

**DARPA-BAA-16-39 TRADES**  
**Frequently Asked Questions (FAQs)**  
**as of 5/25/16**

55Q: During his brief at the TRADES Proposer Day event, Dr. Vandenbrande identified individuals who would be on the technical review team. Do you have bios on these individuals and, if so, can you share them with all the potential TRADES participants?

55A: The individuals mentioned during the Proposers Day briefing are DARPA support contractors assisting Dr. Vandenbrande on the TRADES program; they are not proposal evaluators.

54Q: I didn't see the mandatory templates for (i) abstract template - executive summary slide and (ii) abstract template – technical description and cost posted at [www.fbo.gov](http://www.fbo.gov). Could you provide or point me to the right place?

54A: The BAA and all submission templates are on FBO at <https://www.fbo.gov/spg/ODA/DARPA/CMO/DARPA-BAA-16-39/listing.html>.

53Q: Could you provide a login name and password for me to submit the abstract via submission site: <https://baa.darpa.mil/>?

53A: BAA Section IV.E.1.a provides instructions on creating an account for the DARPA BAA Submission site.

52Q: For submission of abstracts, is it acceptable for the PI to submit, or does the authorized organizational representative have to submit on behalf of the PI?

52A: The PI's information should be entered under "Proposer Information" in the DARPA BAA Submission site.

51Q: Does the answer to question 45 mean that an organization can only submit a proposal either to TA1 or TA2 but not both? Can an organization submit more than one TA2 proposal or TA1 proposal? According to this requirement, it will be very difficult for an organization to lead or join a TA2 team as it prohibits any other researcher from the same organization to lead or join a TA1 team. For large organizations, it would be virtually impossible to know whether multiple people from that organization are planning submissions until the proposal due date.

51A: As stated in BAA Section I.C, "In order to prevent potential conflicts of interest between the TAs, proposers may submit to either TA1 or TA2, but may not submit to both." Organizations may submit more than one proposal within the same TA. Organizations are responsible for coordinating submissions. If DARPA discovers that a single organization has submitted to both TAs (whether as a prime or subcontractor) the Technical and Administrative POCs listed on each proposal will be notified and the organization will have to decide which proposal(s) they wish to withdraw.

50Q: Would an abstract or proposal that included Air Force Research Laboratory as a subcontracting partner be considered? Section VIII.B did not mention anything about excluding a government subcontracting partner.

50A: DARPA will determine the eligibility of Government entities on a case-by-case basis. These determinations will be based on whether the entity can meet the conditions outlined in BAA Section III.A.1.

49Q: Can someone be listed on more than one abstract submission? Can an individual be listed (under multiple abstract submissions) under different organizational affiliations (e.g., as a member of a company under one submission, as a consultant on another).

49A: Yes. Also see Q/A 22 and 45.

48Q: How is interoperability with standards, as done in Adaptive Vehicle Make (AVM), different from math-based interoperability?

48A: Interoperability based on data standards (e.g., IGES, STEP AP203) are inherently limiting because they do not encode how something was computed. Consequently, reproducing the same results across two systems (or even across different versions of the same system) that use different mathematics or algorithms can never be guaranteed. For example, computing surface-surface intersections in different systems will often result in slightly different curves. TRADES encourages proposers to think "outside" the current limitations and consider methods based on advanced computational concepts or mathematics to eliminate problems of interoperability.

47Q: Since metrics drive analysis methods and accuracy requirements, can you clarify whether there are any preferred metric sets (e.g., cost, performance, robustness, size, weight, etc.)?

47A: The Proposers Day PM briefing slides include a table with notional metrics under consideration. However, per the TA1 description in Section I.C the BAA, proposers are expected to generate targets.

▲▲▲New Q/A▲▲▲

46Q: Can you clarify TA2's role?

46A: TA2 proposers should describe how they intend to provide scalable, flexible computing and data cyber-infrastructure for use by the TA1 performers. The tools provided by TA2 are intended to greatly reduce or possibly even eliminate the need for TA1 performers to procure their own computing and storage services. The environment provided by TA2 should support capabilities such as provisioning of computing services in a variety of OSes, development tools and data sets. Ideally, DARPA would like to have TA1 proposers be able to assume that the amount of computing capacity and data storage available to them is, for all practical purposes, limitless. As envisioned, the TA2 infrastructure presents significant scientific and practical implications for TA1 proposers. TA1 proposers are encouraged to envision how

they might leverage such an infrastructure and what kinds of new algorithms and simulations are now accessible (e.g., a TA1 proposer should be able to obtain 1 hour of computer time to run their code across 1000 cores). By removing data storage and computing from TA1 constraints, DARPA hopes to encourage TA1 proposers to envision the opportunities created by the current computing landscape. Successful TA2 proposers will provide DARPA a plan on how to provide such infrastructure in a flexible and cost-effective manner. Leveraging existing cyber-infrastructure investments by DARPA, DoD and other Government agencies is encouraged.

