US space force risks undermining space security

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A US proposal to establish a new branch of its armed forces is challenging traditional approaches to space security. Paul Meyer examines the implications for diplomatic efforts to prevent an arms race in space.

Key Points

- The United States is taking steps to establish a 'space force' that would be an independent sixth branch of the US military.
- By promoting the use of space for national security purposes and characterising it as a "warfighting domain", the Trump administration is disregarding the 'peaceful purposes' domain established by the 1967 Outer Space Treaty.
- Other space stakeholder states are wary of a potential arms race and will likely pursue diplomatic initiatives to prevent the weaponisation of outer space.

US President Donald Trump has made US influence in space one of his top priorities. In an announcement at the White House on 18 June 2018, Trump instructed the US Department of Defense (DoD) and the Pentagon to initiate the process to establish a 'space force', proclaiming, "It is not enough to merely have an American presence in space. We must have American dominance in space."

The objective of US dominance in outer space is the driving force behind Trump's plan to establish a space force that is "separate but equal" to the other branches of the US military (namely, the army, air force, navy, coast guard, and marine corps). The establishment of such a force would require Congressional authorisation and could take years to complete.

Conscious that such an initiative is bound to raise concerns among the ever-expanding community of outer space stakeholders, the Trump administration has attempted to depict the space environment in a manner far removed from the 'peaceful purposes' orientation enshrined in the 1967 Outer Space Treaty.

This foundational treaty, with 107 state parties including China, Russia, and the United States, granted under international law a special status to outer space as a "province of all mankind" that is beyond any national appropriation or assertion of sovereignty. Under the treaty, the exploration and use of space are to be for "peaceful purposes" and "for the benefit and in the interests of all countries".

The peaceful orientation of the treaty was reinforced with a prohibition on stationing weapons of mass destruction in outer space and any militarisation of celestial bodies. The benign operating environment (free from man-made threats) created by the Outer Space Treaty has enabled the exponential growth of space assets (with more than 1,600 active satellites) and the profusion of space-enabled services available worldwide.

Nevertheless, the Outer Space Treaty – and the legal regime that it created – has been disregarded in pronouncements made by Trump, including his 13 March proclamation to an audience at the Marine Corps Air Station Miramar in San Diego, California, where he said, "Space is a warfighting domain, just like the land, air, and sea."

Speaking at the Pentagon on 9 August, US Vice-President Mike Pence repeated the assertion, claiming that the US military should "prepare for the next battlefield". In an attempt to justify this approach, Pence said, "Our adversaries have transformed space into a warfighting domain already. And the United States will not shrink from this challenge."

US President Trump during an address at the Marine Corps Air Station Miramar in San Diego, California, on 13 March 2018. In his address, Trump stated that "space is a warfighting domain". (Sandy Huffaker/Getty Images)

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Although it may be politically expedient for the Trump administration to designate outer space as a domain for warfighting and create a space force to defend US space assets – upon which the country is heavily dependent – the policy jeopardises US foreign relations, particularly with China and Russia, and the future of space security.

Space force origins

The US Space Force initiative appears to have originated from the White House, and not from any requests from the US military. Indeed, the civilian and military leadership at the Pentagon had expressed reservations about the concept before Trump first considered it in March.

In 2017, a group of congressmen – notably Mike Rogers, a Republican from Alabama, and Jim Cooper, a Democrat from Tennessee – voiced interest in establishing a space corps as an entity under the US air force. However, an effort to have it included in the National Defense Authorization Act for Fiscal Year 2018 was rejected.

In an 11 July 2017 letter to Republican Mike Turner, chair of the House Armed Services Subcommittee on Tactical Air and Land Forces, US Secretary of Defense Jim Mattis wrote, "At a time when we are trying to integrate the department's joint warfighting functions, I do not wish to add a separate service that would likely present a narrower and even parochial approach to space operations."

The Trump administration may now have ensured that the Pentagon's brass will be publicly supportive of the president's direction. However, if the administration wishes to fast-track the establishment of a space force (Pence said that funding would be requested in the fiscal year 2020 budget request that would be sent to Congress in February 2019), it would require the support of Congress.

As outlined by Pence in his 9 August Pentagon address, the administration's intention is to create a new unified combatant command for space with a four-star flag officer in charge. However, Congress has set a limit of 10 four-star officers and thereby the number of combatant commands available.

The US established a space command in 1985 as a unified organisation, but had to dissolve it in 2002 to enable the creation of Northern Command (NORTHCOM, which is responsible for homeland defence), because the quota of four-star billets had been filled. The space mission was then subsumed under US Strategic Command (STRATCOM) at the unified command level, with Air Force Space Command the primary operator among the services.

