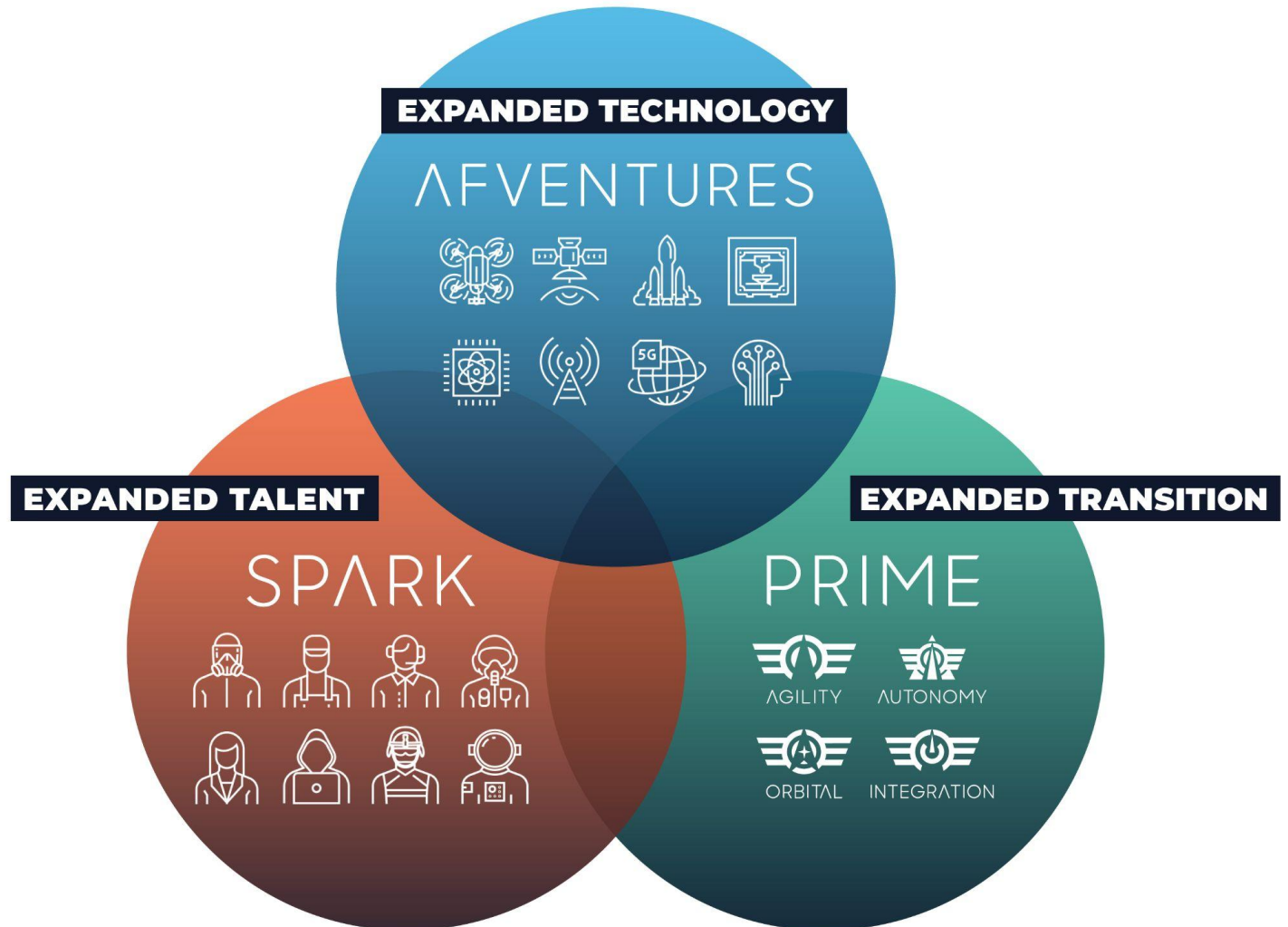
4,671 New contracts executed since 2019

Strengthen the U.S. defense industrial base

\$2B+ Obligated since 2019

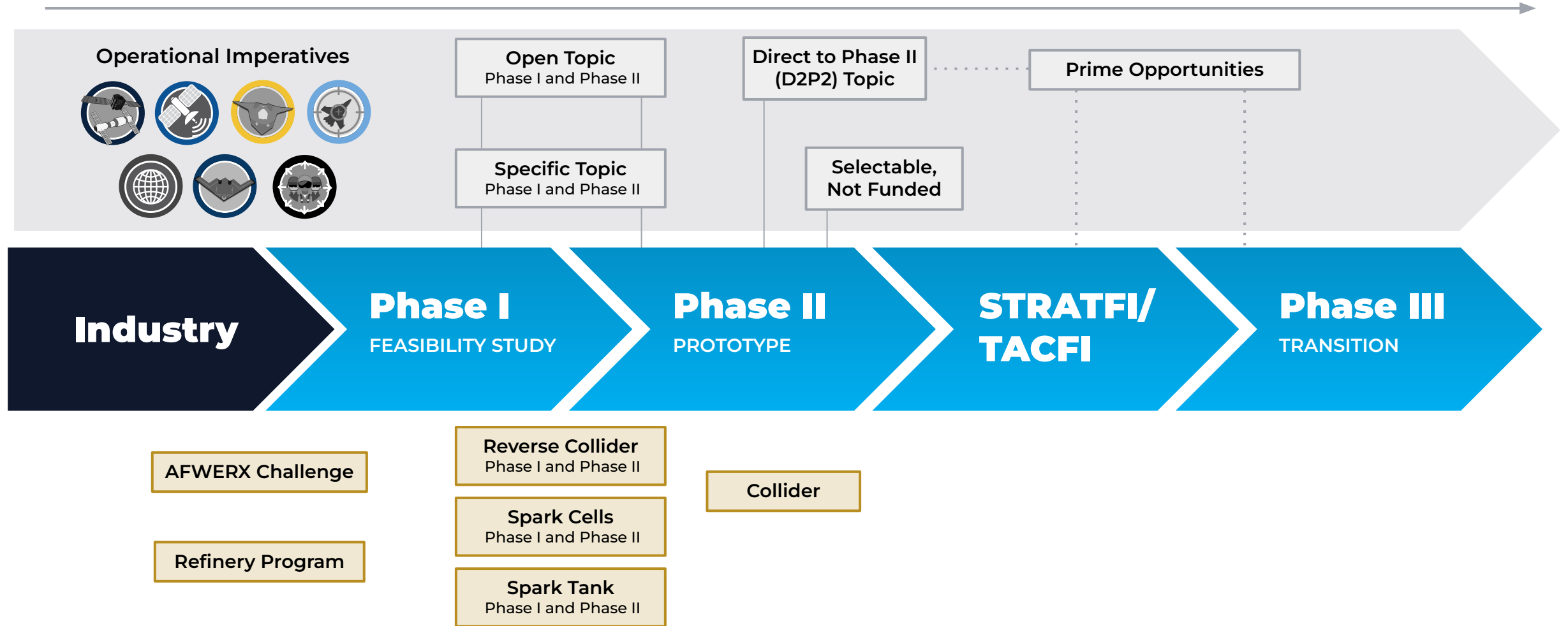
Accelerate delivery of capabilities

300+ Transitions achieved to date



THE AFWERX / SPACEWERX PROCESS

PROCESS STEPS



AIRMEN AND GUARDIAN INNOVATIONS

Small Business Innovation Research (SBIR)

The SBIR program, established by Congress in 1982 as a three-phased process, solicits proposals and awards funding to small business for federal research and development, production, services, or any combination of these, to meet agency needs and missions.

