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The Case for Space Control: An Australian Perspective

By

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Space is an operational domain that is highly contested and in a crisis could quickly become a warfighting environment. Space is "militarized" through the deployment of satellites to support a range of terrestrial military tasks. Both the Soviet Union and the United States developed anti-satellite (ASAT) weapon technologies during the Cold War, yet it is only much more recently that such counterspace technologies proliferated in the hands of adversary actors such as China and Russia.

The perception of adversaries that western democracies are increasingly dependent on space for joint and integrated military operations gives them an incentive to threaten access to the assets that enable this capability prior to beginning of a conflict. The United States and its allies, including Australia, are now responding to this changing strategic dynamic, with a much greater focus on the challenges of undertaking space control as an important new task, along with the potential opportunities of establishing dedicated space forces.

The Policy Path to Space Control

In 2020, the then Morrison-led Coalition government sought for the Australian Defence Force (ADF) to play a more ambitious role in space. The release of the 2020 *Defence Strategic Update* and the accompanying *Force Structure Plan* represented the first significant formal policy recognition of the importance of space control and the importance of space as an operational domain. The 2020 *Force Structure Plan* stated that:

> Defence will need capabilities that directly contribute to war fighting outcomes in the space domain using terrestrial and/or space-based systems. The Government's plans include the development of options to enhance ADF space control through capabilities to counter emerging space threats to Australia's free use of the space domain and that assure our continued access to space-based intelligence, surveillance and reconnaissance.

It also aligned with the establishment of the Australian Space Agency in 2018 and the rapid growth of an Australian commercial space sector. This marked a truly fundamental shift from Australia's previous approach of passive dependency on foreign states and commercial providers for space capabilities. Australia sought to become an active participant in a rapidly growing global space market, but also recognized that space access must be assured and protected in a contested and congested space domain.

The establishment of Australia's Space Command (known initially as Defence Space Command) on January 18, 2022, also saw the release of the *Defence Space Strategy* which lists space control capabilities as a key objective towards "enhancing Defence's space capability to assure joint force access in a congested, contested and competitive space environment." The Space Command document states that "Defence will continue to identify space control gaps and opportunities to develop a credible Space Control capability, and space capability developers will actively seek to improve resilience of the space capabilities." That would align with the decision by the following Albanese Labor government.

The Albanese government, which came to power in May 2022, largely sustained the previous coalition government's approach to the ADF's role in space. The 2023 *Defence Strategic*

Review (DSR) sought to highlight the importance of the space domain, "re-posturing" Space Command into Joint Capabilities Group. The subsequent *2024 National Defence Strategy* (NDS) and Integrated Investment Program (IIP) lifted planned government investment for the ADF in the space domain from about $7 billion (Australian dollars) under the previous Morrison-led coalition government to between $9 billion and $12 billion, though the vast bulk of this extra funding would not appear until late in the current decade. On space control, the Albanese government largely followed the lead of the previous Morrison liberal-national coalition, with the 2024 IIP stating planned spending will include "measures to enhance Defence's space control capability to deny attempts to interfere with, or attack, Australia's use of the space domain. These will help ensure the ADF is able to continue using the space capabilities it needs to support its operations."

Capability Options for ADF Space Control

If Australia is to acquire a space control capability, it is certain to be a "soft kill" system that disables or denies rather than physically destroys a target. The Albanese government signed a ban on destructive testing of direct-ascent ASAT systems on October 27, 2022, and any acquisition of a "kinetic kill direct-ascent ASAT would violate such a ban." A kinetic kill ASAT capability is not consistent with Australia's policy of sustainable use of space.

In 2021 the Morrison government announced a new defence project (DEF-9358) that would explore options for a ground-based space electronic warfare capability. Such an approach would be consistent with a preference for reversible or scalable effects that disable or deny rather than destroy.

Space-based "co-orbital" space control could conceivably include space electronic warfare technologies such as on-orbit jamming or even high-power microwave weapons for electronic attack in orbit. It is also conceivable that a ground-based electro-optical laser dazzling capability could be considered, with Australian commercial space companies demonstrating capability expertise in such a system. Finally, ground-based cyber capabilities could be exploited in space control operations against both satellites in orbit and ground facilities undertaking satellite telemetry, tracking, and control (TT&C).

Such soft-kill defensive, and potentially offensive, space control capabilities would contribute to assuring ADF space access by denying an adversary the ability to attack critical space support capabilities, such as ADF satellites for communications and intelligence, surveillance, and reconnaissance. This is consistent with the military strategy of deterrence by denial as laid out in the 2024 NDS. Other measures could be taken that include hardening key space support capabilities and potentially "silent spares" deployed in orbit.

To significantly strengthen ADF space resilience, the opportunity for the ADF to exploit emerging Australian commercial space launch capabilities is important. Embracing space lift as a means to assure sovereign space access makes eminent sense, given Australia's geographic advantages for launch. By developing a responsive sovereign launch capability that can deliver small satellites into orbit, Australia can augment space support for the ADF and its allies in a crisis, or, if necessary, reconstitute lost capability in the aftermath of a counterspace attack.

Next Steps

Looking forward, the 2024 NDS established a biennial defence policy process, and the 2026 NDS and IIP represent the next best opportunity for Defence to more clearly conceptualize its approach to space control. Doctrinal documents within Space Command

already suggest a role for space control, but greater detail is needed. Most importantly, there needs to be a public and unclassified policy explaining how the ADF will undertake this important task alongside allies and partners. Space control, like space domain awareness, represents an opportunity for the ADF to undertake a next step in its use of the space domain, beyond simply capability assurance and satellite communications, which was the perceived role of space in the 2023 DSR. In a contested space domain, Australia must burden share to a much greater degree in orbit and in acquiring the means to undertake space control tasks. This represents an important next step towards that outcome.

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