General Questions:

Question 1. Are international universities allowed to be part of a team?
Answer 1. All interested/qualified sources may respond subject to the parameters outlined in BAA. As discussed in Section III.A.2 of Part II of the BAA, non-U.S. 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.

Question 2. Is there a preference for solutions that focus on traditional DoD specifications, such as rad hard or security, over commercial performance metrics?
Answer 2. The DOD has a strong need for high-performance SoCs and should leverage commercial successes. However, successful proposals should also show a pathway towards adding DOD relevant capabilities.

Question 3. Can a proposal be submitted after November 14th, 2017?
Answer 3. As listed on pg. 61 of the BAA, full proposals must be submitted on or before 1:00pm EST on November 14, 2017. Proposals may be submitted after that date up until 1pm EST on January 31, 2018. However, proposals submitted after 1pm EST on November 14th, 2017 will only be reviewed at DARPA's discretion, and proposers are warned that the likelihood of available funding will be greatly reduced after the initial closing date deadline of November 14th, 2017.

Question 4. Is there a preference as to who and what type of organization is the prime contractor?
Answer 4. No. As stated in page 44 of the Design BAA under Eligibility Information. "All responsible sources capable of satisfying the Government's needs may submit a proposal that shall be considered by DARPA." All proposals will be evaluated against the BAA criteria, as listed in Section VA in Part II of the BAA.

Question 5. Can a PI participate in multiple proposals for different sub-tasks in the same program?
Answer 5. Yes.

Question 6. It is unclear if a non-profit university can apply for this, as a prime or subcontractor. Can you please clarify?
Answer 6. All interested and qualified sources may respond to the BAA. As written on pg. 44 of the Design BAA under Eligibility Information, "All responsible sources capable of satisfying the Government's needs may submit a proposal that shall be considered by DARPA."

Question 7. Is it better to submit 2 proposals separately addressing IDEA TA1 and TA2, or is it preferred to submit 1 proposal that contains both research projects for TA1 and TA2? Will TA1 and TA2 be separately reviewed?

Answer 7. There is no preference. Organizations may propose solutions for both TA1 and TA2 in a single proposal or in two proposals. If submitting within a single proposal, the proposal should be constructed such that each technical area can be selected independently from one another, with separate pricing for each technical area.

Question 8. For IDEA TA1, will there be more than one performer per subtask?
Answer 8. The number of performers per subtask will be dependent upon proposals received; there may be one or more. The proposals will be evaluated against the BAA criteria and available program funding.

Question 9. Can one propose a solution that integrates commercial CAD tools with software developed for the IDEA concepts?
Answer 9. Yes, as long as the proposed solution meets the IDEA program goals.

Question 10. What are the necessary nondisclosure agreements, security regulation, export control laws and all other governing statutes applicable at this program?
Answer 10. This cannot be determined prior to submission of a proposal. The statement in the BAA is provided to: 1) stipulate that the BAA establishes no restrictions on who may propose or serve as a performer (if selected), and 2) that each performer will be responsible for complying with all applicable regulations/statutes - some of which will be implemented in the resulting award instrument (e.g., security regulations, if/as applicable) and some which are not implemented in the resulting award instrument (e.g., export control regulations).

Question 11. In regard to cost share, when providing the cost breakdown by phase and task do we list the full project cost or just the Government's share?

Answer 11. The cost proposal build-ups (Summary Build-up and Detailed Build-up) must capture the full cost (budget) of the project being proposed (all costs required to accomplish the technical approach being proposed). The cost share is simply applied at the bottom-line. The Government needs to be able to fully understand what is being proposed, and a full project budget is part of the information data set that is assessed. It's important to note that before agreeing to a proposed cost share amount/percentage, the Agreements Officer needs to first understand and agree with the total proposal amount (for example, 50% performer share in a total budget that is deemed to be twice as expensive as it should be for the project being proposed would not be reasonable).

Question 12. Regarding the SOW, do TIA proposers submit a TDD instead of SOW? According to DARPA ERI, Page 3 Investments, TIA Model Companion Guide, Attachment 1 " TDD should include both program and project background sections, that can be understood by a non-technical reader" - does this mean that in the TDD we have to briefly outline the project objectives, as well as our proposed solution?
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Transactions. They have different names but all are the same document, generally speaking, and include basically the same content.

Question 13. There seem to be an overlap between SOW, Technical Approach and Schedules, and Milestones.

(a) Is SOW essentially like Executive Summary?
Answer 13. (a) The SOW is reflective of the technical approach. The technical approach is solely for proposal purposes - it does not generally get incorporated in to the resulting contract. The SOW is specifically defining the scope of work and does, in fact, become part of the resulting contract. If selected, the Contracting Officer will pull the SOW out of the tech volume and begin fine-tuning it, with assistance from the DARPA Program Manager, Contracting Officer's Representative (COR), and Principle Investigator (PI), for incorporation into the contract. Therefore, the technical approach and the SOW do generally capture the same thing - that being the project that you are proposing but the SOW is focused on tasks and deliverables by Phase in order to later serve a part of the resulting award instrument, while the technical approach is mechanism by which the proposer fully describes the project to the Government.

