



Client Alert | April 25, 2024

Buy What We Can, Build What We Must: Leveraging the Commercial Space Sector for National Security

On April 2, Secretary of Defense Lloyd Austin released the DoD’s Commercial Space Integration Strategy (the **DoD CSIS**), outlining the Pentagon’s vision for achieving more effective integration of commercial solutions into the U.S. national security space architecture.

On April 10, the U.S. Space Force (USSF) released a corollary strategy document. The Space Force Commercial Space Strategy (the **USSF CSS**) builds directly upon the DoD CSIS, detailing the actions the USSF will take in support of the DoD’s strategic aims and the Pentagon’s broader push towards embracing commercial space.

The two documents are aligned and mutually reinforcing but differ in their respective aims – while the DoD CSIS outlines a strategic *vision*, the USSF CSS focuses on *execution*, identifying the specific lines of effort the USSF will implement in order to better integrate the private sector into the national security space ecosystem. Taken together, both strategy documents build upon the 2022 National Defense Strategy, which directed the DoD to “increase collaboration with the private sector in priority areas, *especially with the commercial space industry*, leveraging its technological advancements and entrepreneurial spirit to enable new capabilities.”

This Client Alert highlights the key themes spanning each of the two strategy documents, with the aim of providing industry participants with a view as to the specific capabilities that are best-positioned to receive attention and investment from the DoD as Washington increasingly looks to the private sector to improve the resiliency of America’s national security space architecture.

I. The DoD's Commercial Space Integration Strategy

The DoD CSIS identifies four top-level strategic priorities that the department will pursue to maximize the potential benefits of integrating commercial solutions into the nation's space architecture:

- **Assured Access:** DoD will use contracts and other formal procurement mechanisms to ensure access to commercial solutions, including the ability to surge commercial capacity to meet military requirements.
- **Proactive Integration:** DoD will work to achieve integration of commercial space solutions *prior to a crisis*, including through regular peacetime engagement with the private sector and through incorporating commercial solutions into wargames, training exercises, and testing and simulation work.
- **Establishment of the Right Security Conditions:** DoD will promote a secure operational space domain in order to mitigate risks to commercial space actors. Notably, the DoD CSIS states that *"in appropriate circumstances, the use of military force to protect and defend commercial assets could be directed."*
- **Support for Innovation:** Effectively harnessing the commercial sector is not only a function of integrating existing solutions – it also requires ensuring that *new* solutions can be brought to market efficiently. DoD will use its full range of financial, contractual, and policy tools to rapidly field and scale commercial technology, attract private investment, and assist in clearing regulatory hurdles, with the aim of bringing emerging commercial solutions to the warfighter at speed.

Core Mission Areas Identified in the DoD CSIS

Alongside the strategic priorities outlined above, the DoD CSIS identifies 13 discrete mission areas and introduces a three-category framework for evaluating the potential role of commercial solutions in support of each. The DoD CSIS indicates that mission areas may shift between categories over time, as capabilities mature and as military requirements evolve. The current DoD framework is as follows:

<p>Primarily Government Mission Areas</p>	<p><i>Systems supporting these mission areas have significant functional differences relative to commercial offerings or may lack a significant commercial market altogether</i></p>	<ul style="list-style-type: none"> ▪ Combat Power Projection ▪ Command and Control (C2) ▪ Electromagnetic Warfare (EW) ▪ Missile Warning ▪ Nuclear Detonation Detection (NUDET) ▪ Positioning, Navigation & Timing (PNT)
<p>Hybrid Mission Areas</p>	<p><i>Mission areas where some functions are performed by the government, while others can be effectively performed by the commercial sector</i></p>	<ul style="list-style-type: none"> ▪ Cyberspace Operations ▪ Space-based Environmental Monitoring (SBEM) ▪ Intelligence, Surveillance & Reconnaissance (ISR)⁽¹⁾ ▪ Satellite Communications (SATCOM) ▪ Space Domain Awareness (SDA) ▪ Spacecraft Operations ⁽²⁾
<p>Primarily Commercial Mission Areas</p>	<p><i>Mission areas where most functions are (or could be) performed by the commercial sector, and where commercial solutions have demonstrated technological maturity</i></p>	<ul style="list-style-type: none"> ▪ Space Access, Mobility & Logistics (SAML) ▪ Emerging areas such as on-orbit servicing, assembly, and manufacturing (OSAM) may also fall here

Overlap with the USSF CSS: Mission areas listed in **blue** are explicitly highlighted in the USSF CSS as areas for which the USSF will seek commercial support (see page 3).

