Event Report: Space Traffic Coordination: An Ongoing Conversation About Regional Needs and Information Sharing

Event Date: Thursday, February 27, 2025

Report Date: March 21, 2025

co-organized by the Singapore Office for Space Technology & Industry (OSTIn) and Secure World Foundation (SWF) as part of the 2025 Global Space Technology Convention & Exhibition (GSTCE)

SWF and the Office for Space Technology & Industry Singapore (OSTIn) co-organized a workshop entitled "*Space Traffic Coordination: An Ongoing Conversation About Regional Needs and Information Sharing*" at the 2025 Global Space Technology Convention & Exhibition (GSTCE) in Singapore. The workshop was keynoted by remarks from the Director of the United Nations Office for Outer Space Affairs, and featured presentations by both governments from the Asia-Pacific region and from national governments outside of Asia, discussing ongoing efforts and projects to develop space traffic coordination systems. It also included presentations from spacecraft operators and commercial SSA companies on the needs and drivers for space traffic coordination. Participants discussed, in an interactive format, key themes affecting the implementation of space traffic coordination mechanisms, including the need for capacity building around space situational awareness and the need to enhance efforts to communicate the importance of space safety in light of global reliance on space services. This report summarizes the key discussion themes and questions raised by the workshop; the agenda for the event is included as an appendix. The views expressed in this summary report do not necessarily reflect those of Secure World Foundation, the Singapore Office for Space Technology & Industry (OSTIn) or of the individuals in attendance or their respective institutions, organizations, or governments.

Workshop Scope and Objectives

Space traffic coordination (STC) refers to systems and processes which, encompassing space situational awareness (SSA) information sharing as well as operational guidelines or practices, seek to reduce the potential for collisions and other incidents in space that could create debris or other safety risks for space activities. STC is an enabler of increased safety and sustainability in space activities.

A multi-stakeholder approach is essential to moving forward with effective implementation of STC. This workshop focused on engaging direct viewpoints from the participants at GSTCE on the needs for STC and on how national, regional, and multilateral initiatives towards STC (including SSA information sharing) connects with these needs. The workshop included approximately 60 participants, representing a multi-sector background including commercial and governmental satellite operators; SSA data and service providers; government space agencies, policymakers, regulators; and academics. Most of the participants came from the broader Asia-Pacific region, although there were participants from other regions, including the United States, and the United Kingdom.

Keynote Remarks: Director of the United Nations Office for Outer Space Affairs

The workshop opened with a keynote presentation from Aarti Holla-Maini, Director of the United Nations Office for Outer Space Affairs (UNOOSA). These remarks summarized the current challenges around the increasing amount of activity in the space environment and the associated potential increase in collision risk in orbit, suggesting the need for action on improving space traffic coordination practices, and sharing of space safety information (like ephemeris and maneuver data). The remarks then discussed the relationship of STC practices to the existing Guidelines for the Long-term Sustainability of Outer Space Activities endorsed by the United Nations Committee on Peaceful Uses of Outer Space (UN COPUOS); and introduced current efforts within both UNOOSA and COPUOS to facilitate further work on space traffic coordination at the international level. This work includes efforts to support COPUOS delegates on understanding the fundamental concepts and terminology of space traffic coordination and a proposal at the 2025 Session of the Scientific and Technical Subcommittee of COPUOS to establish a consultative discussion within the Committee related to the topic. The remarks concluded by encouraging participants to engage in

continued consultations on the topic of STC, and to encourage engagement with their national delegations at COPUOS on this subject.

Key Topics from Expert Presentations

The next session of the workshop consisted of a series of short presentations representing different country and stakeholder types, on their viewpoints on needs for SSA/STC. These presentations, and their key topics, covered:

- A joint presentation by the Philippine Space Agency (PhilSA) and Thailand's Geo-Informatics and Space Technology Development Agency (GISTDA) discussing the status and objectives of the SSA/STM project being conducted under the ASEAN Sub Committee on Space Technology and Applications (SCOSA). This project has several objectives, including establishing STC coordination and SSA information sharing within ASEAN member nations; enhancing capacity-building and joint R&D on the topic; building public awareness and support for STC activities within ASEAN; and engaging in international cooperation on STC and SSA with partners outside of ASEAN.