(b) According to DARPA ERI, Page 3 Investments, TIA Model Companion Guide, Attachment 1 " TDD (SOW for OTs) should include both program and project background sections, that can be understood by a non-technical reader". Does it mean that in the TDD we have to briefly outline the project objectives as well as our proposed solution?
Answer 13.   (b) The TIA Model and Companion guide are solely for information purposes only – their purpose to is to bring new performers up to speed on what an OT is and how they are negotiated - they are not part of the BAA/solicitation and proposers have no obligation/requirement to comply with them as part of the proposal preparation process. Please, just follow the BAA instructions when preparing your proposal. Details discussed in the TAA Companion Guide will be added to the SOW (TDD) during negotiations if your proposal is selected (information such as program background, project background, Government Furnished Information or Property expectations, interaction with other project performers, etc.).

(c) According to BAA the SOW has to describe tasks, durations, dependencies and deliverables, detailed description of the approach, responsible parties, completion criteria, etc. and it seems to overlap with the information to be included in Technical Approach, and Schedules and Milestones (tasks, durations, dependencies among the tasks). How is it better to approach these sections, in order not to repeat the same information in 2 places?
Answer 13.   (c) It is fully expected that there will be some overlap between sections of your technical proposal as necessary to specifically address the BAA proposal preparation requirement; however, the page count allotted to the technical volume (and to specific sections of the technical volume, if applicable) takes this into account.

Question 14. There are several considerations regarding the Fundamental Research. How do I know if the program I'm intending to proposal to is considered fundamental research?

Answer 14. Please consult page/slide 9 of M. Blackstone's Proposers Day slides which are posted on the ERI Webpage for clarification. The clarification will help but, as stated in the BAA, this is a decision ultimately left to the Contracting Officer depending on the circumstances at hand taking into consideration the nature of the research project, nature of the proposer team, type of funding being used (6.1 vs 6.2), etc.. Please also consult the BAA covering the program you are intending to propose to - as an example, for POSH, please consult pages 43 and 44 of the BAA.

Question 15. Can you provide anticipated locations for the bi-annual integration exercises and PI reviews?
Answer 15. The locations of the bi-annual integration exercises and PI reviews are TBD. As stated on Pg. 51 of the BAA, when providing documentation on the breakdown of your travel costs, provide the purpose of the trip, number of trips, number of days per trip, departure and arrival destinations, number of people, etc. used to develop your cost proposal.

Question 16. With respect to transition, what is the expected relationship between an application to Stage 1 of the MTO Transition Accelerator, the "C. Results and Technology Transfer" section of a proposal to one of the ERI Design programs, and the costed task associated with building a viable transition plan?
Answer 16. As stated on Pg. 48 of the BAA, the transition plan should emphasize creating an impact under the Electronics Resurgence Initiative. Further information about the MTO Transition Accelerator can be found here: https://www.darpa.mil/attachments/MTOTransitionAccelerator-10-19.pdf

Question 17. The BAA asks for a "signature on the Collaborative Statement". Is the document being referred to simply Volume 1, Section 2, Sub-Section B: Collaborative Statement? If so, are you expecting we then add a signature line on this page with the PI's signature?
Answer 17. Yes, a signature line should be included with a signature from the proposing organization.

Question 18. Do I need CAGE code and/or TIN code to apply for this BAA?
Answer 18. The Cost Proposal preparation section, Cover Sheet, specifically calls for "(16) DUNS number, (17) TIN number, and (18) CAGE Code" in the BAA. Therefore, the submitted Volume II Cover Sheet does require identification of DUNS, Cage and TIN to the extent these are available at the time of proposal submission. On Pg. 60 of the BAA, you can find information regarding the System for Award Management (SAM) and Universal Identifier Requirements. Specifically, it states that "All proposers must be registered in SAM unless exempt per FAR 4.1102. FAR 52.204-7, "System for Award Management" and FAR 52.204-13, "System for Award Management Maintenance" are incorporated into this BAA. The link referenced in that section, http://www.darpa.mil/work-with-us/additional-baa, has further information and resources regarding preaward requirements associated with SAM.

Teaming, Collaboration, and Licensing

Question 19. Is software developed in IDEA required to be open source?

Answer 19. As expressed in the BAA, open source software is strongly encouraged, but not required. Proposed solutions that are not open source should provide thorough technical justification.

Question 20. How is the collaboration statement different from an Associated Contractor Agreement (ACA)?
Answer 20. The collaborative statement will be incorporated into the statement of work in your contract with the government. An ACA is separate agreement that is negotiated between performers (associate contractors) upon receiving selection letters from DARPA. There is no formal requirement for an ACA between performers in the IDEA BAA.

Question 21. Are teams expected to use commercial tools or make alternatives to commercial tools when creating IP?
Answer 21. The teams are expected to meet the IDEA program metrics with their proposed approach. Open source solutions are strongly encouraged but are not required.

Question 22. It is highly likely that IP will be produced during the program, however some industry partners might have issues with releasing this IP. How should this situation be handled?
Answer 22. Proposer's should address any IP restrictions in their proposals and justify how such restrictions will allow for the overall IDEA program goals and objectives (including transition) to be achieved. If selected, the issue of IP rights/restrictions will most likely be a topic covered during negotiations.

Question 23. Are teams required to include an integrator role in the proposed solution?
Answer 23. Teams are not required to include an integrator role in the proposed solution but will be required to work with other performers in IDEA to create the final platform. The biannual integration exercises are expected to ensure smooth collaboration. A USG/FFRDC will act as a facilitator and evaluator, but will not be responsible for integration.

Question 24. Is there a schedule for when the week long integration exercises will be held?
Answer 24. The week long integration exercises will be held approximately biannually, or twice a year.