- (1) The USSF CSS refers to the ISR capability set as Tactical Surveillance, Reconnaissance, and Tracking (**TacSRT**). As used in the two strategy documents, these represent largely analogous mission areas, and we use TacSRT in our discussion of the USSF document.
- (2) The USSF CSS does not explicitly include "Spacecraft Operations" as a standalone mission area but addresses the concept in its discussion of SATCOM (in the context of constellation operators) and SAML.

II. The USSF's Commercial Space Strategy

While the DoD CSIS outlines a set of high-level strategic objectives, the USSF CSS focuses on the specific, service-level activities the USSF will undertake in order to achieve them. The document outlines four core lines of effort (*Collaborative Transparency, Operational and Technical Integration, Risk Management, and Secure the Future*), and identifies the office of primary responsibility for the implementation of each.

The USSF CSS stands out relative to other strategy and policy documents in that it explicitly seeks to guide investment by industry participants (stating several times, “These priorities are the demand signal to industry...”). The document identifies eight mission areas where the USSF will look to the commercial sector for mission support. With the exception of PNT and C2, these mission areas map directly to the set of “Hybrid” and “Primarily Commercial” mission areas identified in the DoD CSIS (*see page 2*).

These eight mission areas are summarized in the table below. Mission areas higher on the list are areas where commercial solutions currently exist and where the USSF is actively seeking increased integration. The USSF CSS characterizes mission areas lower on the list as requiring a degree of “inherently governmental” involvement, suggesting a more constrained opportunity set for aspiring commercial providers in these areas.

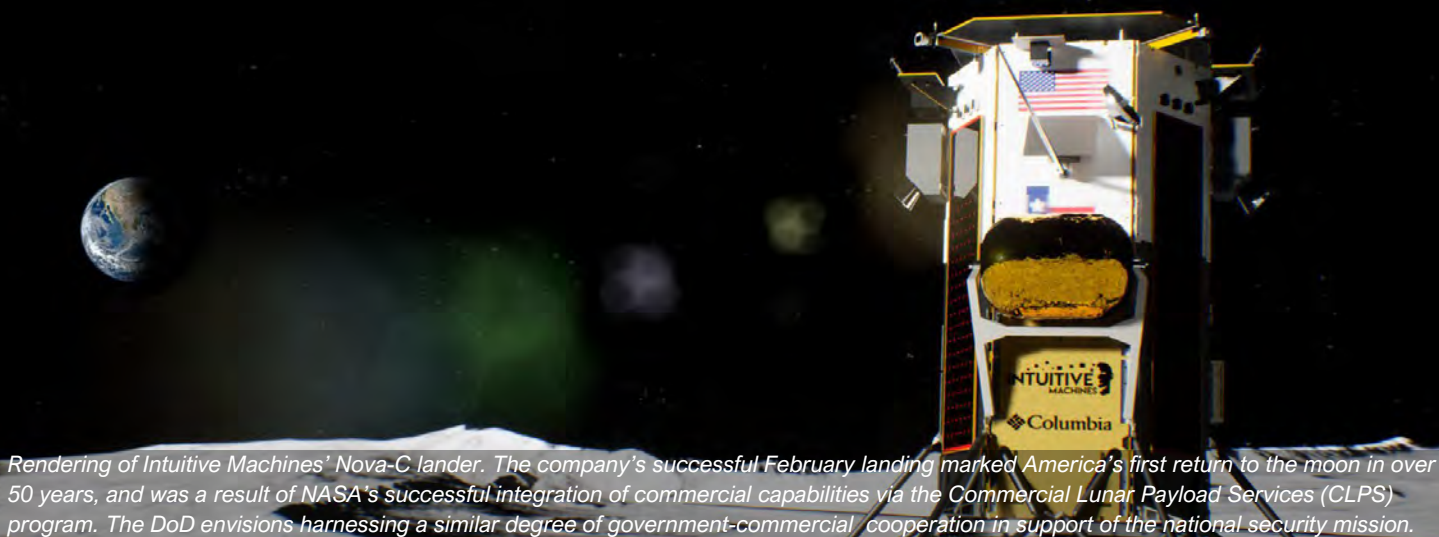
Mission Area	Overview of Priority Capabilities
1 SATCOM <i>Satellite Communications</i>	Operation of constellations that support beyond-line-of-sight communications for C2, data transport, etc. USSF seeks capabilities from the commercial sector that would increase or improve data transport speed, capacity, agility, flexibility, or resiliency.
2 SDA <i>Space Domain Awareness</i>	Timely and actionable understanding of the environment that allows military forces to plan, execute, and assess space operations, including an understanding of the physical environment, knowledge of potential adversary systems, and insight into an adversary’s intent.
3 SAML <i>Space Access, Mobility, & Logistics</i>	Launch services, including spaceport infrastructure. Commercial launch services are already fully integrated into USSF space access requirements today. The USSF recognizes it may be the anchor customer for the emerging space mobility and logistics markets.
4 TacSRT <i>Tactical Surveillance, Reconnaissance, & Tracking</i>	Space-enabled operational information about adversary military force capability, composition, and disposition, including targeting, tracking, warning, and assessment of adversary capabilities; encompasses ISR gathering as well as accompanying data analytic services.
5 SBEM <i>Space-based Environmental Monitoring</i>	Fusion of data and observations from multiple sensors fielded across land, maritime, air, and space domains, providing meteorological and oceanographic information that affects Joint Force operations.
6 Cyberspace Operations	The Cyberspace mission area encompasses all actions taken to secure, configure, operate, extend, maintain, and sustain a space system’s integrity. Cybersecurity is a foundational requirement for any commercial provider to be considered for USSF integration.
7 C2 <i>Command & Control</i>	Commercial capabilities in support of the C2 mission would be focused on the delivery of resilient data management, decision support tools, and secure global communications.
8 PNT <i>Positioning, Navigation, & Timing</i>	Ubiquitous use of the GPS as the primary source of PNT information makes this an area of vulnerability; commercial capabilities focused on this mission area would be focused on providing alternatives to support resilience of PNT data.

