



# Priorities for Space Norms of Behavior Workshop

## Summary Report

### Introduction

The Secure World Foundation (SWF), with sponsorship from [OneWeb](#), hosted an invite-only workshop to discuss norms of behavior for space in Washington, DC, on June 24th, 2019. The purpose of the workshop was to bring together international experts from commercial, civil, and national security space sectors to develop ideas for norms of behavior in space that will improve space sustainability.

### Workshop Summary

The workshop began with a set of short introductions on current space sustainability challenges and priorities, followed by a moderated group discussion. The introduction discussion began with an update on the current state of the space environment, based on the latest edition of an [annual report](#) from the European Space Agency. The amount of orbital space debris continues to grow, due to new launches and fragmentations of existing objects, and the vast majority of the potentially harmful orbital debris is not regularly tracked. While compliance with existing orbital debris mitigation guidelines has improved somewhat, the current rates (between 40 and 60%, depending on the orbital regime) are far from what is necessary to prevent continued growth from debris-on-debris collisions.

Recent trends in the commercial space sector are also having an impact. The existing orbital debris guidelines, and specifically the so-called “25-year rule,” were based on assumptions about the space environment, numbers of satellites, and satellite lifetimes that are no longer true. The growing number of small satellites, shorter satellite lifetimes, and potential for multiple large commercial constellations of thousands of satellites create new challenges. At the same time, the rise of commercial space situational awareness options, on-orbit satellite servicing, and active debris removal could provide some benefit, although these activities also create policy and legal challenges of their own.

Participants also expressed significant concern about recent trends in the national security space sector. Several countries are actively developing their own counterspace capabilities, as shown in the [SWF Global Counterspace Report](#), and some non-kinetic counterspace capabilities are being actively used in current military operations. At the same time, multilateral discussions on codes of conduct, arms control, or other mechanisms to manage the spread or use of counterspace capabilities have stalled and the prospects for making future progress are bleak.

The participants then transitioned to a discussion of what norms of behavior are and why they are important for space sustainability. The group discussed that while the term “norms of behavior” is used very widely across the space community, there is not a lot of clarity or agreement on what the definition is or what is meant when the term is used. The term “norms of behavior” is often used interchangeably with “best practices,” “codes of conduct,” “standards”, and other terms that have similar meanings, but are

crucially different. The group also acknowledged that the space community has not done a good job of adopting definitions, research, and lessons learned from other fields such as economics, psychology, or international relations in its approach to norms of behavior.

That said, the group acknowledged that establishing norms of behavior were essential to enhancing space sustainability and that both commercial and national security space actors had strong incentives to do so. On the national security side, norms of behavior are important for separating normal from abnormal behavior, attributing irresponsible behavior, and a critical first step for discriminating between hostile and non-hostile activities. Such discrimination is the foundation of efforts to deter irresponsible or hostile activities in space and engage in self-defense. On the commercial side, norms of behavior are an essential part of developing good business practices that will help build confidence and trust with investors, insurers, and customers. Norms that bolster the long-term sustainability of space are also critical to ensuring business models are sustainable over the long-term.

The participants then divided into smaller break-out groups for a discussion on ideas for specific norms of behavior. The moderators tasked each break-out group to develop 3-4 specific proposals for norms of behavior across commercial, civil, and/or national security space activities to address high-priority space sustainability challenges, as well as define the key stakeholders and implementation steps for each norm. To seed the discussions, the moderators suggested a set of potential ideas, such as satellite operators publicly disseminating position information for their satellites, a voluntary moratorium on testing of kinetic anti-satellite (ASAT) weapons against orbital targets, deorbiting/reorbiting satellites within 5 years of reaching end-of-mission, and prior notifications for any close approach of another satellite in the geosynchronous region.

At the end of the session, each break-out group nominated a representative to brief the entire group on their ideas and findings. Many of the break-out groups came up with similar ideas or supported some of the seed ideas suggested by the moderators. Prominent ideas included mandatory disclosure of orbital information or publication of “orbital flight plans,” mandatory post-mission disposal with verification done by launching states, establishing a right to consultation with other satellite operators, taking steps to enhance the trackability and identification of payloads, prohibition on any intentional creation of long-lived orbital debris, and requiring backup plans or redundancies to ensure that post-mission disposal occurs even if the spacecraft experienced an anomaly.

There was general agreement that small, specific norms would be easier to accomplish than very broad overarching norms, and that normative efforts should begin at the technical level before attempting to secure political buy-in and blessing. Many agreed that the key to the successful creation of norms was peer pressure from other companies or governments about the importance of abiding by norms. Some felt that insurers and/or investors could also play a key role in incenting space actors to develop and follow norms, while others referenced a [workshop](#) SWF held in January 2018 that discussed the challenges to doing so.

There were also several disagreements among the participants about the best way to go about establishing these norms of behavior. Some felt that there should be specific actions taken to directly address national security norms, such as moratoriums on kinetic ASAT testing, while others felt that the normative effort should start with commercial or civil space activities to avoid the political challenges of discussing security topics. Still others suggested that both civil and commercial operator norms and multilateral security discussions needed to be done in parallel because of the overlap in technologies. There were also mixed opinions on whether the norms should be pushed “bottom up” by satellite operators or “top down” by nation states. Some argued for any multilateral state-to-state discussions to begin with groups of “like-

minded” governments to build initial consensus, while others felt that would be seen as discrimination and make it more difficult to get the widespread buy-in that would be essential to a norm’s long-term success.

### **Conclusions and Next Steps**

Participants agreed that an important next step is for the space community to establish a taxonomy of terms and definitions for norms of behavior and related concepts, such as guidelines, best practices, standards, and regulations. In doing so, the space community should borrow and adopt research from other fields wherever practical. The space community should also study how other non-space sectors have established norms of behaviors and identify lessons learned from those experiences that are relevant to developing norms of behavior in space. Nearly all the participants agreed that improving global access to, and the quality of, SSA data and services would be essential to informing the creation of norms of behavior, monitoring compliance with existing or future norms, and improving the overall transparency of space activities. Finally, participants agreed that time is short and there needs to be a focused effort now from both bottom-up and top-down to begin establishing new norms of behavior to help support the long-term sustainability of space.

### **About Secure World Foundation**

Secure World Foundation (SWF) is a private operating foundation dedicated to the secure and sustainable use of space for the benefit of Earth and all its peoples. SWF engages with academics, policy makers, scientists, and advocates in the space and international affairs communities to support steps that strengthen global space sustainability. It promotes the development of cooperative and effective use of space for the protection of Earth’s environment and human security. <https://swfound.org>

### **About OneWeb**

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