



U.S. AIR FORCE



AFRL

Directed Energy Technology
Experimentation Research (DETER)
Advanced Research Announcement (ARA)
FA9451-21-S-0001
Briefing for Industry

Directed Energy Directorate 19 October 2023



Welcome!



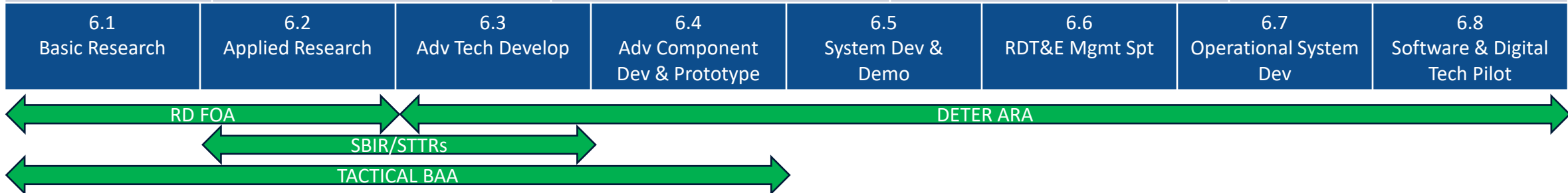
DETER/TACTICAL Industry Day Agenda

- Overview of AFRL Opportunities
- DETER ARA Overview Presentation
- Valid Eval
- Annual Summary
- Frequently Asked Questions (FAQ's)



Overview of AFRL/RD Opportunities

Name:	RAD FOA	SBIR/STTRs	TACTICAL BAA	DETER ARA
Type of Awards:	Grants Cooperative Agreements	SBIR/STTR Sequential Phase II, Phase III *Phase I and II are managed through AF SBIR Office	FAR-based Awards	<ul style="list-style-type: none"> OT for Research OT for Prototype/Prod. Procurement for Experimental Purposes Prize Competitions
Guidance/Regulation	DoDGARS & 2 CFR 200	FAR, SBIR Policy Directives	Federal Acquisition Reg. (FAR)	Primarily 10 USC 4023
Purpose:	Stimulate & Support Public Purpose	Foster SB development and commercialization	Advancing state-of-the-art or increasing knowledge	Fulfill Test/Experimentation Need
Required for Use:	Must be a research institution	<ul style="list-style-type: none"> Must be a small business For STTRs, must be partnered with a research institution 	Must be for basic and applied research (6.1-6.4)	Must be for: <ul style="list-style-type: none"> Supply/Part/Design Experimental/Test Purpose Minimum qty necessary
Budget Activities:	Primarily 6.1-6.2	Primarily 6.2-6.3	Primarily 6.1-6.4	Typically, 6.3 and above





Overview of AFRL Opportunities

Name:	RD FOA	SBIR/STTRs	TACTICAL BAA	DETER ARA
Advantages & Benefits:	Universities & research institutions very familiar with FOA process	<ul style="list-style-type: none"> • Uses SBIR/STTR Funding • Supports SB Goals • Well-known, phased program structure 	<ul style="list-style-type: none"> • Streamlined evaluations via Valid Eval tool • Blanket AP/ASP & Coordinations completed • Pre-approved templates (CDRLs, AFMC 191, etc.) 	<ul style="list-style-type: none"> • Max flexibility with structuring solicitations and awards • Ability to reach non-traditionals
Potential Limitations:	Principal purpose must be to stimulate/support public purpose (not direct benefit of Gov).	<ul style="list-style-type: none"> • SBIR Data Rights (Prohibits disclosure for 20 years from initial award) • Limited to scope of SBIR/STTR Project 	Cannot focus on specific system or hardware solution	<p>Requires experienced team to award/manage non-FAR contracts.</p> <p>Limited to minimum quantity necessary for test/experimentation</p> <p><i>May</i> require cost share or non-traditional involvement.</p>
Preferred Tool for:	Awards to Universities & Research Institutions	Awards to Small Businesses with existing SBIR/STTR Projects	FAR-based awards for 6.1-6.4 R&D efforts	Non-FAR awards, non-traditional entities, or for efforts typically at 6.3+



