



## NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

Notice: (17-002)

Notice of Intent to Hold Space Navigation Workshop and Request For Information

**AGENCY:** National Aeronautics and Space Administration

**ACTION:** Request for Information or Sources Sought Notice

**SUMMARY:** The National Aeronautics and Space Administration (NASA) Space Communication and Navigations (SCaN) Program announces a Workshop on Emerging Technologies for Autonomous Space Navigation to inform industry on evolving positioning, navigation and timing (PNT) technologies and techniques being developed to enhance the operational efficiency and flexibility of future missions. The “Nav Workshop” will include optional one-on-one discussions with industry participants on a space-available basis Friday, February 17, 2017. NASA is soliciting information from all interested U.S. private sector enterprises only.

**DATES:** The Space Navigation Workshop, Thursday, February 16, 2017, and the One-on-One Meetings, Friday, February 17, 2017.

**ADDRESSES:** NASA Headquarters Auditorium (west lobby) 300 E Street SW, Washington, DC 20546.

**FOR FURTHER INFORMATION CONTACT:** U.S. participants will register/sign-in for the Navigation Workshop at the door on February 16. To RSVP for the follow-on One-on-One Meetings scheduled for February 17, please RSVP to James J. Miller by February 8 at [jj.miller@nasa.gov](mailto:jj.miller@nasa.gov) or 202-358-4417.

Reservations must be received no later than 5:00 p.m. EST on Wednesday, February 8, 2017. A confirmation email will be sent to acknowledge your requested participation. Companies will be notified on or before Friday, February 10, 2017, of their assigned One-on-One meeting time.

**SUPPLEMENTARY INFORMATION:**

This announcement is a Request for Information (RFI) or Sources Sought Notice and is limited to U.S. citizens or residents. This synopsis is for information and planning purposes and does NOT constitute a Request for Proposal (RFP). Requests for a solicitation will not receive a response. No reimbursement will be made for any costs associated with providing information in response to this announcement or any follow-up information requested. No basis for claim against the Government shall arise as a result of a response to this announcement or Government use of any information provided. This announcement does not restrict the Government's right to consider acquisition strategies as deemed appropriate.

The Nav Workshop will allow industry to gain a better understanding of space navigation technologies and techniques that NASA is investing in to better enable space missions in near Earth, cis-Lunar space, and deep space domains. It will also allow industry to better align their navigation research and development efforts with NASA's Architecture Roadmaps now under development. The follow-on one-on-one meetings are intended to provide a forum for industry to share their ideas with NASA, for NASA to understand the scope of space navigation technologies being developed in the commercial sector, and for both NASA and industry to assess areas for potential collaboration regarding navigation technology development efforts that have the potential to serve national needs. NASA is

therefore seeking broad information about systems previously flown, systems currently in development—including for other non-NASA missions—and future technologies that are relevant to space navigation and space-based PNT.

Navigation topics to be discussed during the Nav Workshop include:

- Emerging Global Navigation Satellite System (GNSS) applications, including the development and use of GNSS in high altitude applications in the Space Service Volume (SSV), protecting and enhancing the GPS SSV, developing a multi-GNSS SSV, NASA's current and future missions employing GNSS in the SSV, and GNSS receiver developments within NASA.
- Emerging Navigation technologies, including PNT capabilities envisioned for the Next Generation Broadcast Service (NGBS), innovative timing system developments and techniques such as the Deep Space Atomic Clock (DSAC), optical navigation capabilities and techniques that support rendezvous, landing on objects (near Earth or solar system objects) or docking to vehicles, and navigation & PNT capabilities supporting proximity operations, satellite servicing, and formation flying.
- Other advanced topics to be addressed include the use of optometrics from laser communications systems to support precise PNT solutions, on-board navigation software and filters, such as the Goddard Enhanced Onboard Navigation System (GEONS), and X-ray Navigation capabilities and techniques.

The agenda for the Nav Workshop and Industry Meetings is as follows:

**Tentative Space Navigation Workshop Agenda (Thursday, February 16, 2017):**

8:30 a.m. to 9:30 a.m.	Networking Opportunity
9:30 a.m. to 12:30 p.m.	Introductions & Emerging GNSS Applications
12:30 p.m. to 1:30 p.m.	Lunch Break
1:30 p.m. to 3:30 p.m.	Next-Generation Developing Technologies
3:30 p.m. to 5:30 p.m.	Game-Changing Initiatives
5:30 p.m. to 6:00 p.m.	Wrap-Up
6:00 p.m. to 8:00 p.m.	Networking Opportunity

**One-on-One Industry Meetings with NASA (Friday, February 17, 2017):**

9:00 a.m. to 5:00 p.m.      45 minute information-exchange/discussion

To RSVP for the February 16 workshop and follow-on One-on-One Meetings scheduled for February 17, please RSVP to James J. Miller by February 8 at [jj.miller@nasa.gov](mailto:jj.miller@nasa.gov) or 202-358-4417.

**ATTENDANCE LIMITATIONS:** The Navigation Workshop and One-on-One Meeting attendees is strictly limited to four (4) persons per company.

**One-on-One Meeting Description:**

To facilitate interactive communication with industry, NASA SCA<sub>N</sub> representatives will be available for One-on-One meetings to exchange ideas on areas of synergy and potential collaboration. NASA will hold One-on-One meetings with industry on Friday, February 17, 2016, from 9:00 a.m. to 5:00 p.m. EST, to discuss Space Navigation technologies and techniques as related to Nav Workshop presentations. The meetings will be held with interested parties at scheduled times provided in response to the RSVP on a space available basis. NASA will attempt to prioritize non-local companies with One-on-One meeting times.

The One-on-One meetings are intended to be private question-and-answer and information-gathering sessions based on industry developments that align with NASA investments for enhanced autonomous space navigation capabilities. Industry presentation packages are acceptable and will be held in accordance with any proprietary or business confidential markings as annotated on the chart package. Meetings will not exceed 45 minutes in length. One appointment per hour will be scheduled. Additional separate meetings can be scheduled later if demand exceeds capacity.

No recording devices are permitted during the Workshop and One-on-One meetings.

Cheryl E. Parker  
Federal Register Liaison Officer

## **Space Navigation Workshop Registration and Industry “One-on-One” RSVP Form**

1. Full Name:
2. Title:
3. Organization Name:
4. E-mail address:
5. Phone Number:
6. Company’s Primary Point of Contact for interactions with NASA on Navigation Workshop (Please provide full name):
7. Company’s Point of Contact E-mail address:
8. Company’s Point of Contact Phone Number:
9. Are you interested in participating in the Space Navigation Workshop “One-on-One”? yes/no
10. If yes, please provide the full Names of the representatives attending (4 or less):
11. Interested and local/Interested and from out of town/Not interested