- A presentation from a commercial satellite operator developing (and flying) a constellation of small spacecraft in low Earth orbit. This presentation both discussed, broadly, the operator's own approaches to space safety, as well as introduced viewpoints on opportunities to improve space traffic coordination practices (including AI tools, commercial SSA services, and international coordination on STC implementation) and on incentivizing sustainable space operations activities.

- A presentation from an international space law expert at an academic institution, which introduced the key international legal principles, including that of due regard for the corresponding interests of other states and that of information sharing, which might provide a legal foundation for states to participate in STC. This presentation also introduced the important, but sometimes under-discussed, link between space weather and SSA.

- Presentations from two commercial SSA companies, introducing data on the trends in the space environment driving the need for STC, including the increasing number of space objects and actors, and the increasing number of potential conjunctions between those space objects. These presentations also shared viewpoints on roles/services that the private sector can offer in support of STC objectives, including supporting national space traffic coordination programs

and/or national space operations centers, as well as the importance of having active and complementary participation from spacecraft operators in STC discussions. The need to develop incentives (both financial and other) for spacecraft operators to participate in SSA info-sharing and/or STC initiatives was also raised.

These presentations were followed by two presentations on National STC Initiatives from outside the Asia-Pacific region:

- The Office of Space Commerce (OSC) of the United States Department of Commerce gave a presentation describing the current status and development plans for the Traffic Coordination System for Space (TraCSS). OSC is developing TraCSS as a system that will "blend government and commercial data to provide actionable SSA for civil and commercial space operators." The presentation also discussed OSC's vision for how TraCSS would fit into a global network of nation and regional SSA hubs.

- The United Kingdom Space Agency presented a discussion of the policy motivations and goals behind the UK's National Space Operations Centre. This presentation highlighted the importance of space safety as a broader consideration beyond solely STC, including that space is part of both national security and national infrastructure. This presentation also discussed the connections between SSA and space weather. The UK's National Space Operations Centre is collaboration effort between the Ministry of Defence, the UK Space Agency, and the Met Office (meteorological agency).

Key Themes and Outcomes from Discussion at Workshop

The workshop concluded with an interactive discussion focusing initially on participants' viewpoints on how STC needs, challenges and drivers might translate to implementation at national, regional and global levels. Discussion during this session ultimately focused on participant's key takeaways from the prior presentations, as well as cross-cutting observations on key challenges facing efforts to improve international STC practices, and potential needs that might be addressed in moving forward with STC efforts. While a range of topics were mentioned during this discussion, several emerged as common themes:

- *The Importance of Building Trust:* Several participants raised the concern that building trust between spacecraft operators, and between operators and SSA data providers, represents

a major issue that might stand in the way of broader adoption of STC practices and systems. This includes trust between states (governments) in SSA information collected and shared through national systems. It was noted that data comparability issues and lack of adherence to common standards can also contribute to distrust. The view was expressed that encouraging transparency, where operators voluntarily share data (which need not be consistently compatible across different operators) might help in building trust. Development of incentive approaches to encourage this sharing might also contribute. The view was also expressed than consultations and discussion in multilateral fora has an important role to play in building trust amongst states.

- *The Need for Capability Building*: Participants discussed the need for capacity building efforts, not just focused on technical considerations, but also noting the need for capacity building on space policy and law expertise. In this discussion it was particularly noted while STC is important, it's positive impact will be reduced if the capacity to contribute, access, and use SSA and related information is not considered and enhanced in combination with the development of STC practices and systems.