Blue Origin's New Shepard 2 suborbital launcher making its second flight from a launch site in Texas on 22 January 2016. Commercial space companies such as Blue Origin could potentially benefit from the proposed US Space Force. (Blue Origin)

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Brian Weeden, a director at the US-based Secure World Foundation, which promotes co-operative solutions for the peaceful use of outer space, has highlighted two practical objections to the establishment of a space force. In an interview with the website Politico, published on 3 August, Weeden said, "One is that we're going to put a lot of time, energy, and resources into doing the reorganisation instead of actually fixing the problems. The other is creating a separate space force is going to have the unintended consequences of hurting integration of space with the rest of the military's capabilities."

Daryl Kimball of the Arms Control Association flagged the dangers to international security posed by the US space force initiative, telling the *New York Times* in an 18 June article, "At best this is simply the creation of an additional DoD bureaucracy. At worst, it is the first step in an accelerated competition between the US, China and Russia in the space realm that is going to be more difficult to avert without direct talks about responsible rules of the road."

Threat perceptions

A hostile threat perception is a necessary justification for expanding space forces. Under the Trump administration, the threat attributed to China and Russia concerning space security has grown substantially.

In his annual worldwide threat assessment presented in February, US Director of National Intelligence (DNI) Dan Coats stated, "Both Russia and China continue to pursue anti-satellite (ASAT) weapons as a means to reduce US and allied military effectiveness." According to the assessment, "Russian and Chinese destructive ASAT weapons probably will reach initial operational capability in the next few years".

The DNI's assessment also suggested that China and Russia are falsely espousing diplomatic proposals for the non-weaponisation of space as "many classes of weapons would not be addressed by such proposals, allowing them to continue their pursuit of space warfare capabilities while publicly maintaining that space must be a peaceful domain".

Such assessments from the US intelligence community made it easier for the Trump administration to issue a National Space Strategy in March 2018 that proposed a "peace through strength" posture. The Strategy's assertion that "our competitors and adversaries have turned space into a warfighting domain" was notable in the context of Trump's declarations that space is a "warfighting domain" where the US must ensure its dominance.

Classified sources were used to inform the US intelligence community's assessment, making it difficult to verify its findings. However, an open-source study entitled *Global Counterspace Capabilities*, published in April by the Secure World Foundation, concluded that several states were developing capabilities, including direct-ascent missiles, co-orbital spacecraft, electronic warfare, and directed energy and cyber weapons. The study found evidence of "significant research and development of a broad range of kinetic (i.e. destructive) and non-kinetic counterspace capabilities in multiple countries".

The US Air Force's secretive X-37B Orbital Test Vehicle after completing its fourth mission on 7 May 2017, at NASA's Kennedy Space Center in Florida. If the creation of a space force were to be approved, such missions would become the domain of the new organisation. (US Air Force) 1695937

However, the study notes that "only non-kinetic capabilities are actively being used in current military operations", reflecting the desire of spacefaring nations to avoid adding to the already problematic amounts of space debris that would be generated by destructive ASAT weapons testing. According to the study, the primary states developing counterspace capabilities include China, Russia, and the US, although India, Iran, and North Korea were also mentioned.

The concerns over debris generated by destructive ASAT systems polluting the low earth orbit (LEO) zone – an orbital band that encompasses altitudes up to 2,000 km, where most satellites reside – may induce a degree of self-restraint on the part of the leading space powers in their future approach to ASAT development. However, for many international actors, this will seem too tenuous a basis for sustaining a benign environment for space operations.

Space diplomacy

Trump's statements on space security have not focused on non-military means for securing the US national interest in outer space. As a *New York Times* editorial published on 27 July 2018 observed, "One major element clearly missing from Mr. Trump's initiative is diplomacy that can make star wars less likely."

The editorial noted that, although Trump seems to assume that war in space is inevitable, China and Russia's dependence on unencumbered access to space means that they also have an interest in avoiding conflict. The editorial suggested that the US "can help preserve outer space as a global commons, free of conflict and open to exploration by all space-faring nations".

A US administration diplomatically engaged in efforts to sustain the peaceful nature of outer space as stipulated in the Outer Space Treaty would almost certainly be welcomed by the majority of states around the globe. Indicative of this stance is the overwhelming support from the international community for the UN General Assembly (UNGA) resolution entitled 'Prevention of an Arms Race in Outer Space' that is adopted annually. This resolution essentially reaffirms the provisions of the Outer Space Treaty while calling for additional measures and agreements "to prevent an arms race in outer space, including the weaponization of outer space".

One step that seemed to offer up particular promise at the time of its publication was a 2013 consensus report from the UN Group of Governmental Experts on Transparency and Confidence-Building Measures in Outer Space Activities. The report from this group (including representatives

of all five permanent members of the UN Security Council – China, France, Russia, the United Kingdom, and the US) expressed concern over growing threats to vital space capabilities "as a result of both natural and man-made hazards and the possible development of disruptive and destructive counterspace capabilities".