III. Conclusions and Takeaways

The embrace of commercial capabilities in support of American national security space infrastructure represents a notable departure from DoD's legacy procurement approach across other service branches. Several themes stood out to the Stout team in reviewing the two strategy documents together. These included:

- **Concrete Demand Signals for Industry Participants:** The USSF CSS, in particular, makes a deliberate effort to provide actionable guidance to industry participants, stating multiple times that it seeks to serve as a demand signal with respect to the specific mission areas identified as best-suited for commercial solutions.
- **Assertive Posture Towards Defending Commercial Assets:** The DoD CSIS broke new ground in articulating a willingness to use military force to defend commercial space assets. While the mission statement unveiled by the USSF in September 2023 (to “secure our Nation’s interests in, from, and to space”) hints at this ethos, it had not previously been made explicit. Depending on its implementation, this strategic posture could position the USSF to play a role in space akin to that of the U.S. Navy in supporting global trade in the maritime domain today (i.e., ensuring a space equivalent of “freedom of the seas”).
- **Sober Assessment of Trade-Offs:** Both documents emphasize innovation, scalable production, and rapid technology refresh rates as key advantages of the commercial sector that, if harnessed effectively, can provide the U.S. with an enduring competitive advantage. They also acknowledge that purchasing commercial solutions instead of designing purpose-built government systems will present trade-offs, chiefly between the speed of fielding a new system and the security of that system. Ultimately, both documents articulate a willingness to accept the risks inherent in that trade-off where appropriate (“the legacy space enterprise believed it could best manage risk by the government owning and operating most of the U.S. military’s space capabilities...that mindset is no longer valid”).
- **Tailored to Today’s Threat Environment:** Both documents are in step with a national security dialogue that emphasizes peer adversaries and accepts space as a contested domain. The USSF CSS expressly cites Russia’s preparedness to employ counterspace capabilities and its willingness to attack commercial space systems specifically (in reference to the cyberattacks against Viasat in the opening days of Russia’s invasion of Ukraine), and acknowledges the maturing space and counterspace capabilities of both Russia and China.

“*These priorities are the demand signal to industry [...] Because the USSF requires cross-cutting capabilities and services such as **decision support software, rapid prototyping, AI, data management, ground support, and modeling & simulation** [...], many companies that are not traditionally considered part of the space sector [...] have **significant opportunities to partner with the service.**” – USSF CSS*



Rendering of Intuitive Machines' Nova-C lander. The company's successful February landing marked America's first return to the moon in over 50 years, and was a result of NASA's successful integration of commercial capabilities via the Commercial Lunar Payload Services (CLPS) program. The DoD envisions harnessing a similar degree of government-commercial cooperation in support of the national security mission.



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