SWF Contribution to UNGA Resolution 75-36, "Reducing Space Threats Through Norms, Rules and Principles of Responsible Behaviors"

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BACKGROUND

In response to UN General Assembly Resolution 75/36, Secure World Foundation (SWF) would like to offer its views on "Reducing space threats through norms, rules and principles of behaviour." SWF is a non-profit organization whose mission is to work with governments, industry, international organizations, and civil society to develop and promote ideas and actions to achieve the secure, sustainable, and peaceful uses of outer space benefiting Earth and all its peoples. This submission is offered as information for UN Member States to take into consideration when submitting their views. For further information, please contact Ms. Victoria Samson, Washington Office Director of SWF (vsamson@swfound.org).

This submission addresses the following two relevant paragraphs of Resolution 75/36:

> *5. Encourages Member States to study existing and potential threats and security risks to space systems, including those arising from actions, activities or systems in outer space or on Earth, characterize actions and activities that could be considered responsible, irresponsible or threatening and their potential impact on international security, and share their ideas on the further development and implementation of norms, rules and principles of responsible behaviours and on the reduction of the risks of misunderstanding and miscalculations with respect to outer space*
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> *6. Requests the Secretary-General, within existing resources, to seek the views of Member States on the issues referred to in the foregoing paragraph and to submit a substantive report, with an annex containing these views, to the General Assembly at its seventy-sixth session, for further discussion by Member States)*

THREATS

The space domain is undergoing significant changes. A growing number of countries and commercial actors are becoming involved in space activities, resulting in more innovation and benefits on Earth, but also more congestion and competition in space. From a security perspective, an increasing number of countries are looking to use space to enhance their military capabilities and national security. The growing use of, and reliance on, space for national security has also led more countries to look at developing their own counterspace capabilities that can be used to deceive, disrupt, deny, degrade, or destroy space systems.

The existence of counterspace capabilities is not new, but the circumstances surrounding them are. Today there are greater incentives than in the past for the development, and potential use, of offensive counterspace capabilities, notably the growing use of space for military applications by many countries. There are also greater potential consequences from widespread use of counterspace capabilities that could have global repercussions well beyond the military, affecting commercial and civil space systems upon which huge parts of the global economy and society are increasingly reliant.

SWF produces its annual open-source report, Global Counterspace Capabilities: An Assessment, which analyzes capabilities being developed by multiple countries across five categories: direct-ascent, co-orbital, electronic warfare, directed energy, and cyber. There is significant research and development on a broad range of destructive and non-destructive counterspace capabilities in multiple countries. However, only non-destructive capabilities are actively being used in current military operations.

As counterspace technologies mature, they will likely further proliferate to other countries and potentially to non-state actors as well. Since 2005, there have been more than 20 tests of anti-satellite (ASAT) weapon systems in space by four different countries, a rate of testing that has not happened since the 1960s.

In addition to outright weapons testing, another concerning development is that some satellites have been observed to make deliberately close approaches to the satellites of other countries without coordination, prior knowledge or consent of the operators of those satellites. There is growing concern that such behaviors might increase tensions between countries or could be misinterpreted as a hostile action that precipitates an armed attack.

Although orbital rendezvous and proximity operations (RPOs) have been conducted since the 1960s as part of human spaceflight operations, robotic RPO capabilities are being widely developed for a range of commercial, civil, and national security applications. Concerns over the potential counterspace applications of these capabilities give rise to misperceptions and mistrust. The transparency of actors developing and deploying such capabilities in space, as well as their observed behaviors, are important confidence-building measures.

In addition to attacking satellites, threats to space systems can also be directed against any of the other segments of a space system, such as ground stations or end users. Interference with any one of these

segments can result in loss of functionality, which could potentially be detrimental for space security and stability.

Finally, we note that mechanisms to deal with these threats to space security and stability should focus on behaviors, rather than technologies. The dual-use nature of many space technologies makes controlling access to the technology itself very difficult without also hindering commercial or civil applications that have benefits to humanity. It is therefore more helpful to focus on responsible behavior in space, rather than limiting or outright banning certain technologies, as traditional arms control and disarmament approaches would.

