	As of March 31, 2025
	Q: What is the optimal number of team members to deploy for each experiment?
100	A: Depends on the size and the selected/formed AI red team across awarded performers.
	Q: What is the expected duration (in days) for each SABER-OpX experiment?
99	A: Each experimentation event will be at least 7 days.
98	Q: Does the government anticipate that TT1.1 performers have systems to deliver cyber and/or EW effects to the test exemplars on the test range or will their techniques be implemented and/or delivered as part of the TT2/3 teams infrastructure?
	A: TT1.1 can plan on TT1.2/TT3 delivering effects, but it would probably be helpful to also be able to do so in some capacity.
97	 Q: If a TT1 creates poisoned data (vulnerability 4) or poisons the test environment (vulnerability 1), are we guaranteed that TT2/blue will use it in re-training? Will the test be designed so that blue explicitly trains on our poisoned data before or during the field test? A: This will be part of experimentationno guarantees necessarily. However, we will test poisoned data pipelines.
96	Q: Will TT1.1 systems be allowed to observe and track the UGV and UAV during field tests? In real time, or between runs, to enable attacks to react to UxV behavior? What information, if any, will we receive about the ASUT during a test run from TT2 or TT3? A: The AI red team formed will learn from operational assessments, but there will not be
	back-and-forth with the Blue Team. Different amounts of ASUT information will be provided to examine the impact of different access levels.
95	Q: Is defeating a single sensor within scope? Or do we have to defeat all sensors on RACER (RGB cameras + lidar) and the UAV (RGB + thermal) all the time? If the former, then presumably the OpX tests would include test runs with only one sensor operating at a time.
	A: The AI red team formed will need to consider effects on multiple sensors.
94	Q: Would a team focused on offensive cyber techniques be competitive alone, or should it demonstrate access to non-cyber adversarial expertise (e.g., physical adversarial objects)?

	A: It would definitely be competitive, as SABER will form the AI red team combining selected, awarded performers.
93	Q: Is DARPA encouraging TT1.1 proposers to partner with physical security, CV, or robotics experts to round out attack vector diversity?
	A: Absolutely. SABER will be forming the AI red team with this diversity.
92	Q: Is there interest in developing a scalable red-teaming capability (e.g., crowdsourced + tool-enabled) that could persist beyond SABER for ongoing AI assessments?
	A: Yes, a scalable framework/toolkit is a key output of SABER.
91	Q: How heavily is DARPA weighting the ability to create novel and diverse attack effects versus the robustness or repeatability of those attacks across environments?
91	A: This is a heavy focus, although repeatability will be important, too.
90	Q: How much of the research can be conducted in unclassified environments prior to integration and testing in the SABER-OpX events?
90	A: Likely a good amount in-between event.
89	Q: Is the use of a distributed team (e.g., crowdsourced red teamers) acceptable if operational execution is confined to a cleared subset?
09	A: Red-teaming will be done on-site, making distributed operations tough.
	Q: Would experience in red-teaming LLMs still be considered relevant if the tactics or threat modeling approach are transferable?
88	A: There is likely some relevance in red-teaming LLMs that could be transferred.
87	Q: Are any foundation models, LLMs, or language-driven AI systems within scope of the SABER OpX scenarios, or is the program strictly targeting smaller discriminative or control-focused models (e.g., CV, RL, sensor fusion)?
	A: No. The focus is on discriminative AI, as stated in the BAA.
86	Q: Are system-level attacks on AI perception or decision-making infrastructure (e.g., tampering with the model execution environment) valid "AI attack effects"?

	A: Yes
85	Q: To what extent are AI-focused offensive cyber techniques in scope—can red teamers exploit host software, ML deployment pipelines, or system integration flaws if the outcome degrades the AI's output?
	A: This is in scope all it relates to creating AI attack effects against the pipeline.
84	Q: Will the red team be allowed to attack software components and communication pathways within these systems, or strictly the AI model inputs/outputs?
04	A: Yes, to create AI attack effects.
83	Q: What specific types of AI-enabled battlefield systems will be included in SABER testing (e.g., drones, ground vehicles, ISR platforms)?
05	A: This is discussed in the BAA.
	Q: If an Unclassified UEI was used (regardless of Prime or Sub), then the entity with the Unclassified UEI cannot perform classified work. Is this accurate?
82	A: The prime (with subs) needs to meet the security classification requirements, regardless of Unclassified/Classified UEI.
81	Q: Will exemplar systems or sensors be provided to understand chip sets, communication paths to develop vulnerability assessments or should we add funding to procure commercial AI driven components?
01	A: TT3 will provide some things for the AI red team to use, but it wouldn't hurt to budget some funding for equipment.
80	Q: When will TT2 start providing details of UGVs and UAVs and what type of information will TT2 provide to TT1.1?
80	A: At program launch and once exercises are designed/planned.
	Q: What does TT1.2 provide to TT1.1?
79	A: Everything, as TT1.1/TT1.2 and TT3 are the AI red team be formed.
78	Q: Can a non-U.S. citizen who is a U.S. Person (for example, a Permanent Resident Alien in the US) participate?