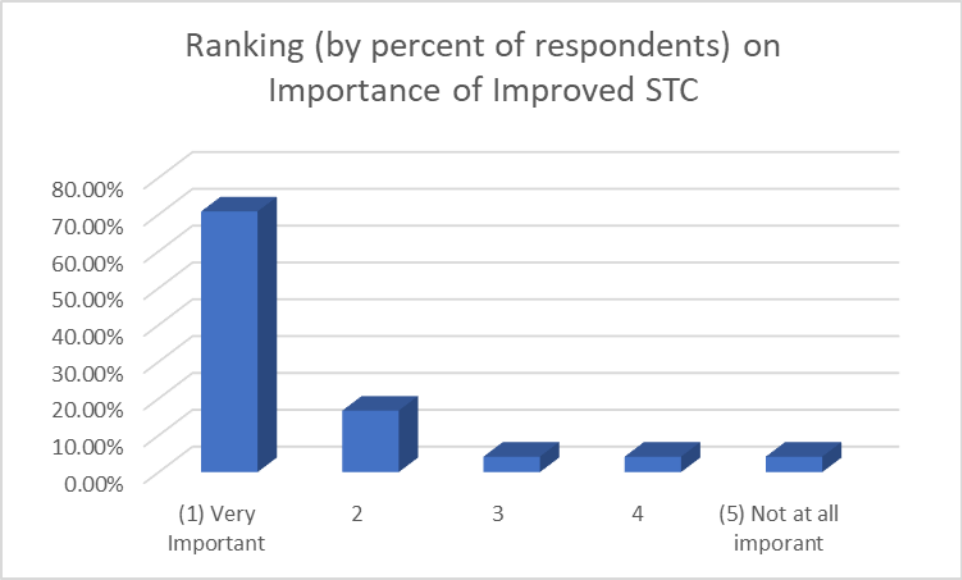
- *The Importance of Raising Awareness Outside of the Space Operator Community:* Workshop participants discussed the need to increase awareness of the need for action on STC with political and parliamentary decision makers. It was noted that while the need for SSA and STC might be widely known within the satellite operator community, the importance of this issue is not as widely known or communicated to the decision makers who must provide funding and policy support. It was suggested that more effort might be made to communicate the economic impact of space applications, and the risk to that benefit if the operational safety of the space environment is compromised.

- *The Need for Including Academia in Work Related to STC:* Several participants noted the need and benefit of including the academic sector in further discussions and elaboration of STC practices. It was particularly noted that in some areas related to SSA information and space environmental status, such as space weather, the academic community may have access to research and data that operators and government agencies do not.

Participants' Viewpoints on the Importance of STC

The workshop concluded with an interactive (and not scientific or statistically meaningful) poll asking how important improving space traffic coordination mechanisms is to the safe growth of space

activities in the Asia-Pacific region. Not surprisingly the majority of participants ranked this as "very important."



Agenda

Time	***SESSION / TOPICS***
	Overall Facilitator: Ian Christensen, Senior Director, Private Sector Programs, Secure World Foundation
0930	**Opening Remarks** ➢ Jonathan Hung, Executive Director, Office for Space Technology & Industry, Singapore ➢ Ian Christensen, Secure World Foundation
0935	**Keynote Remarks:** Aarti Holla-Maini, Director of the United Nations Office for Outer Space Affairs
0950	**Session 1: Viewpoints on STC Needs, Challenges and Drivers** *Invited presentations from 5 participants representing different country and stakeholder types, on their viewpoints on needs for SSA/STC.* **1.** Joint Presentation: Sittiporn Channumsin, Director of Space Technology Research Centre, Geo-Informatics and Space Technology Development Agency (GISTDA) and Rolando P. Martinez, Director, Space Industry and Strategic Business Development Bureau, Philippine Space Agency (PhilSA) **2.** Melissa Quinn, General Manager - International Business, Slingshot Aerospace **3.** Peng Zhang, Director of Solutions, GalaxySpace 4. Andrea Harrington, Co-Director of the Institute of Air and Space Law and Associate Professor, McGill University 5. Shreyas Mirji, VP Business & Strategy, Digantara
1050	**Session 2: Presentations on National STC Initiatives** *Invited presentations to introduce status of key governmental initiatives and/or systems for coordination of space traffic and/or sharing of space safety information including from outside the Asia-Pacific Region.* 1. Mariel Borowitz, Director of International SSA Engagement, Office of Space Commerce, United States Department of Commerce 2. Anu Ojha, Director of Championing Space, UK Space Agency
1110	**Discussion: Interaction Between Regional Needs and Global Trends** *A moderated discussion to engage all participants in suggesting how the different viewpoints on STC needs, challenges and drivers might translate to implementation at national, regional and global levels.* *Moderator: Mr. Ian Christensen, Secure World Foundation*
1155	**Closing remarks**