DETER ARA Overview



DETER General Information

- ARA Number: FA9451-21-S-0001
- NAICS Code: 541715 for Research and Development in the Physical, Engineering, and Life Sciences
- Contracting Points of Contact: Bill Sherrod/Catherine “Kitty” Hern
- Due to the dynamically evolving nature of US warfighter directed energy needs, the DETER announcement is subject to updates, revisions, and/or changes to the topic areas. Therefore, Offerors are highly encouraged to continually monitor <https://sam.gov> to ensure they receive latest guidance for this announcement.
- For questions, please email: afrl.deter.ara@us.af.mil



10 USC § 4023 Authority (formerly 10 USC § 2373)

- 10 U.S.C § 4023 (formerly 10 U.S.C. §2373) – Procurement for Experimental Purposes
 - “The Secretary of Defense and the Secretaries of the military departments may each buy ordnance, signal, chemical activity, transportation, **energy**, medical, space-flight, and aeronautical supplies, including parts and accessories, and designs thereof, that the Secretary of Defense or the Secretary concerned considers necessary for **experimental or test purposes** in the development of the best supplies that are needed for the national defense.”
- Under this authority DETER will:
 - Develop and acquire, “research and development (R&D), modeling and simulation (M&S), design, component/subsystem, prototype risk reduction, fabrication/purchase, assembly, integration, and testing of directed energy source components (to include spares and alternate component technologies), and/or systems and any required accessories, materials, and supplies for laboratory research and experimentation and field trials in a relevant environment to demonstrate system capabilities.”
 - We should only be procuring quantities needed for experimental test purposes



DETER Acquisition Authority Covers

Approved blanket acquisition strategy for Directed Energy Technology Experimentation and Research (DETER) Advanced Research Announcement (ARA), pursuant to:

- 10 U.S.C. §4021(formerly 10 U.S.C. §4002) “Other Transaction for Research”
- 10 U.S.C. §4022 (formerly 10 U.S.C. §4003) “*Other Transaction for Prototype Projects*”
- 10 U.S.C. §4023 (formerly 10 U.S.C. §4004) “*Procurement for Experimental Purposes*”
- 10 U.S.C. §4025 (formerly 10 U.S.C. §2374a) “*Prizes for Advanced Technology Achievements*”
- Federal Acquisition Regulation (FAR)
- DoD Grant and Agreement Regulations (DODGARS)



DETER ARA, A Complementary Tool

Complements existing acquisition tools - provides a responsive and flexible tool for meeting DE experimentation and testing requirements

- Capable of FAR & Non-FAR Awards
- Unrestricted ceiling ARA with awards or Calls
- 9 Topic Areas from across the entire AFRL/RD portfolio
- Allows for all funding as applicable under fiscal law to include 3400, all 3600, 30XX
- Projected award timelines of 62-150 days depending on solicitation method and instrument



Criteria for Use

- Use of an ARA to solicit for research and development is encouraged when:
 - The technology is a covered area under the nine (9) topic areas listed in the solicitation and 10 U.S.C. § 4023,
 - The objective is the procurement of a part, accessory, or design thereof that is necessary for a test or experimentation purposes, and/or,
 - Research is focused on more mature technologies involving prototyping, system or hardware specific work



DETER Topic Areas

I. Directed Energy Sources

- R&D and testing of all DE sources in support of National Defense includes but not limited to
 - Laser Sources
 - HPEM Sources

II. Acquisition, Tracking Pointing (ATP), Beam Control (BC) and Atmospheric Compensation (AC) Systems

III. Directed Energy Weapon Systems

IV. Directed Energy Effects Testing

V. Modeling, Simulation and Analysis (MS&A)

- DE System Performance
- DE System Effects
- DE System Target Assessment
- DE System Biosafety and Biological Effects
- DE Source and Component Virtual Design

VI. Wargaming

VII. Directed Energy for Space Domain Awareness

VIII. Experiments, Testing and Demonstrations

IX. Laboratory Materials, Supplies and Services (including Transportation) in Support of Experimentation

These Topic Areas Encompass all of AFRL/RD and JDETO



DETER Solicitation Mechanisms

Open Announcement

- Emphasizes “Tech Push”
- Offerors may submit White Paper responses at any time
- Peer reviews completed quarterly with feedback provided within 60 days from the end of each quarter
- Selectable and Highly Recommended White Papers may be retained for up to one year

Closed Call Announcements

- Emphasizes “Tech Pull”
- Calls Announcements will be issued for discrete requirements, with set deadlines for responses
- Calls may be structured as One-Step (Proposal responses), Two-Step (Initial White Paper response followed by Proposal), or other.



