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Insight and Perspectives

Ensuring U.S. Space Leadership: Conference Highlights and Key Ideas

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About the Center for Space Policy and Strategy

The Center for Space Policy and Strategy is a specialized research branch within The Aerospace Corporation, a federally funded research and development center providing objective technical analysis for programs of national significance. Established in 2000 as a Center of Excellence for civil, commercial, and national security space and technology policy, the Center examines issues at the intersection of technology and policy and provides nonpartisan research for national decisionmakers.

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Foreword

The Aerospace Corporation's Center for Space Policy and Strategy co-hosted a seminar and panel discussion in conjunction with George Washington University's Space Policy Institute on July 14, 2017. The event, entitled "Ensuring U.S. Space Leadership," drew more than a hundred representatives from industry and government. Featured speakers included Scott Pace, newly named head of the National Space Council and director of the Space Policy Institute, and Congressman Brian Babin, chairman of the House Space Subcommittee. This paper provides a high-level summary of the event to help direct and inform future discussion.

Aerospace CEO **Steve Isakowitz** opened the half-day event, making an analogy to the pivotal writings of American naval officer and historian Alfred Thayer Mahan, whose books on sea power in the 1890s became essential readings on naval strategy. We are at a similar stage today, Isakowitz suggested, analyzing the history and writing the strategy that will drive thinking and planning about space operations today and tomorrow.

The content of the discussions was partially driven by the reestablishment of the White House National Space Council by executive order one week earlier, and the nomination the previous day of Scott Pace as executive director of the Council. Also, the FY18 National Defense Authorization Act passed by the House included language establishing a Space Corps within the Air Force and a U.S. Space Command within U.S. Strategic Command, which has generated considerable debate that was reflected at this event.

Scott Pace moderated the first panel, "Challenges to Leading in a World with More Near-Peers in Space: Interagency lessons learned." The panelists were **Gil Klinger**, Harris Corp., former National Security Council (NSC) director for space; **Peter Marquez**, Planetary Resources, former NSC director for space; **Chirag Parikh**, National Geospatial-Intelligence Agency, former NSC director for space; **Damon Wells**, National Reconnaissance Office, former Office of Science and Technology Policy (OSTP) staff; and **Ben Roberts**, former OSTP staff.

In his comments, **Pace** noted that there are many ways to manage space policy in the Executive Office of the President. For current circumstances, the new National Space Council should serve well.

International space cooperation is a lagging (not leading) indicator of bilateral relations, he said, so it should not be expected to turn the tide in otherwise problematic relationships. He also noted that space-related education needs to maximize opportunities for hands-on experience.

According to **Klinger**, executive branch policy development is a team sport. It should be characterized by respectful debate—not negotiation down to the lowest common denominator.

Space development brings unforeseen implications for all sectors of activity. GPS is one example: the core functions of the system have become essential applications, far exceeding the expectations of its original proponents. Space was never a sanctuary, he said. As a warfare domain, space has experienced more tectonic shift

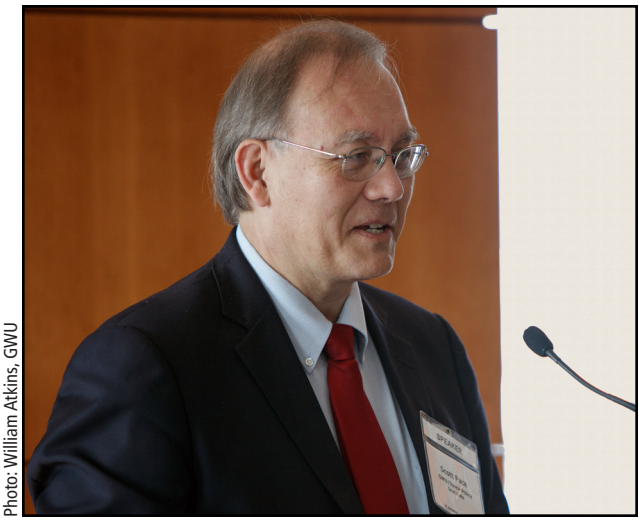

Photo: William Atkins, GWU

Scott Pace, executive secretary of the National Space Council.

at a greater rate than any other. The question is, can we match the pace?

