On July 10, 2019 Secure World Foundation (SWF), in partnership with the Spacetide Foundation, organized a one-day workshop in Tokyo, Japan, to discuss the ways in which the investor/lender community could work with industry to encourage responsible space operations practices. Participants in the workshop included a mix of public and private sector investors from Japan, Europe, and the United States; government agencies involved in Japanese commercial space related policy; and a mix of early stage space companies from both Japan and the U.S. A key theme that emerged from the discussion was the importance of establishing responsible behavior early in the culture of a company; and the role investors and existing companies can play in spreading that operations culture across a growing and diversifying space community. The workshop was the first in a global series of similar events Secure World Foundation plans to organize, with local partners, to capture perspectives on the topic of the investing community’s role in encouraging responsible behavior from varied communities around the globe.

This event was held under Chatham House Rule and was not for attribution. This report summarizes the key discussion themes and questions raised by the workshop. The views expressed in this summary report do not necessarily reflect those of Secure World Foundation, or of the individuals in attendance or their respective institutions, organizations, or governments.

Summary

Objective

As the space start-up community continues to grow internationally, and the investing and financing community becomes more involved, SWF is working with partners to organize the “Space Investing & Responsible Behavior” workshop series. This series aims to examine ways in which the investor/lender community can work with industry to encourage responsible space operations, and see these practices as key to a sustainable space economy. The workshops will be held in key locations around the world (United States, Europe, Asia) with the intent of capturing perspectives from varied start-up and investment communities.

Panel Synopsis

The workshop featured three primary presentation sessions, followed by a moderated interactive discussion with all workshop participants (a complete agenda can be found in the Appendix of this Report). In the first session key trends in commercial space were discussed in order to provide all workshop participants a common starting point for discussion. Two established early-stage U.S. companies, in the launch and remote sensing segments, discussed how responsible operations approaches have been integrated into their business. Trends in Japanese commercial space activities were introduced – which highlighted the early and emergent nature of most Japanese commercial space activities and the significant role of the corporate and institutional investing segments in Japanese commercial space, where...
the share of investment from these sources is higher than in other regions. This session also considered existing commercial and governmental links between the U.S. and Japanese space sectors. The second session focused on trends in the space investing sector. Venture capital firms from the U.S. and the United Kingdom presented an overview of the motivations and interests for venture funding in the space sector; and introduced ways in which they interact with portfolio companies to encourage consideration of responsible operations. Public sector and institutional investors from Japan highlighted their investment theses and provided an overview of their portfolio of investments. The third panel session featured a mix of investors and company representatives for a discussion of perspectives on challenges in the space domain. This panel introduced consideration of how investors view liability and reputational risk and considered the need for company interest in acting responsible to align with and contribute to the financial bottom line of company performance.

**Ideas Raised During Discussion**

Discussion during the workshop raised a number of key points and issues to consider in understanding the role that the investing community might play in supporting or encouraging responsible space behavior.

A key theme that emerged from the discussion was the importance of establishing responsible behavior early in the culture of a company; and the role investors and existing companies can play in spreading that operations culture across a growing and diversifying space community. Several of the participating U.S. companies and investors noted that attention to responsible operations and impact on the space environment had been part of the cultural orientation of their firms from the onset; and some linked this cultural orientation to a human capital and expertise base which had “grown up” in the space sector; and thus were familiar with the unique challenges of the space domain. Participants expressed concern over the need to share this understanding with actors and investors entering the space domain from other sectors; and on the need to develop resources to increase understanding. At the same time it was noted that many start-ups are focused on establishing basic viability, and efforts to instill a responsible operations culture must necessarily be linked to business objectives. Participants also noted that an action or approach might be considered responsible by one affected stakeholder group; but at the same time might be viewed differently by another affected group.

Workshop participants also discussed whether investors view space sustainability challenges as a risk to their investments. In general the view was expressed that the investing community is concerned about liability risk and reputational risk and that, to a degree, encouraging responsible operations principles reduces these risks. Investors present at the workshop discussed a few examples of how they work with their portfolio companies to encourage responsible operations including requiring satellite de-orbiting plans and instructing companies that they will see better performance if they act in responsible ways. Operation practices or philosophy may also be considered during the due diligence process.