45Q: Section I.C of the BAA states that "...proposers may submit to either TA1 or TA2, but may not submit to both". What is the definition of a proposer in this context? Are distinct groups within a larger organization considered the same proposer?

45A: Yes; our intent is to have an impartial TA2 performer.

44Q: Does this apply to only the prime proposer? Or, does this mean that subcontractors on a team may not participate in both TA1 and TA2?

44A: No team member (prime, subcontractor, consultant) can be proposed in both TA1 and TA2.

43Q: Can you please discuss the software upload? Will commercial vendors be required to upload proprietary software?

43A: See Section I.D of the BAA.

42Q: Will the slides briefed at the Proposers Day be available to individuals who could not attend?

42A: See Q/A 17.

41Q: Under T1, would the program be in favor of large team proposals that address all aspects of FA1: Modeling, FA2 Analysis, and FA3 Synthesis, or can the proposal be a small-team effort focused on one of the FAs?

41A: It is up to the proposer to scope the effort and, if applicable, provide a justification as outlined in the TA1 description in Section I.C of the BAA.

40Q: What is the preferred size (# of PIs) of a team? What is the recommended budget size/ per PI for typical projects under this program?

40A: It is up to the proposer to scope the effort and justify the proposed costs.

39Q: May DoD organizations participate, and if so, how?

39A: See Section III of the BAA for specific guidance.

38Q: Are tools that allow space to be filled with functionally graded and optimized architected materials in a computationally efficient manner within the scope of the project?

- 38A: If you have an idea that you believe is within scope of the TRADES BAA, please consider submitting an abstract per the instructions in Section IV of the BAA.
- 37Q: Are there any budget guidelines, expectations, or limits for TA1-FA1, TA1-FA2, TA1-FA3, or TA2?
- 37A: See Q/A 31.
- 36Q: Would an approach that used different representation methods for different material manufacturing methods (e.g., 3D printing or layered) be acceptable?
- 36A: Yes, however, generality and interoperability remains a strong emphasis of this program.
- 35Q: To what extent will TA-2 be responsible for developing design workflow and integration i.e., is TA-2 a service or a research effort?
- 35A: TA2's role is to establish and maintain a development environment as specified in the BAA.
- 34Q: Do you expect performers to fabricate and test model structures to validate methods?
- 34A: This program does not provide funding to fabricate or test physical artifacts for validation. However, accommodating the requirements to fabricate an artifact in the technologies developed is an important aspect of this program.
- 33Q: Will the final software tool need to be fully validated, i.e., for certified designs?
- 33A: No, this is just a demonstrator.
- 32Q: Which TA is responsible for building the S/W Tool?
- 32A: The goal of TRADES is not to build a single S/W tool, but to demonstrate feasibility of the approaches developed by TA1 on a test and integration platform provided by TA2.
- 31Q: What do the metrics for material + structure complexity represent?
- 31A: TRADES envisions a representation that spans length scales of several orders of magnitude while maintaining a usable computational response time while being sufficiently descriptive to generate machine instructions to fabricate the artifact.
- 30Q: What size proposals on TA1 are you looking for (i.e., what total costs are allowed)?
- 30A: It is up to the proposer to scope the effort and justify the proposed costs. Please be mindful of the cost realism evaluation criterion described in Section V of the BAA.
- 29Q: Are the templates that are posted as attachments to the BAA (that contain specific page limits and requirements) considered part of the BAA?
- 29A: Yes.

28Q: Is a multi-institution proposal for TA2 allowed? Or, are you looking at a single institution to perform on TA2?

28A: TA2 proposals may be from a single organization or a team composed of a prime organization and subawardees (organizations and/or consultants).

27Q: What scope of HCI solutions are you looking at for TRADES? Novel HCI solutions? Or, are only existing HCI solutions interpreted into a TA1 TRADES proposal in scope?

27A: The TRADES program's primary aim is to develop foundational design technologies to amplify exploration and human creativity. Advances in Human Computer Interaction (HCI) are seen as a potential follow-on activity; furthermore, TRADES is not interested in novel hardware solutions.

26Q: What are the common test problems?

26A: Common exemplar problems will be formulated as the program progresses.

25Q: Can European subsidiaries be subcontractors?

