

Questions and answers from May 15th IIP-13 Solicitation Bidders' Conference

Per IIP-13 A.40 solicitation announcement, Earth Science Technology Office (ESTO) held a Bidders' conference on May 15, 2013 at 1PM EDT. Below are questions and comments from participants who attended this web-ex/telecon. As you read this document, you will notice that not every question listed below was posed as a question; several were stated as comments. ESTO made the best effort to respond to each question and comment. Additional questions can be addressed to the IIP manager, Parminder Ghuman, at p.ghuman@nasa.gov.

Question: *Looking at the goals for IIP, would in-situ airborne new or novel measurements be acceptable not necessarily having a space-based future plan?*

Answer: Traditionally, IIP-funded technologies for science measurements that lead to space-borne measurements. ESTO has funded technologies that provide cal/val, but the key objective of this program is to fund technologies that lead to space-borne measurements.

Question: *If you're talking small UAVs and that whole area of research evolving, the feedback I'm getting from many researchers is that besides space-based, in-situ would be very valuable.*

Answer: Development of in-situ measurements techniques is relatively easier than spaceborne remote sensing instruments developments. For that reason, IIP focuses on spaceborne instrument development. Other programs such as SBIR focus on in-situ sensors and in-situ system development.

Question: *Science traceability –your presentation focuses on 2 aspects – assessment from mid-term report and what the science needs are. Because we have a science community we can trace validity in meeting science objectives. Is there a plan or how do we tie our instrument approach to make sure that proposed approach meets the science requirements? Do you want proposer to references in a some type of document or what is the process for validating an instrument approach to solving a particular science question?*

Answer: The proposer must clearly identify and justify how the proposed technology would meet science needs identified in the Earth science focus areas. The solicitation points out the focus areas and specific documents as a guide.

Question: *How much emphasis needs to be placed on the sensor technology itself? Could be emphasis on platform or new spacecraft bus for existing instruments?*

Answer: The IIP funds innovative technologies that lead directly to new Earth observing instruments, sensors, and systems, not the development of sensor platforms or spacecraft buses. If your proposed instrument is capable of utilizing any of the alternative platforms mentioned in the solicitation, you must clearly identify how your proposed instrument system would meet the science requirements.

Question: *In between tier 1 and tier 2 time, any emphasis looking at missions in tier 1 that haven't been put into formulation or should we be looking at tier 2 missions for which IIP is likely to fund technologies?*

Answer: Focus of this IIP call is on science measurements not missions. Another DS is likely in the next few years. The outcome of this IIP could lead into the next DS formulation. IIP has invested in all three tiers of the current DS missions.

Question: *Follow up from the last question; I want to make sure that you are not soliciting technologies for any of the existing DS missions. Is that correct?*

Answer: The focus of this IIP call is on science measurements not missions.

Question: *Let's say, I have an ongoing IIP-10 project and you are not looking for me to enhance an existing instrument to meet particular DS mission objective. That is not the scope, right? For example, I have an instrument that supports UV through Visible spectrum and DS mission calls for UV through Visible plus SWIR. Am I allowed to propose the next version/improvement of this instrument that covers SWIR because the DS mission calls out for it?*

Answer: If you are going to submit a proposal that improves an existing measurement, you have to make your case for that. For further clarification, please read the solicitation carefully.

Question: *I think I understand what you mean, but just want to be clear to everyone. You are not looking for instruments related to a specific DS mission.*

Answer: The focus of this IIP call is on science measurements not missions

Question: *Follow up on previous caller's concern. Existing DS measurements are not excluded from this opportunity. Is that correct?*

Answer: Yes. Because they fit right into the focus areas science measurement needs.

Question: *You pointed out a focus on alternative platform deployments, but also a focus on new types of measurements. Those are separate categories, right? You don't have to do both.*

Answer: The IIP funds innovative technologies that lead directly to new Earth observing instruments, sensors, and systems, not the development of sensor platforms or buses. If your proposed instrument is capable of utilizing any of the alternative platforms mentioned in the solicitation, you must clearly identify how your proposed instrument system would meet the science requirements.

Question: *If I have a measurement that wouldn't fit on a smaller platform but is a novel concept, that's OK.*

Answer: Yes

Question: *Is it allowed to propose an existing sensor technology that can currently only fly on a larger satellite, to propose miniaturization so it could fly on a smaller satellite?*

Answer: Yes. The impacts and advantages of that development must be clearly identified by the proposer.

Question: *Can we propose a miniaturized instrument that does not provide a novel measurement?*

Answer: Yes. The goal of this program is to reduce the risk, cost, size, volume, mass, and development time of Earth observing instruments.

Question: *IIP is really looking for technologies that ultimately lead to space-borne measurements. Would an instrument that's built for airborne but there's a path to space be ok? Would that be strength or not very relevant for this call?*

Answer: Some of ESTO's past funded IIPs have led to cal/val instruments. At this point it is not possible to comment on strength/weakness because it all depends on the justification provided in the proposal.

Question: *In regard to definition of instrument in airborne vs spaceborne instrument: you said everything should be leading to spaceborne – how does the airborne component come in?*

Answer: In order to prove the proposed measurement concept, one must advance the TRL either through laboratory demonstration, airborne demonstration, and/or demonstration in relevant environment. To justify the path to space, the proposer must provide some information about scalability.