The Four Goals of the SBIR Program:

- Stimulate technological innovation
- Use small business to meet Federal R/R&D needs
- Foster and encourage participation by the socially and economically disadvantaged small businesses and those that are 51 percent owned and controlled by women, in technological innovation
- Increase private sector commercialization of innovations derived from Federal R/R&D, thereby increasing competition, productivity, and economic growth

Small Business Technology Transfer (STTR)

The STTR program was established in 1992 with a similar statutory purpose. The major difference is that the STTR program requires a research partner consisting of one of the following:

- University
- Federally funded R&D center
- Qualified non-profit research institution
- The following 5 agencies utilize the STTR program: Department of Defense, Department of Energy, NASA, National Institute of Health and National Science Foundation

SBIR vs. STTR

STTR is similar to SBIR

- Three phase commercialization program codified in statute:
Discover (Phase I) – Prototype (Phase II) – Transition (Phase III)
- Results in sole-source justification for use by *all US Federal Agencies*

BUT

STTR has unique qualities based on its research focus

- Requires **one** qualifying research partner to perform **30% - 60%** of work (e.g. university, non-profit, or FFRDC)
- Principal Investigator may be primarily employed by research entity (e.g. professor) OR the small business
- Leverages close ties with both federal R&D AND operational communities

How the Program is Funded

The SBIR/STTR Program is Congressionally mandated. Funding is allocated by the Small Business Administration (SBA) and distributed across the participating agencies.

Approximately \$1.8 billion dollars is set aside annually for the Department of Defense to support the financing of cutting-edge technologies developed by small businesses.

The DAF SBIR/STTR program accounts for \$1.36 billion of the total set aside.

[Source](#)

Participating Agencies



- National Science Foundation
- NASA
- Environmental Protection Agency
- Department of Transportation
- Department of Homeland Security
- Department of Health and Human Services
- Department of Energy
- Department of Education
- Department of Defense
- Department of Commerce
- US Department of Agriculture

DoD Participating Organizations



- **Department of the Air Force**
- Department of the Army
- Department of the Navy
- Joint Program Executive Office for Chemical & Biological Defense (CBD)
- DARPA
- Defense Health Agency
- Defense Logistics Agency
- Defense Microelectronics Activity
- Defense Threat Reduction Agency
- Missile Defense Agency
- National Geospatial-Intelligence Agency
- United States Special Operations Command

Strategy: Capital as a Capability

The Open Topic, Specific Topic and the STRATFI/TACFI programs all fall under the management of AFVentures.

Open Topic:

- Technology-agnostic solicitation
- Encourages commercial industry to submit dual-use technology solutions without having a known end-user
- Used to capture the best capabilities and emerging technologies that can impact our Airmen and Guardians

Specific Topic:

- Seeks innovative solutions for a particular problem set defined by a DAF end user or customer
- Many times, the topics and requirements are not a dual-use capability and are specific to the DoD
- These topics have clearly-defined requirements and a known DAF customer built in to the topic solicitation

STRATFI/TACFI:

- STRATFI (Strategic Funding Increase) Program
- TACFI (Tactical Funding Increase)
- Awards help scale Phase II efforts to the level needed to achieve better technology transitions
- De-risks development through syndication with multiple transition-focused partners and leveraging outside investment

AFVentures - HOW THE PROGRAM WORKS

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PHASE I Feasibility Study

Open & Specific Topics

OPEN TOPIC

- Up to \$75K per award (\$110K for STTR)
- 3 month period of performance
- ~700 awards per year
- "Open door for innovation"

SPECIFIC TOPIC

- Up to \$180K per award
- 6 month period of performance
- ~300 awards per year
- Built in Air Force Customer

2

PHASE II Prototype

Open, Specific & Direct to
Phase II (D2P2) Topics

OPEN TOPIC

- Up to \$1.25M per award (\$1.8M for STTR)
- Up to 21 month period of performance
- ~350 awards per year
- Customer Memorandum required
- Matched funding encouraged
- D2P2 opportunity if customer is already known and Customer Memorandum is signed