DETER Open Announcements

- White Paper responses to the Open Announcement shall include:
 - An abstract of the proposed approach/solution
 - Discussion of the nature and scope of the research
 - Identification of current state-of-the-art
 - Description of final products/deliverables
 - Mapping of proposed approach to DETER Topic Areas
 - Rough order of magnitude
- White Papers have a 6-page limitation
- White Paper Submission Site:
<https://usg.valideval.com/teams/DETER/signuppapers>
- More details provided under the Industry Guide located on the SAM.gov announcement



DETER Calls

- Closed Calls under the DETER ARA will either be posted on SAM.gov or issued as a Limited Call.
- Call Announcements will request interested Offerors to submit either a white paper or full proposal (depending on the ARA Call variation selected, see Industry User Guide).
- ARA Call Variations
 - One-Step, two-step
 - Open, closed
 - Staggered-Closed Call
 - Limited Call

*Govt reserves the right to collapse a white paper/Two-Step into a One-Step if the situation warrants the white paper contains sufficient technical detail to do full Technical Proposal Evaluation instead of a white paper Evaluation.



Open ARA White Paper Review and Evaluation Criteria

Evaluations for white papers submitted under the Open ARA will be conducted by a peer or scientific review process and will use the following criteria:

- a) **Technical Merit:** Technical Merit is first in order of priority (more important than Relevance to AFRL Programs or Value/Cost) and shall be evaluated based on the following criteria, which are of equal importance
 - i. Overall scientific or technical merit
 - Problem statement, objectives and deliverables are clearly defined
 - Objectives and expected results are anchored by theory, analysis or data
 - Assumptions are logical, reasonable and appropriate
 - Offeror demonstrates knowledge of and applies state-of-the-art methods
 - ii. Soundness of the Offeror's technical approach
 - Approach is defined, logical and feasible
 - Schedule, speed of delivery (tech readiness date), and required resources are reasonable and appropriate
 - Proposed results are measurable and testable
 - Key staff have appropriate qualifications to perform proposed effort



Open ARA White Paper Review and Evaluation Criteria Cont.

b) Relevance to AFRL Programs: Outlined in topic area description

- i. Proposed effort is logically mapped to one or more topic area need(s)
- ii. Proposed effort provides valuable contribution to meeting one or more topic area need(s)
- iii. Benefits appropriately off-set identified risks

c) Value/Cost: Subject to funds availability

- i. For white papers: The ROM cost estimate will be evaluated on whether it is appropriate for the expected benefit and if sufficient funding is available. While papers that satisfy the technical merit factor, demonstrate benefits that are commensurate with the cost, and for which sufficient funding is determined to be available will be evaluated as best value to the Government.
- ii. For proposals: Cost will be evaluated on the degree to which it is realistic, reasonable and represents the best value to the Government. Cost realism will assess the likelihood that the proposed technical approach can be successfully accomplished for the cost proposed. Cost reasonableness will consider the cost proposed in conjunction with program objectives and availability of funding. Prior to award of a potential successful offer, the Contracting Officer will make a final determination regarding price reasonableness.



Award Process for Open ARA White papers and Calls

- Notification of Award Decision
 - The CO/AO or CS will notify, in writing, any Offeror(s) selected for negotiation of potential award and Offeror(s) that was/were not recommended for award.
 - Notifications will be sent within 60 calendar days from the end of the quarter in which white paper was received.
 - Such notification will only occur after the technical peer or scientific review has been approved.
 - The notification of recommendation for award is not to be construed to mean an award is assured, as availability of funds and successful negotiations are prerequisites to any award.
- Under this ARA, more than one award may be made based on the quality of the proposals and availability of funding.
- ARA method provides the flexibility to make an award for only those portions or tasks of the white paper or proposal that are of interest to the Government.
- Awards will be made to Selectable / Highly Recommended proposals.
 - Due to uniqueness of the ARA review process, it may be the case that while the overall white paper or proposal is ranked Not Selectable a certain part of it may be ranked Selectable / Highly Recommended.