Question 25. Is there a preference for large broad teams over small focused teams?
Answer 25. There are no preferences related to team composition. The proposal will be evaluated against the BAA criteria as listed in Section V.A of Part II, which includes an evaluation of whether the proposal is supported by a technical team with the expertise and experience to accomplish the proposed tasks

Question 26. We are a small company with cash-basis accounting, and it is our understanding that our best option is to apply as TIA. Assuming a teaming approach where a university is the prime and we (a for-profit nontraditional) are the subcontractor, are there 2 proposals to be submitted (one from the prime and one from the subcontractor) or is the subcontractor proposal to be submitted within the prime's proposal (in Volume II, Section 2, G. Subcontractors)?

Answer 26. It is important to understand that a proposer team must submit a single proposal in response to the BAA so as to avoid having the individual proposals (in your example) deemed non-compliant with the BAA. The single proposal, in this example, is submitted by the organization who will be serving as the prime contractor. The award instrument type is dictated by the contractual relationship between the prime contractor and the government - all subcontractors would receive a sub-award that conforms to the prime contractor's award instrument (for example, a FAR-based procurement contract to the prime contractor would involve FAR-based procurement subcontracts, an OT agreement to the prime contractor would involve only those flow-downs necessary to ensure the prime meet their contractual obligations to the Government. It is worth noting that a subcontractor under a procurement contract could receive a FFP procurement subcontract - which, if the subcontractor is a non-traditional, mitigates any cost accounting system concerns and allows for milestone-based payments.

Question 27. According to Volume 2, Section 2 of the BAA, the subcontractors have to prepare their proposals at the same level of detail as the required by the prime. For the title sheet of the subcontractor's proposal is the subcontractor itself the leading organization? Does the subcontractor proposal identify its own PI? Do we include in the SOW (or TDD) the tasks that have to be performed by the prime as part of our team effort?
Answer 27. Just as a point of clarification before directly responding to the above questions, it is important to note that the subcontractor is submitting a proposal directly to the prime contractor in their team – not to the Government per se, and the prime contractor is responsible for incorporating the information received by the subcontractor(s) into their prime contractor submission to the Government (only one formal submission is being submitted by each team – that submission including all information required by the solicitation).
The subcontractor/s would be a member of a team and, contractually speaking, subordinate to the prime contractor. Each subcontractor would submit to the prime contractor (typically in response to a formal request for proposal from the prime contractor if operating more formally and if the prime contractor is considering bids from multiple potential subcontractor organizations) a fully compliant subcontract proposal tied to their specific scope of work (as defined by the prime contractor - meaning the subcontractor SOW will include only those tasks that the prime has asked them to perform as a member of a single team). Generally speaking, the PI is a role filled by the prime contractor - although it's not improper for a subcontractor to also refer to their own technical lead as a PI. It is important to clarify that although this information (SOW, cost proposal, etc.) is submitted as part of the prime contractors proposal to the Government per the solicitation, none of these items will be included in the award instrument between the Government and prime contractor (the contractual relationship will be solely between the Government and prime contractor).

Question 28. In case of proposing as loosely connected performers (one of the teaming models discussed at the ERI/Page 3 Workshop this past summer), is it possible for each team member to propose separately (for example, the prime submits a procurement contract proposal and the subcontractor submits a TIA proposal) but bound together by an ACA?
Answer 28. No - as stated in the above two responses, a single team must submit a single proposal in order to be compliant with the solicitation.   Just for further, related, clarification, it is important to understand that the ACA model discussed in the ERI/Page 3 Workshop is something that is structured after a conforming proposal has been selected for negotiation - it's a model that is put together by the

Government after proposals have been selected and when broader, loosely connected, teams need to be formed to meet the overall program goals and objectives (especially relevant when the solicitation allows proposers to propose to discrete elements/task areas versus to having to propose to all of the program elements/tasks). A single team needs to be captured in a single proposal and only a single award can result from that proposal - splitting a team into multiple proposals could very well result all of the proposals being deemed noncompliant since they must be reviewed independently per the solicitation.

Question 29. Do TIA proposers need to submit information required by Volume 2, Section 2, Detailed Cost Information? It is our understanding that according to Note 1(d) of this section "Cost or Pricing data" are not required if the proposer proposes an award instrument other than a procurement contract (i.e., cooperative agreement, grant, or other transaction). In this case, it is our understanding that as OT proposer we will need to submit information described in Volume 2, Section 3, instead of information required in Volume 2, Section 2. Please confirm if we understand this right.
Answer 29. All proposers need to the submit information required by Volume 2, Section 2 "Detailed Cost Information" to the maximum extent possible. This information is needed by the Government reviewers in order to fully understand what is being proposed - specifically, in order to assess cost realism, which is one of the evaluation criteria. The more cost details that are not provided the greater chance that the Government reviewers will not fully understand the proposal or will find weaknesses and or risks pertaining to cost realism. However, for those proposing a TIA, there is no requirement for the submission of "certified cost and pricing data" because this term is a procurement contract (FAR/DFARS) term. So - the lack of cost details in an OT proposal will not rise to the level of proposal non-conformance, like it might for a procurement contract whereby the requirement for certified cost and pricing information does exist (by regulation), but - as noted - the lack of any cost details could become an issue in terms of the Government reviewers not being able to fully understand the proposal, as whole, and/or in assessing cost realism (remember this is a competitive solicitation process).