Klinger believes it is time to reassess the relevance of all things space. Is our rate of change matching or exceeding that of the rest of the world and the evolving threats? If not, why would anybody want to work in an enterprise that is slow and not financially rewarding?

Marquez expressed the view that "there are no new problems—you just need to find historical analogs." The new National Space Council won't diverge much from the existing interagency coordination process. Things move slowly because the stakes are extraordinarily high.

When Marquez joined the NSC staff near the end of the Bush administration, things were working smoothly because processes and people had been in place for years. He stayed for the first year and a half of the Obama administration, and initially things were chaotic because a new team was getting started.

We all need to keep in mind that the space council is not just a NASA council, Marquez said. It should serve all sectors and focus on issues that cross over.

The 2010 National Space Policy was completed by the time **Parikh** joined the NSC staff, but he and staff colleagues still spent a lot of time writing policy, arguing down to individual words and commas. More people are needed, he said, because each issue area tends to be a one-person stove pipe. Typically, NSC-level policy writers have done a poor job of working in conjunction with budget people, including OMB and agency representatives.

According to Parikh, priorities for the new National Space Council should be:

- Establish good working relationships among NSC, OMB, and OSTP;
- Address the governance improvements needed to fix acquisition and implementation;
- Build space-related "soft power" capabilities at both State and NASA. The International Space Station is a key example, but this can be done in programs at a variety of levels.

So much is happening in commercial and international space development, the ship is starting to turn. To be prepared, Parikh said, we need to find a budget wedge for space protection.

Wells observed that core principles have been consistent, but issues and challenges evolve. The core should continue to include innovation and entrepreneurship.

The OSTP-NSC connection has been (and should be) dynamic. Both sides are thinly staffed. Together, they must decide who has the lead and who has support on each issue. Harmonizing the policy work with the budget is a big challenge.

Furthermore, Wells said, the half-life of agreement on policy is very short. Debate follows quickly, so understanding and agreement are an essential part of the formulation process.

Roberts noted that OSTP was an influential office under President Obama. It had a strong leader (John Holdren) who had a good relationship with the president. But it is not clear what will happen under President Trump, who has not yet appointed a science advisor. The National Space Council can play an important role in making up for any weakness in OSTP where space issues are concerned.

Critical issues for the National Space Council include: export control, commercial remote sensing, space traffic management, regulation of rendezvous and proximity operations and other new applications, and leveraging new applications for security.

Rep. **Babin** delivered the keynote address. In it, he noted that "space is hard." There will always be problems. Government space programs should find the right balance of risk.

The U.S. government should leverage commercial space services as much as possible, he said, but must not jeopardize national interests in the whims of the market. The government should make greater use of firm fixed-price contracts and public-private partnerships. For space traffic management, he suggested we should explore other options besides FAA for civilian oversight and operations.

No regulations should be imposed without data, he said. In commercial human spaceflight, which has taken much longer than anticipated to mature, we've gone to great lengths to prevent this from happening, he said. On the other hand, years of failed remote sensing regulation has cost the U.S. commercial opportunities and market leadership. "We create burdensome regulations at our own peril," he said.

National security and civil space should be kept separate, Babin believes, but we should find efficiencies. He feels that civil space is subsidizing national security space, but is not receiving reciprocal support. His examples include terrestrial and space weather.

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Babin promoted the American Space Commerce Free Enterprise Act, which he co-sponsored. He made the case for shifting the bulk of commercial space licensing and regulation to an enlarged Office of Space Commerce at the Dept. of Commerce.

Jamie Morin, Aerospace Corporation Center for Space Policy and Strategy, served as moderator for the second panel, entitled "Building Consensus and Managing Conflict: Structuring U.S. Space Execution and Oversight to Ensure Leadership." Joining him on the panel were **Michael Donley**, former Secretary of the Air Force; Gen. **Robert Kehler** (USAF, ret.), former commander, U.S. Strategic Command; and **Richard DalBello**, Virgin Galactic, former OSTP staff and former vice president at Intelsat.

Photo: William Atkins, GWU

Rep. Brian Babin, chairman of the House Space Subcommittee.