Communication

- Please ensure to review the communication guidelines in Ch. 4 of Industry User Guide
 - Communication with Acquisition Team members is encouraged prior to the issuance of an RFP, after which time all communication must be submitted, in writing, to the Contracting Office
 - Acquisition Team members cannot attempt to replace the potential Offeror's original ideas with their own ideas or the program office's preferred approach
 - Acquisition Team members cannot share ideas or technical solutions provided in conversations, white papers, or proposals to a competing potential proposer or anyone else outside the team
 - Any one-on-one communications are not a pre-screening process

NOTE: Pre-proposal communication procedures will be established at the Call level for all Calls by the Contracting Officer(CO)/Agreements Officer (AO).



Assistance Instruments

- An award may be made from this open ARA announcement or any Calls in the form of a Grant, Cooperative Agreement (CA), or Other Transactions (OT) for Research, these are collectively known as "Assistance Instruments."
- Assistance Instruments establish a “partnership” between the Government and the recipient rather than the “buyer/seller” relationship common with a FAR contract, and the intent is to stimulate or support a public purpose.
- When would Grant be awarded?
 - Objective is to advance the state of knowledge in an area of science or technology; to find a solution to a specific problem
 - Primarily awarded to educational or non-profit organizations.
 - Classified information is usually not involved.
 - There is no fee or profit.
 - 2 CFR 200 (2 CFR 1103) and DoDGARs (other than parts 32 and 33) applies.
 - Substantial involvement between the Government and recipient is not required.
 - Not subject to the terms of a procurement contract.



Assistance Instruments cont.

- When would Cooperative Agreement be Awarded?
 - Normally awarded for basic research, applied research, or advanced research or development efforts
 - Used when a FAR type contract or grant has been determined inappropriate
 - Substantial involvement between the Government and recipient is required
 - Paid-up license and march-in rights in patents must be obtained
 - Government Purpose Rights in data usually obtained
 - There is no profit/fee
 - Cost share may be highly encouraged or required and may consist of other than cash; IR&D cost sharing allowable
 - 2 CFR 200 (2 CFR 1103) and DoDGARs (other than parts 32 and 33) apply



10 U.S.C. §4021 “Other Transaction for Research”

When to Use:

- Basic, applied, and advanced research projects related to weapons systems or other military needs.
- Encouraged for dual-use technology (commercial & military applications)

Characteristics:

- Non-FAR (FAR does not apply); however, some statutes/policies still applies
- Has (3) Types: Assistance Instrument, Procurement or TIA (Not authorized under DETER)
- Does NOT include provision for a non-competitive follow-on activity (production contract)
- Competition to the maximum extent practicable

Unique Requirements:

- Should include cost sharing with Government portion not exceeding 50% of total



10 U.S.C. §4022 “Other Transaction for Prototype Projects”

When to Use:

- Reaching non-traditional defense contractors (other than large business)
- Utilize agile/innovative business arrangements
- Leverage commercial industry investment

Characteristics:

- Non-FAR (FAR does not apply); however, some statutes/policies still applies
- Allows for non-competitive follow-on activity (production contract)

Unique Requirements:

- Solicitation must explicitly state potential for non-competitive follow-on award
- Prototype must successfully meet identified exit/completion criteria to progress to production
- May require a cost-share if performer is not a non-traditional
- Documentation required for utilizing authority, required prior to award



10 U.S.C. §4023 “*Procurement for Experimental Purposes*”

When to Use:

- Purchase ordnance, signal, chemical activity, transportation, energy, medical, space-flight, aeronautical supplies, and telecommunications including parts and accessories and designs thereof, necessary for experimental or test purposes to develop best supplies for national defense
- Testing new capabilities for fielding (i.e., weapons, combat vehicle modifications, test aircraft)

Characteristics:

- Non-FAR (FAR does not apply); however, some statutes/policies may still apply
- Competitive or non-competitive

Unique Requirements:

- Purchases limited to quantities necessary for experimentation, technical evaluation, assessment of operational utility, or safety or to provide a residual operational capability