Question 30. According to BAA Volume-II Section 2, G. Subcontracts: "The prime contractor is responsible for compiling and providing, as part of its proposal submission to the Government, subcontractor proposals prepared at the same level of detail as that required by prime." Does this mean that the prime will include their subcontractor's SOWs and Technical Approach, and Cost Estimates, etc. as part of their proposal to the Government, listing specifically which tasks will be done by the prime and which will be done by the subcontractor(s)? In order for the prime to prepare the proposal the subcontractor has to provide the prime with its own proposal, correct?
Answer 30. The prime will only be required to include as part of its cost proposal Volume to the Government each subcontractor cost proposal and the associated SOW. There is no requirement for the prime contractor to include, as part of its proposal to the Government, technical volumes for the subcontractors - the prime contractor will speak for the entire team when it comes to the technical volume (to include the prime contractor's SOW), when it comes to the prime contractor's own cost proposal build-ups (the subcontractor cost proposals, and SOWs, are included in the prime contractors cost volume as backup documents per the solicitation. But - yes - the prime contractor must have full cost proposals from each sub in order to build their own separate submission to the Gov't. If a subcontractor were to be unwilling to provide pricing to the prime contractor that includes proprietary rates and factors then that subcontractor (as discussed in the solicitation) would then, instead, provide their cost build-ups (summary and detailed) with certain elements reflecting full wrap rates (but still

having all of the other required cost elements/information - labor categories (with wrap rate), labor hours per labor category, travel, ODCs, materials, equipment, etc.

Question 31. What is your foreign partner policy? I was trying to find this information in the BAA but could not. I am intending to include a foreign organization on my team – is this permitted by the BAA?
Answer 31. This subject is covered in each of the ERI/Page 3 BAAs. As an example, for BAA No. HR0011-17-S-0056, please consult page 29 under "III. Eligibility of Information." There it states that "All responsible sources capable of satisfying the Government's needs may submit a proposal that shall be considered by DARPA." Also, for example, for BAA No. HR0011-17-S-0056, please consult slide 6 of the Contracting Officer's Proposers Day slide deck dated 22 September 2017 which is available on the ERI webpage, and which states "Foreign participants/resources may participate to the extent allowed by applicable Security Regulations, Export Control Laws, Non-Disclosure Agreements, etc." Regarding the statement made in the Proposers Day slides, there is a related question captured in one of the ERI/Page 3 BAA FAQs that you might find helpful as well. Also, please be sure you are coordinating often with your organization's contracting office as you prepare your proposal – they can help you understand BAA compliance issues.

IDEA Technical Questions

Question 32. For IDEA Technical Area 1, do proposals need to address chip, packaging, and board design or can proposers choose just one or two types of hardware?
Answer 32. There is a strong preference for solutions that cover all three types of hardware, as expressed in the BAA.

Question 33. Does someone working on the detailed routing subtask have to deliver a router for all of analog, digital, package and PCB, or can a performer focus on a subset of these?
Answer 33. DARPA strongly encourages that proposals for a specified subtask, such as routing, covers all analog, digital, package and PCB. DARPA encourages teaming and collaborative efforts as needed to meet the subtask and program goals. If a proposal does not deliver a router for all types of hardware, thorough technical justification and a discussion of how the proposed technology would link to routers that support other types of hardware should be provided.

Question 34. Are teams expected to create PDKs?
Answer 34. There is no expectation that teams will create PDKs, however proposers are encouraged to discuss ways their design tools can interact with PDKs, such as through an intermediate layer.

Question 35. Should proposed solutions for the "SoC Design Advisor" subtask in IDEA TA1 be part of a larger team, or are independent proposals allowed?
Answer 35. There is no preference as to whether proposers propose solutions to the SoC Design Advisor subtask as a single task or as part of a larger team.

Question 36. For IDEA TA1, is it ok to use information from previous runs to put as inputs to a model to help meet the 24 hour requirement?

Answer 36. Yes, data from previous designs may be used to help improve design time. Proposed solutions should address how data from previous designs will provide software that meets the metrics for a wide variety of circuits with no human in the loop.

Question 37. What reference should the relative metrics outlined in the BAA be compared to?

Answer 37. The teams should present a technical justification against the benchmark references listed in the BAA and against references chosen by the proposer. For example, teams are encouraged to use data from literature in the public domain for references.

Question 38. For IDEA TA1, is the output required to be in GDSII format or are other file formats acceptable? What specification format is being used to create SiPs?

Answer 38. The final output should be an open file format that can be sent directly to a manufacturer. If GDSII is not chosen, proposers should provide technical justification.

Question 39. What technology will the Government provided MPW or dedicated wafer runs use?

Answer 39. Proposers should assume a FinFET technology.

Question 40. Regarding the SoC Design Advisor subtask for IDEA TA-1, please provide clarification for the term "100mm2 SoC" used in the description. Is this a hard chip area target, a maximum area limit, or a notional complexity indicator

Answer 40. This is a notional complexity indicator.

Question 41. Regarding the SoC Design Advisor subtask for IDEA TA-1, what assumptions should we make for the source of the constituent cells/macrocells that comprise our SoC design, and should we include the cost of any IP blocks used in our design?

Answer 41. The costs for the IP blocks required for the IDEA SoC Design Advisor subtask design should be included in the cost proposal; these will not be provided within the GFI benchmark suite as described on pg. 27 of the BAA.

Question 42. Regarding the SoC Design Advisor subtask for IDEA TA-1, are we required to select the vendors for the package and pcb, or will these be dictated by the layout generator design teams? Also, are we to include the fabrication cost for the package and pcb?