Morin reminded the audience that space is fundamentally an engineered domain for human beings, even more foreign and dangerous than air or sea. He suggested that the space enterprise can be depicted in a Venn diagram with three circles—technically feasible, economically viable, and policy permissible—which are in constant motion, making the formulation and implementation of policy a moving target. Institutional design in government must account for this motion while balancing multiple equities, multiple perspectives, and multiple views of the good.

In Morin's depiction, we can address U.S. leadership in space by asking: Are we creating a situation in which the overlap of the three circles is growing? Are we adopting an approach that will encourage scientific and technical progress—one that will make more economic models viable, or perhaps an approach that will facilitate closer alignment between the politically acceptable and the economically and technically feasible?

Institutional design in government also depends on thinking through time, as change imposes transition costs and causes confusion. Too much change in too little time can be disruptive and can make it very hard to measure the effectiveness of different policy interventions. Government institutions perform best when they have a clear sense of what problem(s) they are trying to solve. Morin suggested that a key question for the National Space Council is whether it will focus on a single big objective, or a set of complex coordination tasks.

Donley stated that reconstituting the National Space Council is a good thing, but not an end in itself. What

do you want it to do? At this point, he noted, its scope is open-ended, and cross-sector relationships to serve national interests in space have yet to be established. The agenda should be chosen carefully, keeping in mind there are issues out there that will choose you. Set a pattern or cycle of activity. Foster teamwork. Go for early successes. Don't bring work to this level if it can be resolved at a lower level.

DoD faces the task of integrating responsibilities in an environment of increasing numbers of specialized units (commands, agencies, etc.). For space governance, a Space Corps will not help, he said. It will create more bureaucracy—precisely what Congress has been telling DoD not to do—without countering the trend toward more specialized organizations.

Kehler pointed to several turning points during the space age: Sputnik, post-Apollo, and post-Cold War shifts in programs and plans; major space system failures in the 1990s; adjustment to the post-9/11 environment. Today, we still need a national consensus on where we want to go, Kehler said, adding that if the National Space Council can refocus national-level thinking on space, it will be worth it.

None of the major reorganization proposals for DoD space functions are appropriate, in Kehler's view. What are we trying to fix? Many studies over the years have told us what's broken and how to fix it, he said, but reorganization is not the answer. It will cost more, especially if we keep doing it every couple of years. Physicists will discover their long-sought unified theory before DoD space governance does, he said.

The problem to focus on is: How do we prepare ourselves for a conflict that extends to space? The acquisition system needs to field systems that can operate in a contested environment.

DalBello stated that National Space Council efforts should be about the alignment of White House goals. He posed the question: Should the target be something big? In the Clinton administration, civil space was tied to post-Cold War relations with Russia through the space station program, an issue area that went beyond the space program.

There was more clarity on space goals in the Clinton era than under Obama, DalBello noted. Today, we have a bunch of data points but no big picture.

Finally, the role of the Vice President will be critical, DalBello said.

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The reestablishment of the National Space Council was at the top of the news at the time of this event, prompting all of the participants to comment on its prospects. All were hopeful that it could successfully address the issues for which it is best suited: the political, economic, and technical concerns that affect multiple agencies across the civil, commercial, and national security space sectors. Lessons learned in national policymaking have demonstrated this will be both challenging and rewarding, and dependent on consistent top-level guidance and support. Staffing levels may never be as high as desired, but this should not be allowed to stand in the way of developing key relationships with other White House components, federal agencies, and the broader space community.

A Space Corps … will create more bureaucracy—precisely what Congress has been telling DoD not to do…

The proposed creation of a Space Corps within the Air Force was the other space news item of the day. This idea did not elicit a favorable response from those who chose to address it. Panelists viewed the Space Corps as a solution in search of a problem. They disagreed with proponents who felt that an ongoing problem (space acquisition reform) could be solved by another application of an old solution (reorganization).

There was a sense that all participants, including the audience, recognized the importance of the space policy decisions that would be made in the next few years as the number of space operators and the variety of space applications increases. Growing dependency on space is accompanied by growing complexity and risk. The decisions we make today and in the near future will help determine whether the benefits of space continue to make it all worthwhile.