SPECIFIC TOPIC

- Up to \$1.8M per initial award
- Up to 24 month period of performance
- ~200 awards per year
- Built in Air Force Customer
- D2P2 opportunities

3

STRATFI/TACFI

Strategic Funding Increase (STRATFI) and Tactical Funding Increase (TACFI) Program

- Notice of Opportunity
- TACFI - \$375K - \$1.9M SBIR/STTR funds
- STRATFI - \$3M - \$15M SBIR/STTR funds
- Defense only or dual use matching options
- Private Investor Opportunities

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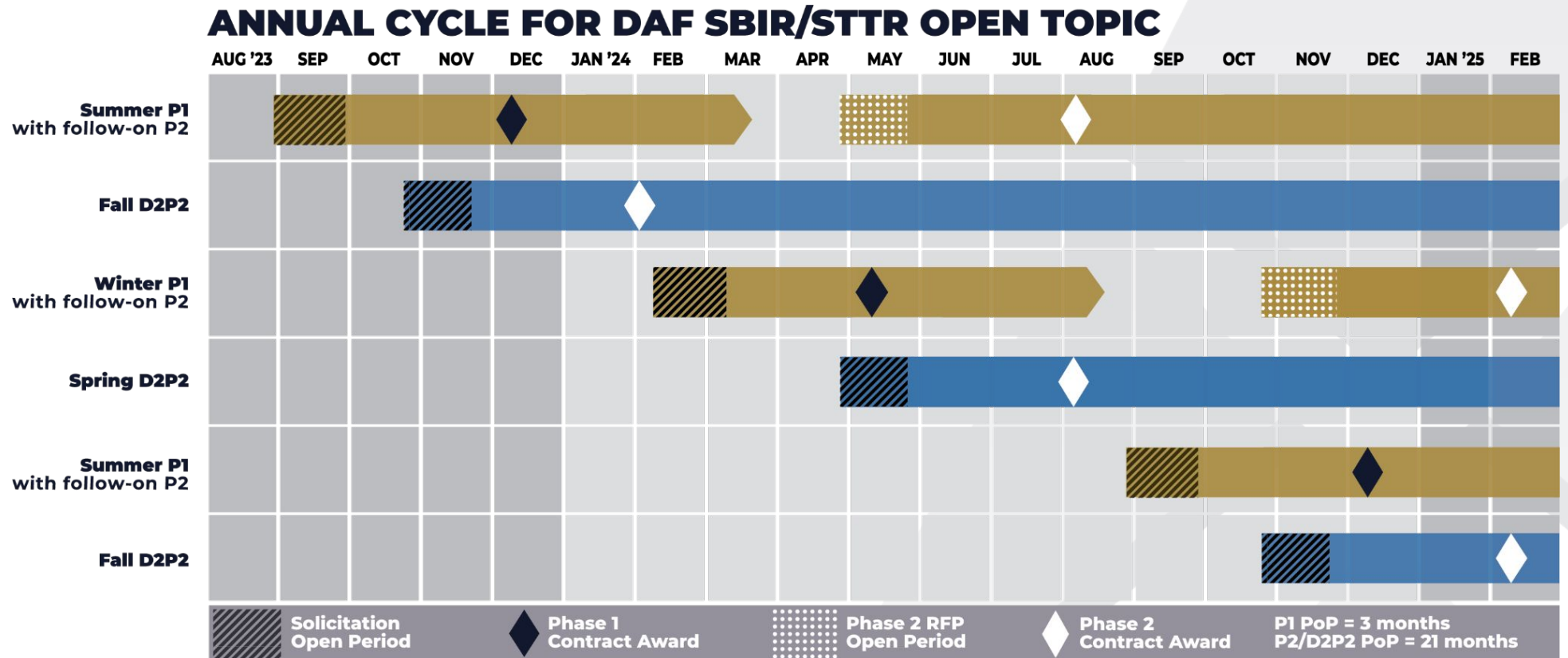
PHASE III Transition

- Continuation, derivation, or extension of SBIR/STTR Phase I, II or STRATFI/TACFI work
- Contract with partnering US Government customer
- Utilizes non-SBIR funds

*Cost base max and period of performance are determined at the topic level and can be found within solicitation instructions.

