

Foundations of a National Space Strategy: A National Space Strategy Group Panel Discussion

The National Space Strategy Project is an effort to identify the critical issues surrounding the development of a U.S. space strategy, laying the foundation for its eventual development. It is led by Astroconsulting International, Secure World Foundation, the George Washington University's Space Policy Institute and the National Space Studies Center of the Air Force's Air University. The Executive Summary of a February 2010 workshop where the initial thoughts and discussion of the project were laid out is available [here](#). According to the Summary, the Project identified a number of critical topics for the development of a national space strategy and these are discussed in a series of articles written by Project participants.

Laying the Foundation

On December 13, 2010, Project participants offered snapshots of the two publications featuring the work of the team: a fall 2010 issue of *Astropolitics* where a selection of articles are published and a book coming out in 2011 as part of the Routledge series on *Space Power and Politics* that will contain all of the articles and additional commentary. Dr. Peter Hays, Dr. Jeffrey Foust, and Dr. Nancy Gallagher discussed the thrust of their articles, which looked at three specific issues: management and organizational structure, launch costs, and international cooperation in space security.

Brian Weeden, Technical Adviser to the Secure World Foundation, explained the purpose of the Project as defining the concepts and intellectual foundations of a national space strategy. He made references to several articles of the series that discussed the concept of strategy. The concept was broadly defined as connecting ways to means in the context of the Project. Finally, Mr. Weeden made the point that in setting out to unravel these difficult issues, the Project questions the assumption posed by some experts that having any strategy is better than having none. The opposite may well be true – having a “bad” strategy can be worse than having none – as Dr. James Clay Moltz, Associate Professor at the Naval Postgraduate School, argues in one of the articles.

Following Mr. Weeden, Dr. Eligar Sadeh, President of Astroconsulting International and editor of *Astropolitics*, provided an overview of the articles in the publication. Dr. Sadeh said the need for having such a strategy is rooted in the fact that “space is so integrated in everything we do” and that a strategy would better tie space with the strategic concerns of the country.

National Security: Management and Organizational Issues

Dr. Hays, USAF (ret.), Associate Director of the Eisenhower Center for Space and Defense Studies at the Air Force Academy, began by saying that “there is no right way” to put together a national space strategy, but that it would be worthwhile for the U.S.

government to talk about the critical issues addressed by the Project participants. He disagreed with the point cited by Mr. Weeden earlier that there is such a thing as a “bad” strategy, and argued that the process, in addition to the product, was valuable in itself. Dr. Hays went on to talk about the 2010 National Space Policy, the guiding document in the process of putting together a strategy, and said that while he was pleased with it overall, there were some “fouls.” He described the reaction to the policy’s tone and focus on international cooperation as a “love fest” and said it “inappropriately over-corrects the Bush policy” by being “over-cooperative.” While more cooperation is certainly welcome, he said, the policy ignores the fact that the duality of cooperation and competition is inherent to space. He added that some sections of the policy are overly specific, while others are overly vague. Regarding the former, he said that labeling space sustainability and space stability as “vital national interests” signals that the United States will use military force to protect these objectives, which he considers “inappropriate.” He argued that the policy “swept under the rug” the most controversial issues, such as export control reform, thus achieving consensus on the new policy by ignoring them.

The biggest shortcoming of the policy, continued Dr. Hays, is that it does not cover management or organizational structures. He suggested looking back at the recommendations of both the 2001 Rumsfeld Space Commission (Report of the Commission to Assess United States National Security Space Management and Organization) and the 2008 Allard Commission (National Space Strategy Independent Assessment Panel Report). He said that while implementation of these recommendations at the lower levels of the military has been going well, there are still issues at the highest level “here in Washington.” He pointed out that development of the strategy should be led by a standing “Space Council-like” body.

Dr. Hays also argued for the creation of a new office in the Department of Defense (DOD), an Under Secretary of Defense for Space, and for reforming DOD’s organizational structure so that space is given the priority it deserves. He described the 2002 dissolution of the U.S. Space Command and placing operational aspects of DOD space activities into the United States Strategic Command (USSTRATCOM) as a “mistake” because space is an “afterthought” among many other issues. At least, he said, space should be combined with cyberspace in a separate unit under USSTRATCOM.

Space Launch: Is Cost the Priority?

Jeff Foust, Senior Analyst at the Futron Corporation, looked at the question of why efforts to lower launch costs have failed. He said there was an “alphabet soup” of acronyms for programs that have failed, and that even those that were not cancelled, such as the Space Shuttle and the Evolved Expendable Launch Vehicle program (EELV), did not achieve that goal. He rhetorically asked whether cost really is a priority for the existing launch markets, which he broke down into six segments.