	A: It is possible for a U.S. person to participate in some capacity, clearly not in the CUI/classified aspects.
77	 Q: What subset of the spectrum between "we propose some very concrete attacks" and "we have demonstrated experience doing a wide range of things, here are some particularly relevant examples, and we plan to pick specific attack paths to work on from this very broad range of possibilities once we had a chance to better understand the target systems" be considered appropriate and desirable for the abstracts/proposals you are looking for? A: Both parts of the spectrum are important, as SABER is determining who to hire to be part of the to-be-created AI red team.
76	Q: Are the attacks that aim to have cyber effects downstream from the AI system, but where the AI is part of the attack path, in scope? That is, attacks where a malicious input to AI is produced "correctly" by the AI, but is designed so that the output from AI to downstream non-AI components creates a cyber effect? A: Leveraging a "cyber" vector to create a downstream AI attack effect is in-scope. Don't care about creating cyber effects.
75	Q: Do you care whether attacks are subtle / hard to detect or not? Another way to put it - should we expect the target systems to have active countermeasures and/or that Blue Team to actively protect the systems (in which case more subtle hard to detect attacks may be more likely to succeed), or not? A: The "stealthiness" of AI attack effects is certainly something that will be experimented with in each SABER-OpX.
74	Q: Does the definition of "AI attack effect" include the manipulation of AI output, where the output remains "correct" by some objective measure, but still degrades or denies the system operation due to a weakness in code downstream from AI? A: As long as it results in an intended operational effect.
73	Q: Does the government anticipate Red Team access to Blue Team hardware, Blue Team simulations, or other Blue Team specs? A: Different levels of access to Blue Team infrastructure/etc. as part of their AIOps pipeline will be experimented with in each SABER-OpX.
72	Q: Is increasing robustness of the Blue Team in scope of the program? Similarly, is providing constructive feedback to the Blue Team on increasing robustness in scope of TT1?

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	A: Increasing Blue team robustness is not in scope for SABER, but sharing feedback to Blue team certainly will happen.
	Q: Should TT1.1 and TT1.2 proposals price in cloud costs?
71	A: You should factor in costs needed to perform R&D, as that will shape the ARTE program metric.
	Q: Will the government provide development tools, including a DevSecOps platform (e.g., GitLab), cloud computing infrastructure, edge hardware if appropriate, etc.?
70	A: There will be a shared infrastructure/platform/tools at events, but performers should be prepared to have their own stuff for R&D.
	Q: Will the government provide a network or networks on which to host TT1.1 and TT1.2 work? If yes, what is the network and the classification of that network?
69	A: The government team will provide a shared network for AI red team (TT1, TT3) work at the SABER-OpX events. Networks will be at the appropriate classification level per the SCG.
	Q: Would an AI model training ground/experimental test bed/ UI be provided?
68	A: Each SABER-OpX will have an on-premise infrastructure/platform with AIOps. Performers should be prepared to bring their own, but one will also be provided by TT3.
	Q: The ARTE metric looks like it is applicable to TT1.1. Is there a metric for TT1.2?
67	A: The ARTE metric is applicable to the entire AI red team (TT1, TT3).
	Q: Are there multiple autonomous systems interacting with each other or are they functioning independently?
66	A: You can make the assumption that the ASUTs are operating independently (no swarming). Although that is something that could be experimented.
65	Q: Would attack vector optimization be in scope as a possible solution? If so, would it be part of TT1.1 or TT1.2?
65	A: Attack vector optimization is certainly in scope and probably best aligned with TT1.1; it would certainly inform TT1.2 and TT3.