USAF & USSF CSO Solicitation Schedule (Open Topic)

In order to provide solutions to the warfighter more rapidly, the USAF & USSF components utilize the annual out-of-cycle (4/D) schedule to release CSO solicitations hosted by the DoD through the [DSIP portal](#) via the **Open Topic Annual Cycle**.



DoD BAA Solicitation Schedule (Specific Topic)

The DoD releases three recurring Joint DoD Broad Agency Announcements (also referred to as BAAs) each year for both SBIR and STTR programs.

Air Force and Space Force Organizations may submit Specific Topics into solicitations that AFVentures' Leadership chooses to participate in.

Specific Topic Solicitations typically follow the DoD Schedule Standard cadence:

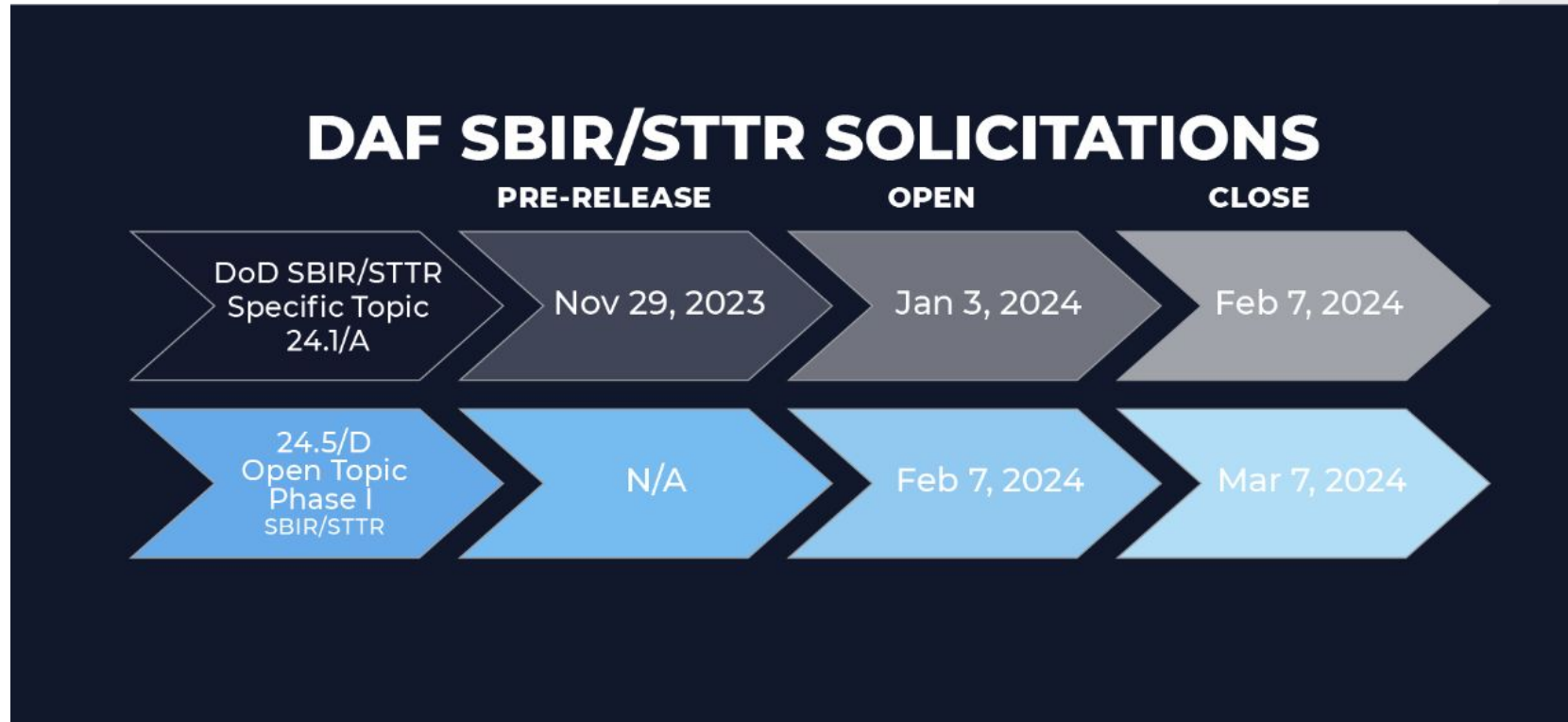
| BAA Solicitation Number | Pre-Release | Open | Close |
|-------------------------|-------------|-----------|----------|
| FY.1/A | December | January | February |
| FY.2/B | April | May | June |
| FY.3/C | August | September | October |