RESPONSIBLE BEHAVIOR

Encouraging responsible behavior in space starts with developing a shared understanding amongst the international community of what constitutes responsible behaviour and what constitutes irresponsible or threatening behavior on orbit. Making this distinction will enable the international community to recognize and condemn bad behaviour when it happens, or at least to identify when behavior is atypical, whether it is being done with malfeasance or not. There are many different suggestions for what might constitute responsible behavior in space. Examples include: establishing norms related to operating with due regard to other space objects; providing transparency regarding plans and intentions for all activities, including military ones, such as prior notifications of launches, maneuvers, or close approaches where possible; no non-consensual close approaches; sharing information about national military policies/budgets/programs, particularly for dedicated military space units; following existing legal obligations (notably signing and ratifying the Outer Space Treaty, Registration Convention, and Liability Convention); registering space objects, including military objects in a timely manner with the UN under the Registration Convention or General Assembly resolution 1721B (XVI); implementation of General Assembly resolution 62/101 on registration practices; following existing best practices for orbital debris mitigation, even for military activities; and avoiding deliberate creation of long-lived orbital debris, notably through avoiding the testing of kinetic weapons in orbit.

Conversely, possible examples of irresponsible behavior include: not providing sufficient transparency regarding space activities, such as policies/budgets/programs/space entities, or planned launches or maneuvers; not informing or coordinating with the operators of satellites during close approaches; not observing the principle of due regard or interfering with the normal operation of the space segment, ground segment, or user segment of a space system; not registering space objects in a national registry or with the UN in a timely manner; not following existing best practices and standards for orbital debris mitigation, including end-of-life passivation and post-mission disposal; or the deliberate creation of debris in orbit, notably through kinetic ASAT tests.

FURTHER DEVELOPMENT AND IMPLEMENTATION OF NORMS, RULES, AND PRINCIPLES OF RESPONSIBLE BEHAVIOR

The current international legal framework is largely permissive, at least implicitly, toward the development, testing, and deployment of counterspace capabilities and conducting RPOs. While the

1967 Outer Space Treaty bans the placement of nuclear weapons or any other kinds of weapons of mass destruction in outer space, there are generally no specific restrictions on testing or deployment of non-nuclear weapons in space. And while it is a well-established principle that the Charter of the United Nations applies to space activities and hence prohibits aggression in space just as it does terrestrially, there is no consensus on what constitutes a use of force or armed attack against space capabilities. There is also a lack of international consensus on norms of behavior for conducting military activities in space during peacetime, including close approaches of other satellites, and what the threshold is for triggering an armed response as a legitimate form of self-defense. Moreover, there is a lack of clarity in the international community as to what could be considered a legitimate military target during a conflict. Common understandings are needed for terminology used in discussions on space security and stability.

Furthermore, both developed and developing states must be convinced of the importance of the issue. Whether rich or poor, all countries today are users of space data or services, giving them a stake in the discussions on space security. As such, there needs to be an expansion of national capacity and processes to develop individual state positions on these matters, even among non-space-faring nations.

The international community must also lay the foundations of verifying behavior on orbit. Space situational awareness (SSA) has been a top priority for many countries for more than a decade now and includes monitoring and characterizing activities in space. For example, existing SSA capabilities could form the foundation to verify the testing or use of many types of existing ASAT capabilities in space. The key is matching SSA capabilities with the stipulations of an agreement and ensuring that all parties can feel confident in their own verification abilities, whether that is through their indigenous SSA capabilities or reliable access to dependable commercial SSA data and services.

There should be discussions on agreements to provide clarity on certain types of interactions between military satellites that could increase tensions or trigger conflict. There is a strong case for developing a multilateral space version of the Incidents at Sea Agreement between the United States and Soviet Union during the Cold War. Such an agreement could clarify accepted behavior for noncooperative rendezvous and proximity operations and, where possible, provide notifications of upcoming activities to help reduce the chances of misperceptions or risks to spaceflight safety. As part of these discussions, space actors should share their perspectives on how the existing laws of armed conflict apply to military space activities.

Additionally, there should be an examination of a ban on debris-creating ASAT weapons tests. This includes developing a holistic understanding of the value of such a limitation and the required verification capabilities. Encouraging voluntary moratoriums on such testing could send a powerful political signal that the current norm that has emerged (that ASAT tests are acceptable if they only result in short-lived debris) is not going to be further encouraged. It may not be possible, nor even desirable, to attempt to codify norms in internationally binding instruments. However, non-binding does not mean non-legal, since States bear international responsibility for the space activities of entities under their jurisdiction and/or control. Indeed, States may consider agreed-upon responsible behaviors to be

politically binding and/or incorporate them into their national regulatory frameworks. Approaches that include establishing best practices and technical standards can also help to socialize behaviors and increase social pressure to comply with them. Eventually these standards and practices, if seen as acceptable to state interests and with successful adherence, could even lead to the formation of customary international law.

Finally, we encourage broad participation in any discussions related to space security. As noted above, even non-space-faring nations have an interest in enhancing security and stability in outer space. These emerging space actors could also come to possess counterspace capabilities of their own as the requisite technology proliferates. As such, it will be important that there be broad, international buy-in for any future agreements to be successful.