	Frequently Asked Questions (FAQ)
	Q: Are the decisions being made but the two Op-X systems completely AI-based and autonomous or is there also a human-in-the-loop system?
64	A: AI red team effectiveness will be based on degrading the ASUT and decisions made by a human on-the-loop.
	Q: Will any information be provided about the accompanying AI infrastructure?
63	A: Not pre-award. But general information will be provided about the ASUT, to include the AI infrastructure, if selected to be part of the AI red team.
62	Q: For the Op-X, the BAA mentions that ground autonomy will likely have optical, thermal, GPS, LiDAR, and RADAR sensors, whereas, aerial autonomy will only have optical and thermal sensors. Would aerial autonomy really not have a GPS system? And if so, since the TT 1.1 is supposed to address challenges in both ground and aerial, can the teams propose two different solutions for two systems – example, something that affects the LiDAR sensor inputs in ground, but affects optical inputs in aerial?
	A: There will be multiple modalities for the ASUTs, with some examples mentioned in the BAA. TT1.1 could propose two different solutions for two ASUTs; it doesn't have to be the same solution.
	Q: Are the proposals restricted to SECRET or can we submit solutions that are TOP SECRET?
61	A: Your proposed solutions must abide by the SCG for SABER. However, a proposal could be above SECRET if you want to highlight previous work experience at a higher level.
60	Q: For the demonstration, is TT 1.1 supposed to run their solution in the operational environment independently, or would they hand the work to TT 1.2 to integrate and then test in the operational environment?
00	A: TT1.1 performers will work alongside TT1.2 and TT3 at the SABER-OpX events. But, TT1.2 will be responsible for integrating and TT3 implementing.
	Q: Will all exercise participants require security clearances? Or will U.S. citizens without clearances or U.S. permanent residents be allowed to participate?
59	A: Participation in the SABER-OpX events will require SECRET (or higher) security clearances.
58	Q: Can a subcontractor be part of multiple abstracts?

	A: There is nothing preventing a subcontractor from subbing under multiple primes within the proposal phase. If awarded, however, the organization would only be allowed to sub under one prime.
	Q: Are U.S. university subcontractors allowed to use foreign students? Must the university professor be a U.S. citizen?
57	A: Foreign professors/students could participate within a sub-contract as long as they are U.S. persons. However, you would need to have a plan on how to best firewall non-U.S. citizens from any of the classified aspects per the SCG.
	Q: Will university subcontractors be allowed to perform fundamental research (without publication restrictions) on this program?
56	A: Since SABER is a non-fundamental research program any potential publication will require pre-publication review and approval.
55	Q: Can a U.S. person (permanent resident, non-citizen) be the principal investigator (PI) for the program, if they work for a U.S. organization? A: The listed PI for the proposal should be a U.S. citizen with the proper security clearance.
54	Q: Please clarify the line between tech teams 1.1 and 1.2 in terms of surveying, creating, assessing, selecting, integrating, and employing the techniques.
54	A: The line between TT1.1 and TT1.2 is fully described in the BAA.
	Q: Are techniques classified above secret in scope of the program?
53	A: Techniques classified above SECRET will be out-of-scope for SABER. However, one's experience in those techniques is important to highlight in a proposal.
52	Q: What type of AI Hardware (GPU based vs. ASIC)_ and AI Algorithms (Foundational vs. Small Models) should we assume on-board a drone system?
52	A: A good assumption would be GPU-based AI hardware and "small" discriminative AI model (no generative AI foundation models).
51	Q: Would it be within scope to include means of attacking adversarial AI Enabled UAS?
51	A: A means to attacking adversarial AI-enabled UAS is certainly within scope.

	Q: What limitations does a U.S. citizen without a security clearance face when participating in the program?
50	A: It will be difficult for a U.S. citizen to fully participate in SABER, particularly the SABER-OpX events, without a SECRET (or higher) security clearance. It may be possible to work on research at the unclassified level, if it abides by the SCG for SABER.
49	Q: Will contact information for in-person and virtual Proposer Day attendees be made available in order to facilitate teaming contacts/discussions
	A: The meeting roster has been emailed to all individuals who registered for the proposers day meeting.
	Q: What is the precise definition of an AI-enabled effect?
48	A: The definition of AI Attack Effect is provided in the BAA.
	Q: What is provided by TT1.1 to TT1.2 and what is provided by TT1.2 to TT1.1?
47	A: There will be full sharing within the AI red team. Everything created by TT1.1 and the government team (TT3) will be provided to TT1.2 for integration and framework/toolkit development. Everything created by TT1.2 will be provided to TT1.1/TT3.
	Q: Will the scenarios offer different levels of access (whitebox vs greybox vs blackbox vs no box)?
46	A: Yes, we will experiment with white-box, gray-box, black-box, and hidden-box levels of access.
	Q: Do you expect multiple TT1.2 awards?
45	A: No. TT1.2 will be one award.
	Q: What are the locations for the OP-X events.
44	A: The SABER-OpX events will likely be East Coast and West Coast for planning purposes.
	Q: Are attacks on blue team communication system of interest?
43	A: If you are referring to cyber attacks against blue team's C2 nodes, then no.