Check the DSIP portal for updated solicitation information and schedules:

<https://www.dodsbirsttr.mil/submissions/login>

For questions or assistance, please contact the SBIR/STTR Help Desk at usaf.team@afsbirsttr.us.

YOUR NEXT OPPORTUNITY



**Dates are subject to change*

Eligibility

The non-negotiables - company must:

- Have 500 or fewer employees
- Be for-profit. 501(c)(3) designation is not eligible, but may be considered subcontractor or consultant to applicant
- Primarily U.S. owned, at least 51% ownership by U.S. citizens and/or permanent resident aliens
- Additional considerations for venture-backed companies
- Principal Investigator (PI) must be “primarily employed” by the applicant small business during SBIR award period

*****Be sure to read the full eligibility requirements on [SBA.gov](https://www.sba.gov)**

Contracts vs. Grants

Grants are used to:

- Accomplish a public purpose
- Advance a national objective
- Address a public problem
- Stimulate an activity

The DOE, NOAA, NSF and U.S. Department of Agriculture award grants.

Contracts are used to:

- Procure goods or services
- Provide a direct benefit to the government

The DoD (see slide 7 for list of organizations), NASA, DHS, DOT and EPA award contracts.

The Department of Health and Department of Education award both contracts and grants.

The type of award affects reporting requirements, the complexity of your financial system, your customer base, and cash flow.

****The Department of the Air Force only awards contracts.**

Required Registrations

In order to submit a proposal, your company must be registered with the following four databases:

- **Unique Entity Identifier (UEI)**
 - Replaced DUNS number, requested and assigned in SAM
- **System for Award Management (SAM)**
 - Allows your company to get paid
 - Process can take up to six weeks
- **Small Business Administration's Company Registration**
 - Will need your UEI and Tax ID or EIN
- **Defense SBIR/STTR Innovation Portal (DSIP)**
 - Department of Defense proposal submission portal
 - <https://www.dodsbirsttr.mil/submissions/login>

SBIR & STTR Data Rights

Per the May 2, 2019, SBIR/STTR Policy Directive:

- The start date for the 20-year protection period begins on the date of award.
- Subsequent SBIR/STTR funding agreements no longer extend data protection periods for prior awards to the end of the protection period that applies to the current award.
- The 20-year protection period applies to both SBIR and STTR awards.

DoD Annual Out-of-Cycle Schedule

- OSD hosts an annual 4/D cycle that can receive multiple “out-of-cycle” (not 1/A, 2/B or 3/C) solicitation packages throughout each calendar year (January - December)
- Each 4/D solicitation package submitted within the year will have different Open/Close dates that will be outlined explicitly in the solicitation instructions
- The “out-of-cycle” 4/D solicitations can contain Open or Specific topics, which can be submitted with either CSO or BAA criteria
- Specific Topic BAA intends to submit only in-cycle (1/A, 2/B, 3/C) solicitation packages; however, the opportunity to submit within the annual 4/D throughout each calendar year is a possibility
- Open Topic currently only submits to the out-of-cycle solicitations via the Open Topic Annual Cycle

How Do You Find the Appropriate Solicitation?