Answer 42. Fabrication costs should not be included for package and PCB. The USG will select vendors for the package and pcb.

Question 43. Regarding IDEA TA-2, may a performer propose a solution that is focused on a subset of the design types outlined in Figure 3? For example, is it acceptable to propose intent driven system

synthesis TA-2 solutions for package and board designs, while excluding solutions for analog and digital chip designs?

Answer 43. DARPA strongly encourages that proposals for a specified subtask covers COTs components including IP modules for SoCs, bare dies for SiPs, and available packages chips for PCBs. DARPA encourages teaming and collaborative efforts as needed to meet the subtask and program goals. If a proposal does not cover the listed types of COTs hardware, a thorough technical justification and a discussion of how the proposed technology would link to other software that would support other types of hardware should be provided.

Question 44. Regarding IDEA TA-2, is the intent of the PCB benchmarks listed in Table 3 to produce the identified benchmark designs (i.e. BeagleBone Black in in phase 1 and Open Compute Board in phase 2)?

Answer 44. The intent is to produce PCB designs with a functional equivalence to the benchmark designs identified in Table 3 of the BAA.

Question 45. Regarding IDEA TA-2, for the SiP benchmarks listed in Table 3, can you define "chiplet" as used in this context?

Answer 45. A chiplet in a SiP is typically considered a very small chip. For example, a wafer may create 100s of chips and 1000s of chiplets. It is functionally similar to a chip, but typically at a smaller scale (both die size and interconnect).

Question 46. Regarding IDEA TA-2, should the COTS library have five million parts by the end of Phase I, or by the end of Phase II?

Answer 46. The library should have the capacity to support data for over 5 million parts by the end of Phase II. At the end of Phase 1, the library should, at a minimum, include all parts needed to design the Phase 1 benchmark circuits, as identified in Table 3, and demonstrate a path to model creation for close to 5M+ open parts in circulation.

Question 47. Regarding IDEA TA-2, what is the expected role and expected source of the trained models shown in Figure 5, and listed in Table 4?

Answer 47. The trained models will facilitate creation of designs by the reference design generator and circuit optimizer. All performers are expected to work collaboratively to develop these models.

Question 48. For technology transfer, we understand that we will make our technology available for defense use. Do we also have to make the technology available for commercial use for civilian purpose? Or we should focus more on the defense use?

Answer 48. Proposers should discuss how the proposed technology will have DoD impact, and are encouraged to include a potential transition plan for both commercial and DoD users. Proposers should include any requested IP rights/restrictions in this plan.

Question 49. Is the automatic synthesis of analog systems (e.g., ADC, PLL, filter) within scope for IDEA?

Answer 49. IDEA aims to achieve completely automated layout of circuits. Synthesis of analog systems would only be within scope if it also included completely automated layout.

Question 50. For the open parts database in IDEA TA-2, does introducing a community aspect to collecting and transforming the part details and ensuring long lasting impact fit within the IDEA objectives?

Answer 50. Yes, community creation and methods to grow and maintain the community are critical to impact of the IDEA platform. Proposer's may, but are not required too, include community creation and methods to grow the community as part of the proposal.

Question 51. Regarding IDEA TA-2, are performers expected to estimate and include the cost to host and maintain the 5M+ Open Parts Database / Library, or will there be one common database/library hosted for all performers to contribute to during the program?

Answer 51. Performers should estimate and include the cost to host and maintain the 5M+ Open Parts Database/Library.

General Questions:

Question 1. Are international universities allowed to be part of a team?
Answer 1. All interested/qualified sources may respond subject to the parameters outlined in BAA. As discussed in Section III.A.2 of Part II of the BAA, non-U.S. 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.

Question 2. Is there a preference for solutions that focus on traditional DoD specifications, such as rad hard or security, over commercial performance metrics?
Answer 2. The DOD has a strong need for high-performance SoCs and should leverage commercial successes. However, successful proposals should also show a pathway towards adding DOD relevant capabilities.

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Question 8. Will the the bi-annual software integration exercises be co-located and co-scheduled with the PI meetings? Or should we plan independent travel trips for PI meetings and the bi-annual integration week long meetings?
Answer 8. The PI meetings will be co-located and co-scheduled with the bi-annual integration exercises.

Question 9. In regard to cost share, when providing the cost breakdown by phase and task do we list the full project cost or just the Government's share?
Answer 9. The cost proposal build-ups (Summary Build-up and Detailed Build-up) must capture the full cost (budget) of the project being proposed (all costs required to accomplish the technical approach being proposed). The cost share is simply applied at the bottom-line. The Government needs to be able to fully understand what is being proposed, and a full project budget is part of the information data set that is assessed. It's important to note that before agreeing to a proposed cost share amount/percentage, the Agreements Officer needs to first understand and agree with the total proposal amount (for example, 50% performer share in a total budget that is deemed to be twice as expensive as it should be for the project being proposed would not be reasonable).

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Question 11. There seem to be an overlap between SOW, Technical Approach and Schedules, and Milestones.

(a) Is SOW essentially like Executive Summary?
Answer 11. (a) The SOW is reflective of the technical approach. The technical approach is solely for proposal purposes - it does not generally get incorporated in to the resulting contract. The SOW is specifically defining the scope of work and does, in fact, become part of the resulting contract. If selected, the Contracting Officer will pull the SOW out of the tech volume and begin fine-tuning it, with assistance from the DARPA Program Manager, Contracting Officer's Representative (COR), and Principle Investigator (PI), for incorporation into the contract. Therefore, the technical approach and the SOW do generally capture the same thing - that being the project that you are proposing but the SOW is focused on tasks and deliverables by Phase in order to later serve a part of the resulting award instrument, while

the technical approach is mechanism by which the proposer fully describes the project to the Government.