	Q: Is the focus on developing Attack vectors (delivery) or Attack Effects (effectiveness)?
42	A: Focus is on generating and delivering AI attack effects, which may require developing new attack vectors. The metric is AI red team effectiveness.
41	Q: Can you revisit the SABER scope discussion, clarify the distinction between and AI effect and traditional Cyber/EW effects?
	A: SABER's focus is on generating/delivering AI attack effectsattacks against AI components of the system pipeline. Cyber/EW vectors could be leveraged to gain access and deliver the effects.
	Q: Will the Government team provide the Cyber and EW hardware or do we need to propose hardware?
40	A: Recommend proposing the cyber/EW hardware, although some may be provided by the government team.
	Q: Will work be performed in the contractor facility or DARPA space?
39	A: Work will be performed in contractor facilities between SABER-OpX events, as well as at the DARPA-sponsored event sites.
20	Q: Does the prime awardee need SIPR connectivity or any other special type of comms?
38	A: The ability to perform communications at the Secret collateral level is required.
27	Q: Does the prime awardee need to have the ability to store SECRET data before award, or will DARPA sponsor the storage clearance?
37	A: The prime awardee will need to have the ability to store SECRET data before award.
	Q: What info about the system under attack will be given to performers?
36	A: The performers, as part of the AI red team, will be given some general information about the system to be attacked.
	Q: Will the performing red team contain multiple awards with the same skill set?
35	A: There may or may not be multiple awards for the same red-teaming skill set.
34	Q: Does a proposed team need to have all tech red teaming capabilities?

	A: You can propose a very specific AI red-teaming technology, or a team accomplishing the entire capability stack.
	Q: Can you submit an abstract to each Task?
33	A: It is preferable to submit one abstract for the TT1 area you are intending to submit a full proposal for.
	Q: Which TA takes lead on developing TTPs?
32	A: The government team (TT3) will be lead on developing TTPs, with support from TT1.
	Q: Are there computational constraints?
31	A: There are no a priori constraints, but computational resources will be measured as part of AI red team effectiveness.
30	Q: What sort of information will be available about the ASUT prior to the test and will there be a surrogate system? A: There will be general information provided about the ASUT, as that will be needed to inform red-teaming preparations. The government team may provide a surrogate system, but performers should be prepared to use their own.
	Q: What is the expected level of access for the test events?
29	A: All test events will be minimum CUI level of access, but will likely be higher as the SABER program is a Secret collateral program.
	Q: Could you please provide clarity on the fundamental research criteria mentioned at the top of page 22 of the BAA?
28	A: Because SABER is a non-fundamental research program, any potential publication will require pre-publication review/approval by DARPA prior to submission.
27	Q: Will attendees from Proposers' Day receive a notification of slides being posted to the SABER website?
	A: Slides have been posted to <u>https://www</u> .darpa.mil/sites/default/files/attachment/2025-03/program-darpa-saber-proposer-day-presentation.pdf.
26	Q: What is the expectation for capabilities at the first test event 1 month into the program for the performers?

	A: None/minimal; these events are mostly to assess baseline performance.
25	 Q: Is it expected that the toolkit can hole in the system so that the vulnerability can be planted, e.g., hack into the autonomous vehicle, or is the expectation of the performers to simply plant the vulnerability, e.g., corrupt the images used to train the computer vision model? A: The expectation is that the access to the system must be gained alongside the application of the AI attack effect (ex. Hack cyber sensor to corrupt images or set up a patch in the environment to enable an adversarial attack).
	Q: For the red-team, What degrees of access are considered in and out of scope?
24	A: All methods of access are in scope; however, the effect of gaining access is restricted to direct impacts on the AI components of the system pipeline.
23	 Q: What elements are required for a proposal? Do proposals have to address both ground and UAV exercises? Do teams need to include cyber experts if they intend to pursue data poisoning? To what extent can TT1.1 performers benefit from TT3 tools? A: Proposals will have to address both UGV and UAV exercises. There are a variety of methods that could be used to enable data poisoning; cyber is one method, but there could be physical/EW analogs. TT1.1 performers are designing/developing techniques/tools that will be used by TT3.
22	 Q: With respect to TT1.2, what does it mean to integrate AI attacks that might include physical patches? A: Methods for creating/printing Physical patches will be developed by TT1.1 and are only one part of the equation; Cyber, and EW technologies could also be used perform analogous attacks and will also be developed by TT1.1. TT1.2 will combine these tools and develop a framework/toolkit that will enable the TT3 team to utilize these relatively diverse techniques/tools effectively in SABER-OpX.
20	 Q: Is DARPA looking for performers to cover all of the TT1.1 needs or specifically looking for performers with partial solutions so DARPA can cobble the team as they see fit? A: We seek depth and quality in proposals in each of the areas; no additional consideration is given for a one-stop-shop proposals.

