

## BREAKOUT SESSION 6.

### SPACECRAFT AND PLATFORM SUBSYSTEMS

**Concern:** You are looking at avionics systems which can be used as its own dedicated board or not. Small businesses cannot invent everything but may use something existing? Is NASA OK with that? The second Concerns is: designed widgets which can be used for different applications. If the topic becomes vague, what are you looking for?

**Response:** We expect small businesses to use the existing solutions. We may ask you to address some of the harness levels, etc. If your focus is avionics, then you should go with that subtopic. If there is high return on your technology, there is merit to that.

**Concern:** Recently, the ISS just deployed the inflatable habitat and it is being tested in NASA now. Do you see systems that are deployable like that?

**Response:** That technology exists but it is not covered in SBIR right now.

**Concern:** If we come in with a COTS idea that has a research component but may be higher TRL, would that be looked upon favorably?

**Response:** We're interested in the idea and the innovation. If it has potential, we are interested in that if it tied to NASA missions.

**Concern:** Is there a focus this year at GNC?

**Response:** NASA is open. STTR has more of a research emphasis, while SBIR is more about application.

**Concern:** For the lower TRL technology, if there is something more innovative. Would that only apply to STTR since it would be research based?

**Response:** If it has an algorithm or an idea, articulate how it will help NASA meet mission objective.

**Concern:** Regarding requirements, you know what problem you have and try to solve it. For us, we get one page and we have to understand it. Is there any way we can be more involved in requirements stage to help us be more innovative and creative in our solutions?

**Response:** SBIR is supposed to be fairly broad and shouldn't go down the particulars. E.g. GNC, google it and communicate with some researchers in this area. Decadal survey will give you more information and help with the research so use it.

**Concern:** There may be emphasis on formation flying software and there is so much detail in there. How dynamic of an environment would it be? Would you need real time interactions? Is NASA's need more algorithmic?

**Response:** That's a new subtopic, there is interest in that. If you look at earth science, astrophysics, maybe planetary, think about what those NASA scientists are interested in. by you thinking how NASA scientists think, you can figure out what NASA is looking for.

**Concern:** For the small spacecraft systems, there was emphasis on reliability and systems health management and that focus seems to be missing from this group of subtopics?

**Response:** Somebody needs to focus on cheaper, faster, and somebody needs to push the envelope. Do what's relevant for your company and focus on your technology. It is already assumed that there will be reliability, now we want to make sure that it lasts now longer.

**Concern:** For this topic, are you only focused on cubesats or any other ones too?

**Response:** We're interested in all of them.

**Concern:** On the topic of GNC and improving the arch second precision, is that potentially a software or hardware?

**Response:** All of the above. Hardware drives a lot of sensors and systems.

**Concern:** What's more important for your mission objective? Pointing – ACS pointing at the spacecraft or pointing of some deployable?

**Response:** Both. Comm system pointing becomes important now.

**Concern:** For the GNC pointing, what are the current strategies for isolating the chips from vibration?

**Response:** It depends on the application. E.g. for flagship mission mass may not be as important as the cubesats.

**Concern:** Starter for DSM technology Frameworks. Can you elaborate on the last point: “Technologies for onboard collaborative processing and intelligence, including but not limited to, inter-spacecraft collaboration for collecting, storing and downloading data as well as multi-platform Science observation coordination and event targeting.”

**Response:** Do you have multiple mothership that possess the intelligence that is distributed or only one mothership with it combined? We are interested in what your ideas are.