(b) According to DARPA ERI, Page 3 Investments, TIA Model Companion Guide, Attachment 1 " TDD (SOW for OTs) should include both program and project background sections, that can be understood by a non-technical reader". Does it mean that in the TDD we have to briefly outline the project objectives as well as our proposed solution?

Answer 11.   (b) The TIA Model and Companion guide are solely for information purposes only – their purpose to is to bring new performers up to speed on what an OT is and how they are negotiated - they are not part of the BAA/solicitation and proposers have no obligation/requirement to comply with them as part of the proposal preparation process. Please, just follow the BAA instructions when preparing your proposal. Details discussed in the TAA Companion Guide will be added to the SOW (TDD) during negotiations if your proposal is selected (information such as program background, project background, Government Furnished Information or Property expectations, interaction with other project performers, etc.).

(c) According to BAA the SOW has to describe tasks, durations, dependencies and deliverables, detailed description of the approach, responsible parties, completion criteria, etc. and it seems to overlap with the information to be included in Technical Approach, and Schedules and Milestones (tasks, durations, dependencies among the tasks). How is it better to approach these sections, in order not to repeat the same information in 2 places?

Answer 11.   (c) It is fully expected that there will be some overlap between sections of your technical proposal as necessary to specifically address the BAA proposal preparation requirement; however, the page count allotted to the technical volume (and to specific sections of the technical volume, if applicable) takes this into account.

Question 12. There are several considerations regarding the Fundamental Research. How do I know if the program I'm intending to proposal to is considered fundamental research?

Answer 12. Please consult page/slide 9 of M. Blackstone's Proposers Day slides which are posted on the ERI Webpage for clarification. The clarification will help but, as stated in the BAA, this is a decision ultimately left to the Contracting Officer depending on the circumstances at hand taking into consideration the nature of the research project, nature of the proposer team, type of funding being used (6.1 vs 6.2), etc.. Please also consult the BAA covering the program you are intending to propose to - as an example, for POSH, please consult pages 43 and 44 of the BAA.

Question 13. In the BAA, it says "Where the effort consists of multiple portions which could reasonably be partitioned for purposes of funding, these should be identified as options with separate cost estimates." In this case, should each proposed IP Block be considered an Option, or are some tasks within the IP Block can be optional?

Answer 13. Each proposed IP block should be considered a separate sub-task, and separate pricing should be provided for each subtask. Further breakdown of pricing of tasks within each IP block is not required and is up to the proposer to determine, but full justification of the proposed cost should be provided.

Question 14. On page 51 BAA, among the items that have to appear on the Cover Sheet of Volume 2 it says: "(12) Total proposed cost separated by basic award and option(s), if any, by calendar year and by government fiscal year;". What is meant by Basic Award and Options? If the Total proposed Cost is to be listed, and we are proposing multiple IP blocks, do we list the sum of the costs of all the IP Blocks? If we propose any Cost Sharing is it applied to the Total Cost listed on the Cover Sheet?

Answer 14. The total proposed cost should list the overall sum of all proposed costs, and must capture the full cost (budget) of the project being proposed (all costs required to accomplish the technical approach being proposed). The cost share is simply applied at the bottom-line. The Government needs to be able to fully understand what is being proposed, and a full project budget is part of the information data set that is assessed. With regards to the Basic Award and Options, the Basic Award refers to the total proposed cost for Phase 1 of POSH and the Options refer to Phase 2 of POSH.

Question 15. I don't see the template of a PPT in the Attachement II of the BAA PDF file.
Answer 15. The PPT template is attachment 2 on the FBO website where the BAA is posted: https://www.fbo.gov/spg/ODA/DARPA/CMO/HR001117S0054/listing.html

Question 16. Any templates for writing the proposal and cost plan?
Answer 16. We do not have any proposal templates. Your proposal should provide the information that has been requested in the BAA and in the way requested in the BAA.

Question 17. Do I need price quotes for the equipment and software we need, or can that be submitted later?
Answer 17. Please see pg. 52 of the BAA for guidance on the associated backup documentation required in the Cost Proposal for Materials/Equipment. Specifically, "At time of proposal submission, any item that exceeds $1,000 must be supported with basis-of-estimate (BOE) documentation such as a copy of catalog price lists, vendor quotes or a written engineering estimate (additional documentation may be required during negotiations, if selected)."

Teaming and Licenses

Question 18. Is there a preference for groups to team with large commercial organizations over smaller ones? How are the teams expected to interact?
Answer 18. All teams are encouraged to propose, with no restrictions about the types of organizations, but should have the expertise and experience to accomplish the proposed tasks. There will also be a strong preference for proposals that demonstrate a pathway to tangible software solutions.

Question 19. For POSH TA3, are teams composed of only academic institutions allowed or, are teams required to have industry partners?
Answer 19. There are no requirements related to the composition of teams. However, teams should provide sufficient technical justification that real and useful capabilities meeting the POSH TA3 goals can be achieved by the proposed team.

