



SPACE'S ROLE IN DETERRING CONFLICT

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Deterrence is a cornerstone of U.S. defense policy. This makes the costs of an action against the United States' interests far outweigh the adversary's perceived benefits, saves lives, and allows our senior officials to focus their resources on other issues. However, in the age of the second Space Race, the role of satellites, ground systems, and networks in deterring conflict has become an important debate. Can these systems help prevent conflict? If so, what is their role?

Sending a Message

During the 5th Annual Workshop on Space and U.S. Defense Strategy at the [Center for Global Security Research](#). Within the Lawrence Livermore National Laboratory, a common refrain regarding deterrence focused on the *message*. What type of message do we want to convey? How can we say it correctly and accurately? How do we know our message was received as intended? When considering deterrence,

messaging is a necessity. We spent the second and third days at the University of Tokyo, Komaba Campus. Here, the Young Leaders considered their countries' goals in the Pacific Region, expected challenges, and appropriate responses to arising issues they may face. The dialogue culminated in a Tabletop Exercise with two escalatory scenarios designed to evoke each country's intentions, goals, and expectations.

First, the message must be truthful and transparent, without revealing unnecessary information, to generate the desired effect. In the days leading up to then-Speaker Pelosi's planned trip to Taiwan, China threatened to retaliate in [response](#). Their intended effect was to deter her visit to the island. China was truthful since they retaliated; however, their message failed to generate the desired response. Then-Speaker Pelosi's view of the benefits of her visit outweighed any risk of retaliation. However, in executing their message via military exercises, China offered up a wealth of unnecessary information regarding tactics and maneuvers they would take during a potential blockade of Taiwan.

Second, the message must demonstrate a believable cost imposition, thus frustrating an adversary's theory of success. U.S. naval deployments worldwide are an example of a believable cost imposition. For example, the United States will send a carrier to a region as a show of force as tensions increase. An aircraft carrier conveys that taking the action could yield a swift response to counter, resulting in the adversary failing to achieve their intended goals.

Lastly, the message must be coherent. In the months leading up to Russia's invasion of Ukraine, messaging was not unified between the United States and Ukraine. The U.S. was warning, using data from commercial and government satellites, about a [Russian military buildup](#). Ukraine was trying to counter that message to prevent fear and panic from setting in. Another example of confusing messaging is within the United States' divided government. While the President is trying to secure aid for Ukraine, the Speaker of the House vehemently opposes sending more aid. This disagreement allows an adversary to take advantage of the incoherent messaging regarding the support for Ukraine, allowing doubt regarding support to sow among partners and allies.

Using Space Assets for Deterrence

Like messaging, the art of deterrence starts with four questions: who do you want to deter? What actions do you want to discourage? What means do you have? How will you use those means? This framework allows a strategist to devise a plan, whether in defense, diplomacy, or business. The plan to achieve deterrence must make the cost of the opposing decision-maker's intended action unacceptable or frustrate their theory of success.

This section will focus on potential adversarial actions and the means to deter them with space assets.

First, to answer the initial question posed at the start of this article, the space community has limited means to deter unfavorable actions. There are two types of assets to consider in deterrence: space and counterspace. Space is the space vehicles, their ground systems, and the networks transferring data to support operations. Counterspace, a sub-category, focuses on preventing the use of satellites or adjoining systems. Both can impose a cost on an adversary in different ways, though the question that needs to be asked is, "Is this a precedent we want to start?"

Space Assets

Starting with space assets, if an adversary uses commercial remote sensing data to act against U.S. interests, then an option to try to deter them is to prevent the sale of that data or require the provider to send degraded data. However, this does not impose a prohibitive cost. Numerous remote sensing data providers may be willing to sell that information today. A policy requiring degraded data for any actor could reduce global consumer confidence in U.S. providers. Like selective availability with GPS, it will lead other users to find or build alternative sources. Considering this scenario's 2nd and 3rd order effects, the U.S. would harm its industry and erode its role as a global leader in space through this act.

Additionally, unlike the deployment of carriers—a known symbol of United States power projection—satellites observing overhead do not invoke the same thoughts or potential cost impositions on an adversary. While they are crucial to aiding our decision-makers in times of potential crisis, adversaries may not consider exposure to be enough of a cost to reconsider their actions. Russian

President Vladimir Putin, for example, was not deterred from starting his war by U.S. commercial and government satellite images showing his military buildup.

Counterspace

Another area of deterrence in this field that is more traditional is counterspace. These weapons tend to fall into a few categories but have effects that can [deter action](#). The most visible are anti-satellite missiles. China, India, and Russia have tested these types of weapons in the past 20 years. These tests aimed to deter countries like the United States—with a heavy reliance on space for quality-of-life, economic, and military purposes—from putting those assets at risk. Those tests sent a message, resulting in the DoD focusing on making more resilient space systems and other countries denouncing them as dangerous for [future space activity](#). However, this differs from the message those countries wanted to convey, thus hurting the deterrence effect they wanted.

Counterspace can also lean toward targeting commercial space assets as a means of deterrence. Early in 2022, a cyber-attack from within Ukraine hit one of ViaSat's broadband services satellites, resulting in thousands of active customers in the region losing [services](#). Using a cyber-attack against a commercial provider may deter them from providing services in a region with no other options. Russia's ViaSat attack, for example, possibly had a deterrence effect on Elon Musk last year when he refused the use of Starlink during a Ukrainian military operation. Pointedly, Russia announced weeks after they would consider commercial satellites a target if they were involved in the Ukraine war.

Conclusion

Space does have a role in increasing the costs and risks of an adversary's action. Early on, satellite systems can provide information to build a message and enhance negotiation positions to convince an adversary that their actions will not be tolerated. However, this has limited deterrence value so additional assets might be necessary to achieve an effect. Counterspace weapons, on the other hand, provide a concrete threat that can impose a cost if expertly deployed and frustrate the decision-maker's theory for success. As countries advance in this second Space Race, no single country has supremacy in orbit anymore. Policymakers must change how

they view the use of space assets to deter adversaries and the level of risk they are willing to accept when an adversary threatens those assets. Only after can a proper, coherent message be developed and assets be appropriately utilized in a deterrence plan.

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