10 U.S.C. §4025 “Prizes for Advanced Technology Achievements”

When to Use:

- Award cash prizes and other types of prizes to recognize outstanding achievements in basic, advanced, and applied research, technology development, and prototype development that have the potential for application to the performance of the military missions of the Department of Defense
- Used for “hackathons”, competitions, demonstrations, etc.
- For examples, see:
 - <https://www.transform.af.mil/Projects/Air-Force-Tech-Challenge/>
 - <https://www.challenge.gov/>
 - <http://www.airforceprize.com/>

Characteristics:

- Are considered competitive procedures
- Can be used in conjunction with other authorities such as 10 U.S.C. §4022
- Limited to \$1M but can go up to \$10M with USDR&E approval

Unique Requirements:

- Must be widely-advertised



Valid Eval



Team Sign Up

- If interested in submitting a White Paper under the DETER Open ARA please ensure to use the following link to create your team
 - <https://usg.valideval.com/teams/DETER/signup>
- This link will be used every time to submit a white paper
 - Please do not send White Papers to the DETER ARA Org Box
 - Failure to send White papers through Valid Eval will cause delay or may result in your White Paper not being reviewed
- Valid Eval will send you a confirmation email that your Team has been setup
 - This is confirmation that the White Paper was submitted successfully
- Valid Eval White Paper Submission is only for the DETER Open ARA
 - For responses to DETER Calls please ensure to review the submission instructions for that specific call as those will vary



Tips for Valid Eval

- The Team profile name you create has to be unique
 - Valid Eval system will not allow for duplication of team profile names
 - The government team is looking into a naming/numbering convention in the future.
- One White Paper per Team profile
- Ensure all fields in the Team profile are filled out correctly
 - Quarter Submission drop down if FY not CY
 - Please ensure to review the DETER White paper Evaluation Cutoff Dates
 - Refer to the DETER ARA Industry Guide for the latest requirements on what should be addressed in your White Paper
- Valid Eval only allows pdf/adobe files



DETER ARA Updates/Annual Summary



DETER Annual Summary

Open ARA White Papers – Information as of Q4 FY2023

- **Total White Papers Received: 152**
- **White Papers Awarded: 18**
- **Planned Awards: 5**
- **Selection Rate: 15%**
- **Award Distribution: 14 Small Businesses, 4 Universities, 5 Large Businesses**
- **Total Value of Awards & Planned Awards to date: ~\$81M**

ARA Closed Calls

- **Issued 14 closed calls to date**
- **Received 32+ responses across all Calls**
- **Total Value of Awards & Planned Awards to date: ~\$197.4M**
- **Included both One-Step calls and Two-Step calls**



DETER Open ARA White Paper Feedback

- Please remember if your White Paper is deemed “Selectable” but no funding available, the Govt will retain your White Paper for one year from date of submission.
 - Please do not resubmit.
- White Paper need to succinctly identify and address any performance risks with the proposed approach/solution.
- Technical claims need to be adequately supported within the responses.
- Value/Cost and Availability of Funding are important considerations. Funding is often limited and therefore, offerors need to provide reasonable approaches which balance resource constraints with technical advances.
- White Paper notification letters will include:
 - Summary Letter stating whether the technical team found it not selectable, selectable (no funds) or Highly Recommended
 - Evaluation “heat map” from Valid Eval.



DETER Updates & Upcoming Changes

- **Retention Period Clarification:**
The 12-month retention period for White Papers will begin after the end of the quarter in which the White Paper was received.
- **Updated Evaluation Criteria:**
Beginning FY2024 Q2, Valid Eval will utilize slightly modified evaluation criteria and evaluation rubric. The updated criteria and rubric will be posted online before implementation. Change will enable evaluation criteria and rubric to be consistent with the TACTICAL BAA.
- **Model Contracts:**
(4) Model Contracts to be released FY2024 Q1 to include:
 - 10 USC 4022 (Other Transaction for Prototype) – Fixed Price
 - 10 USC 4022 (Other Transaction for Prototype) – Expenditure Based
 - 10 USC 4023 (Procurement for Experimental Purposes) – Fixed Price
 - 10 USC 4023 (Procurement for Experimental Purposes) – Expenditure Based
- **Standardized Templates:**
Standardized ROM & Cost Model templates for will be released FY2024 Q1