Discussion during the final session of the workshop, as well as the results of an electronic poll administered at the end of the workshop, also raised a number of potential methods or approaches through which investors in space businesses could encourage those business to adopt and follow responsible operations practices. These ideas include:

- Could Environmental, Social and Governance (ESG) criteria be used not as a screening tool in investment decisions but rather as an educational tool that inspires companies to further integrate responsibility into their corporate values?
• How can the end user and science communities become better engaged and informed on space sustainability challenges and the relationship to responsible behavior? Can the institutional and corporate investing sector contribute to this education?

• Can the International Telecommunications Union (and associated national frequency authorities) become a bigger voice for responsible behavior and act as a possible enforcement authority against bad action?

• Can the space agency community become more active in encouraging responsible behavior (e.g. through contract and partnership mechanisms)? How can the space agency community better address research and development needs for technology that supports responsible space operations (e.g. active debris removal or satellite tracking aids)?

• Can the space launch community be encouraged or incentivized to make excess capacity available at a discount for public good missions like active debris removal (ADR)?

• Can the investing community institutionalize certification or scoring systems – such as the forthcoming World Economic Forum’s Space Sustainability Rating – as part of the due diligence and investment selection process?

• Is it possible to establish specific investment funds be established to focus on technology or service areas that might help address space sustainability challenges?

Conclusions and Next Steps

At the conclusion of the workshop participants were asked to complete a short, anonymous electronic survey to collect impressions. Slightly more than 1/3 of the participants in the workshop completed this survey. Respondents indicated that, in their view, the greatest challenges to the future sustainable and responsible use of space were A) orbital debris & post mission disposal and B) new actors and activities in space. Respondents had a relatively high opinion of the ability of the investing community to be effective in encouraging responsible space operations behavior. Participants suggested that two means in particular might be most useful in doing so: A) influencing company selection of regulatory jurisdiction with established and functional licensing/regulatory regime and B) demonstrating preference for investing in companies with commitment to best practice might be among the more effective ways to do so.

Secure World Foundation will continue exploring these concepts through further regional workshops on this topic. At the conclusion of the workshop series a further detailed report will be produced.
Workshop on the Role of the Investor and Lender Sector in Incentivizing Responsible Space Behavior

July 10, 2019

Fukushima Building 7F
X-Nihonbashi, Muromachi 1-chome, Chuo-ku, Tokyo

1000 Welcome and Overview

Welcoming Remarks
Yosuke Asai, Director of Space Industry Office, Ministry of Economy, Trade and Industry (METI)
Melinda Pavek, Director of the Science and Innovation and Development Unit, US Embassy Tokyo

Workshop Overview
Masayasu Ishida, President and CEO, Spacetide Foundation
Ian Christensen, Director of Private Sector Programs, Secure World Foundation

1030 Session 1: Evolution of the commercial space industry

Speaker 1: Masashi Sato, Director and COO, Spacetide Foundation
Speaker 2: Garvey McIntosh, NASA Attaché, U.S. Embassy Tokyo
Speaker 3: Monica Jan, Senior Director of Strategy and Customer Experience, Virgin Orbit
Speaker 4: Mike Safyan, Vice President, Launch, Planet

Moderator – Melinda Pavek, Director of the Science and Innovation and Development Unit, US Embassy Tokyo

1130 Session 2: State of the space finance sector

Speaker 1: Matt O’Connell, Managing Partner, Seraphim Capital
Speaker 2: Chris Boshuizen, Operating Partner, Data Collective VC
Speaker 3: Yu Takemori, General Manager, Innovation Office, Business Planning & Coordination Department, Development Bank of Japan Inc. (DBJ)
Speaker 4: Masahiko Sunagawa, Director, Satellite Business Promotion Department Global Business Strategy Division, Softbank

Moderator – Chris Blackerby, COO, Astroscale

1230 Lunch
1330  Session 3: Challenges in the space domain – investing and industry perspectives

Speaker 1: Yasunori Yamazaki, Chief Business Officer, Axelspace
Speaker 2: Chris Blackerby, COO, Astroscale
Speaker 3: Matt O’Connell, Managing Partner, Seraphim Capital
Speaker 4: Kazutomi Shigeeda, Deputy General Manager, Aviation Business Department, Aerospace Systems & Rail Leasing Division, Mitsui & Co., Ltd.

Moderator – Rainer Horn, Managing Partner, SpaceTec Partners

1430  Break

1445  Session 4: Perspectives on the role of the investing community in incentivizing responsible behavior

Moderated Discussion – Ian Christensen, SWF

Electronic group poll and discussion of results

1600  Adjourn

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