25A: Yes, unless prohibited by current statutes and regulations. See Section III.A.2 of the BAA.

24Q: The proposal technical objectives table is not included in the BAA. Will you be amending the BAA to include the table?

24A: No, the table shown in slide 24 during Proposers Day was notional. Specific metrics and targets should be described by the proposer as stated in the BAA (see TA1 description in Section I.C). Per BAA Section I.E, performers that do not demonstrate convincing technical achievement will not advance to program completion.

23Q: Must abstracts and proposals use the Word template? Is LaTeX acceptable if it looks the same?

23A: Section IV.B of the BAA outlines the acceptable formats to be used for the required templates.

22Q: Can I subcontract under multiple prime contractors?

22A: Yes, in TA1 only; however, DARPA will not fund duplicate work on multiple submissions and we would expect the sub-contractor/awardee to disclose any potential conflicts to each potential prime. See Q/A 45.

21Q: Do you need to address each and every segment listed under each FA?

21A: For FA1 and FA2, we highly encourage addressing all aspects of the FAs as described in the BAA. In FA3, there is no requirement to address all objectives.

20Q: Since TA2 is dependent on TA1, will the TA2 award be after TA1?

20A: TA2 will be awarded at the same time as TA1.

19Q: Team size may be limited by the availability of participants. What is the target range?

19A: DARPA has no preference with regard to team size. Also see Q/As 29 and 31.

18Q: I don't recall seeing details for the "teaming profile" in the BAA. Can you please point us to this?

18A: See Section VIII.B.

17Q: Will slides for today's meeting be available?

17A: Yes, the slides will be posted to the DSO Opportunities page at <http://www.darpa.mil/work-with-us/opportunities?tFilter=&oFilter=2&sort=name>.

16Q: On page 19 of the BAA it says "abstracts received after this time may not be reviewed" Does this mean they will not be reviewed?

16A: We recommend that you submit your abstracts by the listed due date/time. It is up to each proposer to decide whether to risk being late and potentially having their submission removed from consideration.

15Q: Is teaming required?

15A: No, but it is highly encouraged.

14Q: What is the budget for the program? Do you have a number of awards in mind?

14A: See Q/A 31 and Section II.A of the BAA.

13Q: Will there be associate contractor agreements among participants?

13A: No, but proposers must detail how collaboration with other performers will take place to meet the programs goals. Note that data is required to be shared and presented at technical conferences. See Section I.D of the BAA.

12Q: Is this program 6.1 or 6.2?

12A: This is a 6.1 program, which means it's considered fundamental research.

11Q: Would proposals on integrated computational materials engineering (ICME) to enable design of new materials be considered?

11A: Per Section I.C of the BAA, this is not a program to develop new materials nor new manufacturing hardware or techniques; such submissions may be considered non-conforming.

10Q: What do you mean by interoperability?

10A: If you are focused on one aspect of the program, you need to make a compelling argument how it will support downstream or upstream processes without requiring human intervention, or without being locked into a single product class (e.g., “as long as it looks like a composite lawnmower blade, all downstream analysis codes can be automated”).

9Q: Is this program anticipated to involve ITAR and/or EAR (i.e., can a foreign owned company participate)?

9A: The involvement of ITAR and EAR would depend on the proposed concept; however, it is expected that the technology will be dual use in nature and thus not subject to ITAR (but may be subject to EAR). Per Section III.A.2 of the BAA, foreign organizations and/or individuals may participate to the extent that such participants comply with any necessary nondisclosure agreements, security regulations, export control laws, and other governing statutes applicable under the circumstances.

8Q: Would the development of a new design tool specifically for composites be considered? Will TRADES address design of 3D VLSI chips?

8A: The aim of this program is to develop general approaches to support design with advanced materials and manufacturing techniques. Unless a compelling argument can be made as to how it supports the broader scope of the program, a single focused approach will likely not be considered.

7Q: Is this a fabrication tool development program?

7A: See the answer to question 11.

6Q: Is this a computer graphics program?

6A: No, unless a very compelling case can be made that it enables a critical aspect of design.

5Q: Is this a composite materials program?

5A: See the answer to question 11.

4Q: Is this an Additive Manufacturing (3D printing) program?

4A: See the answer to question 11.

3Q: Is this a new manufacturing technology program?

3A: See the answer to question 11.

2Q: Is this a material development program?

2A: No, although a manufacturing demonstration may take place at the completion of the program it is not a materials program. See the answer to question 11.

1Q: What is design?

1A: Generating shapes or an assembly of shapes to achieve a desired functionality.