Question 20. We are a small company with cash-basis accounting, and it is our understanding that our best option is to apply as TIA. Assuming a teaming approach where a university is the prime and we (a for-profit nontraditional) are the subcontractor, are there 2 proposals to be submitted (one from the

prime and one from the subcontractor) or is the subcontractor proposal to be submitted within the prime's proposal (in Volume II, Section 2, G. Subcontractors)?

Answer 20. It is important to understand that a proposer team must submit a single proposal in response to the BAA so as to avoid having the individual proposals (in your example) deemed non-compliant with the BAA. The single proposal, in this example, is submitted by the organization who will be serving as the prime contractor. The award instrument type is dictated by the contractual relationship between the prime contractor and the government - all subcontractors would receive a sub-award that conforms to the prime contractor's award instrument (for example, a FAR-based procurement contract to the prime contractor would involve FAR-based procurement subcontracts, an OT agreement to the prime contractor would involve only those flow-downs necessary to ensure the prime meet their contractual obligations to the Government. It is worth noting that a subcontractor under a procurement contract could receive a FFP procurement subcontract - which, if the subcontractor is a non-traditional, mitigates any cost accounting system concerns and allows for milestone-based payments.

Question 21. According to Volume 2, Section 2 of the BAA, the subcontractors have to prepare their proposals at the same level of detail as the required by the prime. For the title sheet of the subcontractor's proposal is the subcontractor itself the leading organization? Does the subcontractor proposal identify its own PI? Do we include in the SOW (or TDD) the tasks that have to be performed by the prime as part of our team effort?

Answer 21. Just as a point of clarification before directly responding to the above questions, it is important to note that the subcontractor is submitting a proposal directly to the prime contractor in their team – not to the Government per se, and the prime contractor is responsible for incorporating the information received by the subcontractor(s) into their prime contractor submission to the Government (only one formal submission is being submitted by each team – that submission including all information required by the solicitation).

The subcontractor/s would be a member of a team and, contractually speaking, subordinate to the prime contractor. Each subcontractor would submit to the prime contractor (typically in response to a formal request for proposal from the prime contractor if operating more formally and if the prime contractor is considering bids from multiple potential subcontractor organizations) a fully compliant subcontract proposal tied to their specific scope of work (as defined by the prime contractor - meaning the subcontractor SOW will include only those tasks that the prime has asked them to perform as a member of a single team). Generally speaking, the PI is a role filled by the prime contractor - although it's not improper for a subcontractor to also refer to their own technical lead as a PI. It is important to clarify that although this information (SOW, cost proposal, etc.) is submitted as part of the prime contractors proposal to the Government per the solicitation, none of these items will be included in the award instrument between the Government and prime contractor (the contractual relationship will be solely between the Government and prime contractor).

Question 22. In case of proposing as loosely connected performers (one of the teaming models discussed at the ERI/Page 3 Workshop this past summer), is it possible for each team member to propose separately (for example, the prime submits a procurement contract proposal and the subcontractor submits a TIA proposal) but bound together by an ACA?

Answer 22. No - as stated in the above two responses, a single team must submit a single proposal in order to be compliant with the solicitation.   Just for further, related, clarification, it is important to

understand that the ACA model discussed in the ERI/Page 3 Workshop is something that is structured after a conforming proposal has been selected for negotiation - it's a model that is put together by the Government after proposals have been selected and when broader, loosely connected, teams need to be formed to meet the overall program goals and objectives (especially relevant when the solicitation allows proposers to propose to discrete elements/task areas versus to having to propose to all of the program elements/tasks). A single team needs to be captured in a single proposal and only a single award can result from that proposal - splitting a team into multiple proposals could very well result all of the proposals being deemed noncompliant since they must be reviewed independently per the solicitation.

Question 23. Do TIA proposers need to submit information required by Volume 2, Section 2, Detailed Cost Information? It is our understanding that according to Note 1(d) of this section "Cost or Pricing data" are not required if the proposer proposes an award instrument other than a procurement contract (i.e., cooperative agreement, grant, or other transaction). In this case, it is our understanding that as OT proposer we will need to submit information described in Volume 2, Section 3, instead of information required in Volume 2, Section 2. Please confirm if we understand this right.

Answer 23. All proposers need to the submit information required by Volume 2, Section 2 "Detailed Cost Information" to the maximum extent possible. This information is needed by the Government reviewers in order to fully understand what is being proposed - specifically, in order to assess cost realism, which is one of the evaluation criteria. The more cost details that are not provided the greater chance that the Government reviewers will not fully understand the proposal or will find weaknesses and or risks pertaining to cost realism. However, for those proposing a TIA, there is no requirement for the submission of "certified cost and pricing data" because this term is a procurement contract (FAR/DFARS) term. So - the lack of cost details in an OT proposal will not rise to the level of proposal non-conformance, like it might for a procurement contract whereby the requirement for certified cost and pricing information does exist (by regulation), but - as noted - the lack of any cost details could become an issue in terms of the Government reviewers not being able to fully understand the proposal, as whole, and/or in assessing cost realism (remember this is a competitive solicitation process).

Question 24. According to BAA Volume-II Section 2, G. Subcontracts: "The prime contractor is responsible for compiling and providing, as part of its proposal submission to the Government, subcontractor proposals prepared at the same level of detail as that required by prime." Does this mean that the prime will include their subcontractor's SOWs and Technical Approach, and Cost Estimates, etc. as part of their proposal to the Government, listing specifically which tasks will be done by the prime and which will be done by the subcontractor(s)? In order for the prime to prepare the proposal the subcontractor has to provide the prime with its own proposal, correct?