Review the solicitation instructions carefully!

- What problem are you solving for the DAF?
- Does your proposal solve the problem statement outlined in the **Specific Topic**?
 - Each Specific Topic has a different Air Force/Space Force need
 - Contracting information may vary per topic
- Does your proposal solve a problem within the DAF **and** have a **dual-use**?
- Do you have a known customer, end-user, and TPOC willing to sign a Customer Memorandum?
- Still not sure? Attend the AFVentures Weekly webinar series to learn more about current opportunities and ask questions to the AFVentures team.
 - Previously recorded sessions are on AFWERX.com and can be found [HERE](#)

Communication During a Solicitation

Specific Topic

Pre-release:

- Small businesses are permitted to email the Technical Point of Contact (TPOC) to ask technical questions about the topics.
- The topics will include contact information for the assigned TPOC.

Open Period:

- Questions should be limited to specific information related to improving the understanding of a particular topic requirement.
- Questions and answers deemed to be useful to all proposing firms will also be posted to the DSIP Topic Q&A at <https://www.dodsbirsttr.mil/topics-app/>.

Open Topic

- Open Topic **does not** have a pre-release and **only** has an open period.
- 'Ask Me Anything' (AMA) webinars are hosted during each open solicitation period to provide an opportunity to ask questions

AFWERX SUCCESS STORY

SPECULAR THEORY

Technology

Specular Theory has developed immersive AR/VR training tools that extend and enhance the availability of training for C-17, KC-46, C-130, KC-135, B-52, T-1, T-1AMP and T-6 aircrews.

Operational Impact

Specular Theory's flagship products, MAT and EARL, enable aircrews to train outside of the sim and aircraft, not only reducing time and costs but producing higher quality graduates.

Fielding

Currently supporting mobility and bomber aircrew training at the FTUs and Wings across the USAF. Interest in expanding training to more aircraft.

Funding Organizations

AMC, AFLCMC/WNS, AFGSC, AETC

TOTAL FUNDING

\$1.5M SBIR | **\$12.5M** Phase III Gov't Funding

“ We have recently cut 1 sortie from 3 different syllabi which will save the government \$13.42M a year.”

- Col Patrick Schuldt

Chief, MAF/SOF/PR Graduate Training Division,
19th Air Force



AFWERX SUCCESS STORY

Joby Aviation

Technology

Joby Aviation produces an electric Vertical Take-off and Landing (eVTOL) aircraft that uses six vector thrust propellers on a fixed wing and stabilizer. The piloted aircraft can achieve 200 mph in cruise, has an approximate range of 100 miles plus reserves and is 100x quieter than a helicopter.

Operational Impact

Joby will deliver up to nine of its low acoustic signature, zero-operating emissions aircraft to the Air Force and other government partners, delivering two to Edwards AFB by early 2024.

Funding Organizations

AFWERX Agility Prime, DIU

TOTAL FUNDING

\$50K SBIR | Up to **\$131M** Phase III Gov't Funding

“ This new technology is brought to the world in rapid fashion by the convergence of commercial industry and our American Airmen working shoulder-to-shoulder. ”

- Col Grant Mizell

412th Test Wing Operations Group commander



Resources

SBIR.gov Tutorials

<https://www.sbir.gov/tutorials/>

DSIP Tutorials

<https://www.dodsbirsttr.mil/submissions/learning-support/training-materials>

Weekly Webinar Series and FAQs:

<https://afwerx.com/afventures-weekly-webinar-series/>

SBIR/STTR Help Desk

usaf.team@afsbirsttr.us



AFWERX AFVENTURES

Still have questions?

Specific Topic: usaf.team@afsbirsttr.us

Open Topic Phase I: p1@afwerx.af.mil

Open Topic Phase II: p2@afwerx.af.mil

STRATFI/TACFI: stratfi.tacfi@afwerx.af.mil





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Questions?