

# Harnessing Commercial Innovation to Secure the Highest Ground

**T**he Center for the Study of the Presidency & Congress's Space Policy Project (SPP) seeks to identify real, actionable recommendations for the integration of commercial technologies into the national security space architecture. Commercial technologies already play a significant role in America's space defense, but the latest wave of new capabilities offers great (and cheaper) access to space that will strengthen and secure America's leadership in space.

By focusing on "New Space" companies, the project will offer new and novel insights into the ways emergent capabilities can augment, support, and, in some cases, replace existing technologies and platforms. Through such advanc-

es as reusable rockets, cube/micro-satellites, mega constellations, and advanced imagery and analytics, America's posture and architecture can be strengthened. Incorporating these advances will lead to greater resiliency, improved deterrence of adversaries, and better effects at cheaper costs.

The project aims to focus on the following three core areas:

**Military Applications.** From remote sensing to communications, early warning and global positioning, every aspect of U.S. military operations is inherently linked to outer space. Whereas space was once an exclusively strategic domain, space capabilities now penetrate down to a tactical level. Individual service members already enjoy the ability to call up satellite imagery and analysis, use satellite-based communications, and direct precision-guided munitions on the battlefield. Major advances in all these capabilities are now on the horizon.

**Civilian Applications.** Beyond military applications,



space is a vital domain for a wide range of civilian applications such as communications, imagery, observation, positioning, navigation, and timing used for industries ranging from utilities to finance, and from transportation to weather forecasting. As these missions are increasingly shared between government and civilian platforms, new questions will necessarily be raised. For example, what happens if an adversary strikes a commercial satellite on which a U.S. military payload or communications package was hosted? CSPC will look to identify trends in both the current and future role of space in U.S. national security, as well as the capabilities under development by our adversaries to counter these strengths. The aim will be to develop an appreciation of space as a current and continually emerging operational domain.

**Lowering Cost Barriers to Space.** As with the technology sector more broadly, over the last decade space technology has increased dramatically in terms of capability even as costs have dropped precipitously. It is now possible for schools and universities—and even individuals—to develop small satellites (“cubesats”) and launch them into orbit as part of a larger payload.

Through the application of Silicon Valley management and development practices, SpaceX upended the launch model by developing and deploying reusable rockets. Simul-

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taneously, Blue Origin—owned by Jeff Bezos—is developing the competing platform New Glenn with the goal of sending humans into sub-orbital space and eventually delivering payloads to space. Together, SpaceX and Blue Origin are working to drive down the cost of launches, making space increasingly accessible. Further, companies such as SpaceX, OneWeb and others are exploring the development and deployment of so-called “mega constellations”—networks of over 1,000 satellites to provide continuous global coverage and service.

Through a robust dialogue CSPC will look to establish an understanding and appreciation of the trends in the commer-

## POLICY TAKEAWAYS

- Space is an increasingly contested domain for commercial and national security applications.
- The United States is a leader in commercial space innovation that is increasing the access to space and reducing its costs.
- U.S. national security agencies can benefit from the new capabilities and platforms being created by commercial space companies.

cial space sector, as well as identify over-the-horizon technologies that are in the near, but foreseeable, future. These new innovations and technological developments offer opportunities to increase the capabilities and responsiveness of space assets in ways that achieve the objectives of the U.S. National Security Space Strategy. Developing advanced space systems with shorter deployment timelines, and distributing capabilities across multiple space platforms, holds out the promise of reducing the vulnerability and increasing the resiliency of our space architecture.

The national security space community has, understandably, been hesitant to fully embrace new and emergent capabilities offered by the “New Space” sector. Previous experiences with commercial companies promised much, but often failed to deliver when companies went bankrupt or failed to meet lofty promises. New technology is also unproven and thus represents high risk.

The technologies and capabilities associated with commercial space have the potential to greatly shrink acquisition cycles and increase space capabilities at reduced cost, thus proving more responsive to the demands of battlefield commanders and strategic policymakers. CSPC will thus investigate areas in which these new technologies can be integrated into the overall national security architecture in the shortest amount of time, while maintaining and enhancing existing capabilities.

The objective of CSPC’s space initiative will be twofold: develop actionable recommendations for the regulatory, procurement, and oversight agencies; and facilitate a broader dialogue on the implications of commercial space in the national security arena among all interested parties, including commercial operators and the national security community. □