Frequently Asked Questions (FAQ's)



FAQ's

- When awards are made under DETER, where is the information posted?
 - *Award notifications will be provided in writing to both Offerors who are recommended for award and not recommended.*
- Are you taking unsolicited white papers for any of the topic areas?
 - *Yes, white papers can be submitted at any point in time for any of the DETER topic areas; however, award of a white paper is determined based on funds availability*
- What are the areas of the call for proposals that offerors seem to overlook? Another way to put this is what are you expecting to see in the proposals that is not there or is lacking in general?
 - *Not responding to all areas of the technical objectives as identified in the Calls is a trend that has been identified. The Call announcements will specify what is required. If something in the Call announcement isn't clear, we recommend send in questions to the Contracting POC's so that it can be clarified prior to submitting a white paper or proposal.*
- In the evaluations, is there a preference for continuing ongoing work, starting new work, or neither?
 - *The evaluation criteria will be listed in the Calls. For white papers, the evaluation is based on Technical Merit and Relevance to AFRL Programs.*
- What efforts are you making to bring new companies and institutions into your portfolio?
 - *The Open DETER ARA reduces barriers by allowing a company or institution to submit a white paper at any point in time; proposing varying technologies and approaches. This gives the Govt team more insight into what industry can provide and if it is something the Govt program is interested in and/or has funding for. This open white paper process can allow the Govt program to seek innovative approaches and with non-traditional contractors.*



FAQ's Cont.

- What efforts are you making specifically to increase the level of innovation within this program?
 - *DETER has seven different acquisition authorities available for award and allows the Govt to be flexible and innovative.*
- What is the expected turnaround time from white paper submission until selection determination?
 - *Govt is working to send letter notifications within 60 days from the end of the applicable quarter that the white paper was submitted in.*
- Should we submit updated white papers for each quarterly cutoff date on the same subject or wait until we hear back on each one sequentially?
 - *No, if you have not received a letter notification from the contracting office regarding your white paper after 60 days following the end of the quarter, please send an email to DETER ARA Org Mailbox (afrl.deter.ara@us.af.mil).*
- Is it anticipated that there will be additional call requests in the future?
 - *Yes, DETER has unlimited time and ceiling. We will continue to utilize DETER when use of the authority is determined to be applicable to the requirement.*



FAQ's Cont.

- Would it be possible to get a list with the appropriate contact person or persons and email/phone number for each DE topical area?
 - *For specific questions please email DETER ARA Org Mailbox (afrl.deter.ara@us.af.mil) and your questions will be sent to the appropriate technical points of contacts.*
- Will these slides be available online or via email?
 - *These slides will be posted online under the DETER announcement.*
- Are white papers limited to only one topic area, or can they span multiple?
 - *The white papers can span multiple Topic Areas, but it is requested that primary Topic Area is clearly identified.*
- Is the one-year hold for white papers from date of submission or date of notification of selectability?
 - *The white papers are evaluated quarterly (in line with Government Fiscal Year; i.e., September, December, March, June) and Selectable White Papers will be retained for 12 months from the end of the quarter in which the White Paper was submitted.*



FAQ's Cont.

- Do closed Calls require the two (2) step process?
 - *No, Calls will announce the process and can either be one (1) or two (2) step and will depend on market research and the type requirement.*
- When will the next closed call be released?
 - *Please keep monitoring the DETER sam.gov posting and sign up for notification of changes. This will notify you when there are changes or a Call announcement is made under DETER.*
- Is it recommended to get a meeting set up with a Technical Point of Contact (POC) before submitting a white paper?
 - *Open communication is encouraged. Please send an email to the DETER Org Mailbox (afrl.deter.ara@us.af.mil) with technical questions and/or to set up a meeting with a Technical POC.*
- It was mentioned that white papers should address “state of the art technologies.” Does AFRL post on their website, or will it be written in the announcement on Sam.gov, what is considered “state of the art”?
 - *Offerors are responsible for identifying the current state-of-the-art; however, at times, the Government may provide descriptions of what is considered to be the relevant state-of-the-art, particular under Call Announcements.*



Questions