- (1) “Exquisite” national security space programs¹
- (2) Operationally Responsive Space (ORS)²
- (3) Civil robotic space (science spacecraft) programs
- (4) Civil human spaceflight
- (5) Established commercial space activities, and
- (6) Entrepreneurial commercial space activities

When looking at most of these, he found that launch cost was not the driving factor. Looking at civil human spaceflight, for example, he explained that safety and prestige “outweigh cost,” a scenario that is similar for exquisite national security space programs and established commercial space activities, where both reliability and schedule are primary concerns. Similarly, while cost is of some concern for civil robotic space programs, the pressure imposed by strict launch timelines based on planetary alignments, for example, pushes cost into second place. It is only for ORS and entrepreneurial commercial space where cost is an important factor, but these also happen to be the newest markets, remarked Dr. Foust. Because these are inelastic markets, however, “decreasing [launch] prices significantly may not stimulate new demand,” he said. Dr. Foust listed internal and external influences that might disrupt this situation, including: renewed interest in commercial spaceflight, the success of ORS, and the introduction of a generic “low cost” launch vehicle. He reiterated that their success will not be secured by offering lowering launch costs if the concerns for schedule and reliability are not met. Dr. Foust concluded that national strategies that focus exclusively on lowering launch costs fail because resolving the issue requires more than the right technology. Understanding the markets is critical, and in most markets, reliability and schedule continue to be the primary drivers, not cost.

International Cooperation in Space Security

Dr. Nancy Gallagher, Associate Director for Research at the Center for International and Security Studies at the University of Maryland, addressed international cooperation in space security. She explained that national security space is not only where cooperation is hardest, but that it sets the boundaries for cooperation in the civil and commercial space sectors. In considering different cooperative approaches and structures, she looked at these questions:

- (1) What is the central space security problem and how does space cooperation address it,
- (2) How does space cooperation advance U.S. interests, and
- (3) How are other countries motivated to comply with the specific cooperative structure.

¹ “Exquisite” space systems are very expensive, very capable national security space systems that provide the best data and services available with today’s technology.

² ORS refers to space capabilities that can be fielded quickly in response to the needs of military commanders. Such systems may be limited in their capabilities, but can be built and launched quickly. In a sense they are the opposite of exquisite systems, which take many years to develop and launch, but provide superb capabilities.

She found there were “conflicting answers” and suggested that, from the outside, observers may ask themselves if recent discussion about increased space cooperation reflect just a shift in tone, not internal agreement within the U.S. government. She described three logics for space cooperation and discussed some of the benefits and drawbacks of each.

- a) **The “global commons” logic.** The main security problem identified through this perspective is that space is becoming increasingly congested, which is a result of what Garrett Hardin described in 1968³ as “the tragedy of the commons” – where each actor acts in a self-interested way to increase its own use of a shared limited resource, endangering its long term use. This logic assumes that it is in everyone’s long term interest to behave cooperatively, voluntarily advancing their own objectives while avoiding problems. Dr. Gallagher explained that this logic “highlights mutual interests while masking conflicting [ones]” and therefore “sounds easier.” Of its potential drawbacks, she included that unless the process of defining responsible behavior is inclusive, it could yield different interpretations and those not taking part in the process may have little incentive to follow the rules. A main issue is that because it is voluntary, there would also be a lower rate of compliance. She was highly skeptical and concluded that security interests “will always trump environmental concerns” of protecting the space environment so all can use it.
- b) **The “stability and deterrence” logic.** The central problem here is that actors are potential adversaries and each cares primarily about securing relative power. Because of this, actors cannot defend against all threats and thus some form of space deterrence is pursued. Cooperation, she explained, serves to stabilize this fragile deterrence. The Russian-Chinese draft Treaty on the Prevention of the Placement of Weapons in Outer Space (PPWT) fits this logic. The benefit of this approach is its familiarity, because deterrence has characterized U.S. policy before, but Dr. Gallagher cautioned that a lot of attention is needed to prevent deterrence from failing. She added that deterrence was “the wrong concept” to apply to space security since there are a lot more actors now than there were nuclear powers during the Cold War, when the concept was born. Because the rules are “modest,” they seem insufficient to manage risks.
- c) **The “space governance for global security” logic.** A third logic describes the central issue not by looking at space, but by what occurs on Earth. It ties space to broader security problems and to the priorities of the United States. It assumes states behave responsibly by not exploiting their access to powerful capabilities to damage others, and that each will manage its own capabilities so as not to increase the risks to others. It is a “more piecemeal” approach that relies on cooperation using both formal and informal mechanisms. This is the logic Dr. Gallagher finds most appropriate -- “more positive for cooperation.” It combines the goals of the previous two of avoiding environmental degradation and instability while also pursuing positive, not only negative, goals by making space central to overall security strategies. The drawbacks include that it “sounds radically idealistic” and that DOD would have to forgo certain actions such as

³ See: http://www.garretthardinsociety.org/articles/art_tragedy_of_the_commons.html

deploying missile interceptors in space. She argues, however, that DOD would not pursue those actions anyway.

During the question and answer session, an audience member made the point that the process of developing a national space strategy already may be constrained by a lack of a U.S. global strategy, of missing a vision of where we would like to take our country through space. Mr. Weeden said that “we have to walk before we run,” and that an overall strategy would be “too hard at this point.” Dr. Sadeh agreed and said that the sense of the Project was to “move more pragmatically,” understanding the limitations that exist. Panelists said that a general vision would be beneficial, but that even having a stand-alone strategy for space would be a step in the right direction.