Answer 24. The prime will only be required to include as part of its cost proposal Volume to the Government each subcontractor cost proposal and the associated SOW. There is no requirement for the prime contractor to include, as part of its proposal to the Government, technical volumes for the subcontractors - the prime contractor will speak for the entire team when it comes to the technical volume (to include the prime contractor's SOW), when it comes to the prime contractor's own cost proposal build-ups (the subcontractor cost proposals, and SOWs, are included in the prime contractors cost volume as backup documents per the solicitation. But - yes - the prime contractor must have full cost proposals from each sub in order to build their own separate submission to the Gov't. If a subcontractor were to be unwilling to provide pricing to the prime contractor that includes proprietary

rates and factors then that subcontractor (as discussed in the solicitation) would then, instead, provide their cost build-ups (summary and detailed) with certain elements reflecting full wrap rates (but still having all of the other required cost elements/information - labor categories (with wrap rate), labor hours per labor category, travel, ODCs, materials, equipment, etc.

Question 25. What is your foreign partner policy? I was trying to find this information in the BAA but could not. I am intending to include a foreign organization on my team – is this permitted by the BAA?
Answer 25. This subject is covered in each of the ERI/Page 3 BAAs. As an example, for BAA No. HR0011-17-S-0056, please consult page 29 under "III. Eligibility of Information." There it states that "All responsible sources capable of satisfying the Government's needs may submit a proposal that shall be considered by DARPA." Also, for example, for BAA No. HR0011-17-S-0056, please consult slide 6 of the Contracting Officer's Proposers Day slide deck dated 22 September 2017 which is available on the ERI webpage, and which states "Foreign participants/resources may participate to the extent allowed by applicable Security Regulations, Export Control Laws, Non-Disclosure Agreements, etc." Regarding the statement made in the Proposers Day slides, there is a related question captured in one of the ERI/Page 3 BAA FAQs that you might find helpful as well. Also, please be sure you are coordinating often with your organization's contracting office as you prepare your proposal – they can help you understand BAA compliance issues.

POSH Technical Questions
Question 26. For POSH TA2, are teams allowed to propose IP blocks that are not listed in the BAA?
Answer 26. Yes, proposer's may propose solutions for IP blocks not listed in the BAA. Proposals addressing an IP block not listed in the BAA must provide a thorough technical justification discussing the need for the IP block and relevance to successful creation of a complex SoC.

Question 27. Can one proposal include multiple design advisors?
Answer 27. Yes, but it is expected that only one circuit design is proposed for the SoC design advisor subtask. Multiple design advisors may work together on the same circuit.

Question 28. Are teams expected to use commercial tools or develop alternatives to commercial tools when creating IP?
Answer 28. The goal for POSH is creation of an open source hardware ecosystem. It is recommended that teams use a modular multilayer approach that has interfaces to communicate with commonly used tools in industry. As long as it is accessible and openly available, the tool does not need to be commercial.

Question 29. For POSH TA3, will it be acceptable for TA3 teams to depend on IP developed by POSH TA2 teams?
Answer 29. This is expected. Teams should discuss in the proposal how they will minimize risk from critical path dependences upon other program performers.

Question 30. Is there expectation that teams will need to develop code generators?

Answer 30. Teams may provide that as part of their solution for creation of IP blocks if desired, but the end goal should be delivery of the IP block.

Question 31. Will using solutions like OpenAccess, which are not open source but open community acceptable?
Answer 31. We recognize that GDSII has some limitations and that there will be a need for a database format as well. Performers may propose to use available tools or build their own as long as it is within the scope of the program as written in the BAA and easily accessible to the community.

Question 32. Is the government anticipating multiple performers developing the same IP block for POSH TA2?
Answer 32. The government expects that there will be one performer per IP block.

Question 33. For POSH TA3 and TA2, is there an expectation that proposers use a commercial design flow or can it be custom?
Answer 33. There is no preference. Proposers may use the design flow they feel is best suited to their proposal.

Question 34. Regarding the POSH TA-3 (Open Source SoC Demonstration) task, are the "additional application specific components" required to be placed into the open source IP library? Is the resultant demonstration SoC also required to be placed into the open source IP library?
Answer 34. It is highly encouraged that proposers plan to place additional application specific components and the demonstration SoC developed within the program into the open source IP library.

Question 35. Is a memory compiler a potential IP block for POSH TA-2?
Answer 35. Yes. Proposers that propose solutions for IP blocks not listed in Table 5 and Table 6 of the BAA should provide thorough technical justification in the proposal.

Question 36. Will layout be required for the ADC and DAC IPs (or an analog IP in general) in TA-2?
Answer 36. The analog/mixed signal IP should be provided in source code form so that it can be openly share with the community. The circuit should be verified through simulation of complete layouts, but the layout will not be delivered. Ideally, the circuits will be completely decoupled from the PDK, but it is understood that a minimal amount of process specific tuning may be necessary

Question 37. The PPA of an analog/mixed signal components may depend heavily on the process. Can the IP performance be dependent on PDK?
Answer 37. It is expected that performance will be traded for portability. Performers are not expected to design circuits that achieve identical PPA across all process nodes.

Question 38. To ensure PDK independent support for analog IP in POSH TA2, are we required to provide software that can automatically size the devices given a PDK?

Answer 38. Proposers are expected to provide PDK independent Analog IP blocks. Proposers may propose approaches that include generators or multiple hard-coded IP blocks.