Question: *Use of laboratory or airborne demonstration is as a stepping-stone to show that proposed instrument could work ultimately from space? Is that correct?*

Answer: Yes.

Question: *If I propose an instrument for let's say for ASCENDS, that isn't what you're looking for?*

Answer: ESTO has funded several active sensing approaches to measure CO₂ from space. If you have a better idea than the ones ESTO has already funded, then you may propose for CO₂ measurement.

Question: *Will you solicit a proposal for DS mission?*

Answer: The focus of this IIP call is on science measurements not missions.

Question: *Could you please comment once more on the starting TRL and what's expected for the end of the year program?*

Answer: For this solicitation, the entry TRL shall be between 3 and 5. ESTO would like you to advance TRL by 1 at least through the development. If you can do more, that's great.

Question: *TRL greater than or equal to 4 at the end?*

Answer: Yes.

Question: *A lot of people have asked about the current DS. I think what you're saying is that you don't want people to be constrained by current DS mission concepts. Instead, people should be focused on the fundamental measurements defined by the focus areas So rather than a specific lidar implementation, as long as you are meeting the intention of the science measurement from space, people should not be constrained by the current DS missions concepts.*

Answer: Correct.

Question: *Fundamental question: everything has to have a path to space, even if you have a lab or airborne demonstration. In terms of seeking out remote sensing platforms, the solicitation says alternative platforms such as piloted or unpiloted. Is it OK if it doesn't have a path to space, or is it critical that it have a path to space?*

Answer: In Section 1.2 of this solicitation, the third paragraph describes NRC's midterm assessment of NASA's implementation of the Earth Science Decadal Survey and some of the recommendations such as piloted and/or unpiloted aircraft. However, this call does NOT focus on instrument development for aircraft. Please read Section 1.3.1 of the solicitation.

Question: *The spaceborne is one part, but any kind of instrument that makes a measurement even for validating space-based measurement on an aircraft- would this meet the requirement? Space-based measurement - an instrument that can provide a*

validation to those measurements. That means in some way it's going to support that measurement. Is that part of the IIP?

Answer: In the past ESTO has funded those kinds of proposals but very few. You may propose such an instrument. However, depending upon how many proposals are received, ESTO will review and recommend for selection based upon merit of the proposal and needs of the Earth Science Division.

Question: *Follow up to the last question, if you are not targeting for a particular mission, how would you know what instrument to be on space so that one can develop a validation platform on airborne? How does proposer baseline a spaceborne instrument to validate with suborbital or airborne instrument?*

Answer: This solicitation address instrument technologies for the ES focus areas. You may propose an instrument that addresses the needs of any of the six focus areas. ESTO will review and recommend for selection based upon merit of the proposal and needs of the Earth Science Division.

Question: *More clarification on prioritization. It seems to be from the discussion that I've heard so far that focus or concentration is on measurements, but haven't heard any discussion on whether things that would advance technologies which are required to scale to space, such as qualification of components. Would qualification of components for space be considered and if so, how does this fall on priority scale?*

Answer: IIP cannot afford to fund the advancement of TRLs from 4 to 6 for space. If you have technologies that you believe simply need space qualification, then IIP is not the right program for you to propose.

Question: *There may be cases where a measurement has been demonstrated but ability to scale to space hasn't been addressed.*

Answer: In the past, ESTO has funded proposals to address the scalability of sensor technologies for space use. As long as it is not engineering effort, one may propose development of technologies for scalability.

Question: *If someone was expanding on state of the art, but not necessarily path to space to meet those needs in the focus areas, not necessarily focused on path to space. Would proposal be downgraded because it's not going to space?*

Answer: Traditionally IIP-funded technologies for science measurements lead to space-borne measurements. ESTO has funded technologies that provide cal/val, but the key objective of this program is to fund technologies that lead to space-borne.

Question: *I understand path to space since I have done three IIPs in the past; I get that. Is it also ok to demonstrate a technology, have a successful IIP proposal, and then be left with an instrument that you could still use in a suborbital proposal?*

Answer: Yes, if it makes your case stronger.

Question: *Where will answers be posted?*

Answer: Official site is NSPIRES. We will put a link on ESTO news as well.

Question: *How much emphasis is focused on cost reduction of sensors? If not developing new technologies but putting existing ones together to reduce cost, would that be favorable?*

Answer: Yes. Hopefully reducing cost would make measurement more affordable.

Question: *Along that line of last question, is there any particular preference in the objectives that you list on the presentation? (Reducing size, weight, cost) Would you prioritize these in a certain order or they are equal contenders?*

Answer: No. The proposal will be evaluated on the entire criterion.

Question: *Is there a level of funding under an IIP that ESTO would consider too much to spend on deployment costs, even if those deployment costs are essential to validating the technology?*

Answer: The objective of IIP is to fund the development and demonstration of new technologies and/or measurement techniques. Demonstration cost needs to be reasonable with respect to development cost but it hard to say what is too much.

Call was closed by operator at 2:07 PM.