To ward off such threats, the UN Group of Governmental Experts agreed on a set of transparency and confidence-building measures (TCBMs) covering steps such as information exchange, risk-reduction co-operation, and visits to space facilities. These voluntary measures were the most likely to receive general acceptance, as several states (notably the US and its allies) had opposed or were reticent about legally binding agreements on space security.

Although China and Russia were supporters of new legal instruments, especially their proposed treaty on the 'Prevention of the Placement of Weapons in Outer Space, the Threat or Use of Force against Outer Space Objects' (better known by its acronym, PPWT) that had been tabled at the Conference on Disarmament in Geneva during 2008, the two countries also indicated that they could accept TCBMs as useful complementary measures.

Fading promise

The likelihood of a new, more co-operative approach to space security through the implementation of the TCBMs recommended by the expert group in July 2013 declined rapidly in the intervening years. Aside from the largely symbolic holding of two joint sessions of the two UNGA committees responsible for space affairs (the First and Fourth Committees), there has been little take-up of the proposed TCBMs in the subsequent years.

A European Union-initiated project to develop an International Code of Conduct for Outer Space Activities, which had been under way since 2008, floundered at a July 2015 multilateral meeting during which leading members of the BRICS grouping (Brazil, Russia, India, China, and South Africa) insisted that any such effort had to be brought under a UN consensus-based negotiating mandate.

The EU's problem-plagued rollout of the proposal, coupled with tepid US support and resentment from some major space powers on how they had been consulted on the document, has left the initiative on the shelf for the foreseeable future. The EU shows no sign of leading a revived effort at negotiations under UN auspices.

The Parker Solar Probe ready for launch from Cape Canaveral Air Force Station in Florida on 10 August 2018. Given the growth and importance of space assets such as probes and satellites, states have expressed concern over increasing threats to vital space capabilities.
(Bill Ingalls/NASA/Getty Images)

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Meanwhile, China and Russia, after years of a lack of action on their PPWT proposal at the Conference on Disarmament (partly due to their insistence on keeping consideration of the PPWT within the moribund Conference on Disarmament), have decided on a new approach. At the 2017 UNGA, China and Russia were the lead sponsors of a new resolution, known as 'Further practical measures for the prevention of an arms race in outer space', that was adopted by a wide margin, albeit with a substantial minority abstaining (including Australia, Belgium, Canada, and Germany).

This resolution created a new Group of Governmental Experts to operate during the 2018–19 period with a mandate "to consider and make recommendations on substantial elements of an international legally binding instrument on the prevention of an arms race in outer space, including, inter alia, on the prevention of the placement of weapons in outer space". Through this measure, China and Russia have gained a forum for having their PPWT examined, and have also enabled a broader discussion of other options for legally binding agreements in preserving space security.

The new UN Group of Governmental Experts is due to report to the UNGA by late 2019. However, the group operates by consensus and, given the past resistance of states such as France, Israel, the UK, and the US to legally binding measures for space security, a productive outcome to this new exercise is unlikely.

Outlook

The US appears to have taken exception to the Sino-Russian manoeuvre to have a diplomatic spotlight cast again on the PPWT. During an inaugural appearance at the Conference on Disarmament in Geneva in mid-August 2018, the new US Assistant Secretary of State for Arms Control, Verification, and Compliance, Yleem Poblete, strongly criticised the PPWT and space arms control in general, saying, "The proposed PPWT has major flaws that make it unviable and demonstrates that any space arms control agreement is unverifiable at this time."

Poblete proceeded to accuse Russia of "actively pursuing the development and deployment of anti-satellite weapons" and suggested that states should reject "hollow and hypocritical efforts" such as the PPWT in favour of "concrete steps to strengthen the safety, stability and sustainability of space", although she offered no proposals to this end.

In the current environment of deteriorated strategic relations between the US and states such as China and Russia, which have been accused by Washington of "weaponising" space, there is little opportunity for fostering international co-operation and responsible state behaviour. However, given the potentially devastating consequences of any war in space – a fragile environment upon which global society is increasingly dependent for its well-being – diplomatic efforts to forestall such conflict will almost certainly be seen as the best way to proceed.

To succeed in this effort, the stakeholders for space security, including governments, the private sector, and civil society, would have to transcend the heated debates on the US creation of a space force and seek to develop common ground aligned with the real security interests of the spacefaring states (including the 12 with launch capabilities and the numerous states that own or operate satellites).

Despite the US shift away from the peaceful purposes and co-operative principles enshrined in the Outer Space Treaty, the agreement is likely to prevail as the basis for future diplomatic efforts towards greater space security.

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