19	Q: Is SABER only interested in attack methods? Or is it also interested in vulnerability evaluation and defense?
	A: SABER is interested in vulnerability assessment, but is not interested in defense.
18	Q: To what extent is SABER looking for "generic" (but likely less operationally effective) tools that can be provably used against any AI-enabled physical system?
	A: We want operational effects <u>and</u> attacks that can be "generic", i.e. can be used against a variety of systems/components. Provable guarantees may be less important than the operational effectiveness.
	Q: What information regarding the AI-components used by the government-team systems will be made available to bidders/performers?
17	A: General information will be made available by the government team.
16	Q: Will AI vulnerability detection and mitigation through AI-enabled hardware system be within the scope of this solicitation?
16	A: Not directly.
	Q: Would you please repeat who your intended transition partners are?
15	A: DOT&E, PEO STRI (TSMO), USCYBERCOM, but this is not an exhaustive list.
	Q: DCSA must approve classified material movements 30-days prior to events. Do you already have event dates / locations planned out, and if so can provide this information to performers for schedule / cost planning?
14	A: Specific dates of events/locations will be disseminated after program kickoff. For the purposes of budgeting assume, OpX 1 will take place West Coast and that OpX 2 will take place East Coast. Otherwise, the schedule from kickoff is shown in the BAA.
13	Q: At which point in the schedule do you anticipate classified work will begin? Time from start to DCSA approval on new SCIFs can be >6 months from program start.
	A: Please request a copy of the security classification guide.
12	Q: Would you please elaborate on how Cyber/EW attacks on AI-enabled systems are different than Cyber/EW in general? E.g., if I have a cyber exploit that I can throw at an AI-enhanced camera, isn't this still considered cyber? If so, should the emphasis of our approach be on exploiting the AI-specific features or components

	of the target? (not simply the other components that may also be vulnerable to existing technique)
	A: The emphasis should be on exploiting the AI-specific features or components of the target system pipeline.
11	Q: How does SABER relate to the recently released RFI DARPA-SN-25-28 "Techniques and Tools for Vulnerability Assessment of AI-enabled Systems"? Do these two opportunities intersect, augment, or support each other in any way?
	A: These are directly related and inform the DARPA team regarding the space of existing tools.
10	Q: Will feedback be provided after abstract evaluations to aid vendors in improving their full proposal submissions?
	A: Yes.
9	Q: Are you looking for companies to team up together or are you looking for best of class for certain skill sets and put teams together. If you're looking for teams, can subs work with multiple companies?
	A: Teaming is encouraged; however, subs can only be awarded with one prime.
	Q: How many days are planned for each SABER-OpX event? How many days should performers plan on allocating for travel for each?
8	A: The events are going to be 7 days long. Relevant and cleared personnel who can assist in the event should attend all 7 days.
7	Q: Are you looking at adversarial approaches against Electronic support systems carried on UAS. i.e. Software defined radios that is deploying AI to detect and characterize?
	A: If the electronic support system enables the AI to do its function then that is fine.
6	Q: Can you expand on the counter-EW the UAS is planning use for Ops #2? Are those RF sensor based on Vision based approaches?
	A: No.
5	Q: Can a company Prime one proposal and then Sub on another proposal? If a company has multiple divisions within its organization, can 1 division Sub on a proposal, while another division Subs on a different proposal?

	A: A prime could also propose as a sub for another proposal, however these are discouraged from doing so.All proposers must be registered in the System for Award Management (SAM) and have a Unique Entity Identifier (UEI) number for their proposal to be found conforming. A group identified with a UEI is considered a separate entity, even if they are within the same company, so they can submit separate proposals
4	Q: Will you be looking for someone to be building the red teaming framework and then also be looking for deliveries of various capabilities in the PACE technologies? A: Yes. This is described in more detail in the BAA; however, these align with TT1.1: AI attack effects and TT1.2: AI framework/toolkit, respectively.
3	Q: Can you give a range for level of effort (dollar wise) that you will be looking for? A: SABER will be a fast-moving, rapidly iterating program with limited budget; proposals should be competitive in terms of funding.
2	Q: How many of each category (academic, industry) of participants will be chosen? A: There are no quotas prescribed for either academic or industry; performers will only be selected with respect to the quality of their proposals.
1	Q: When will the awards to be made? / When is the proposed launch date? A: For planning purposes, anticipate an early November 2025 kickoff.