BLACK SWAN

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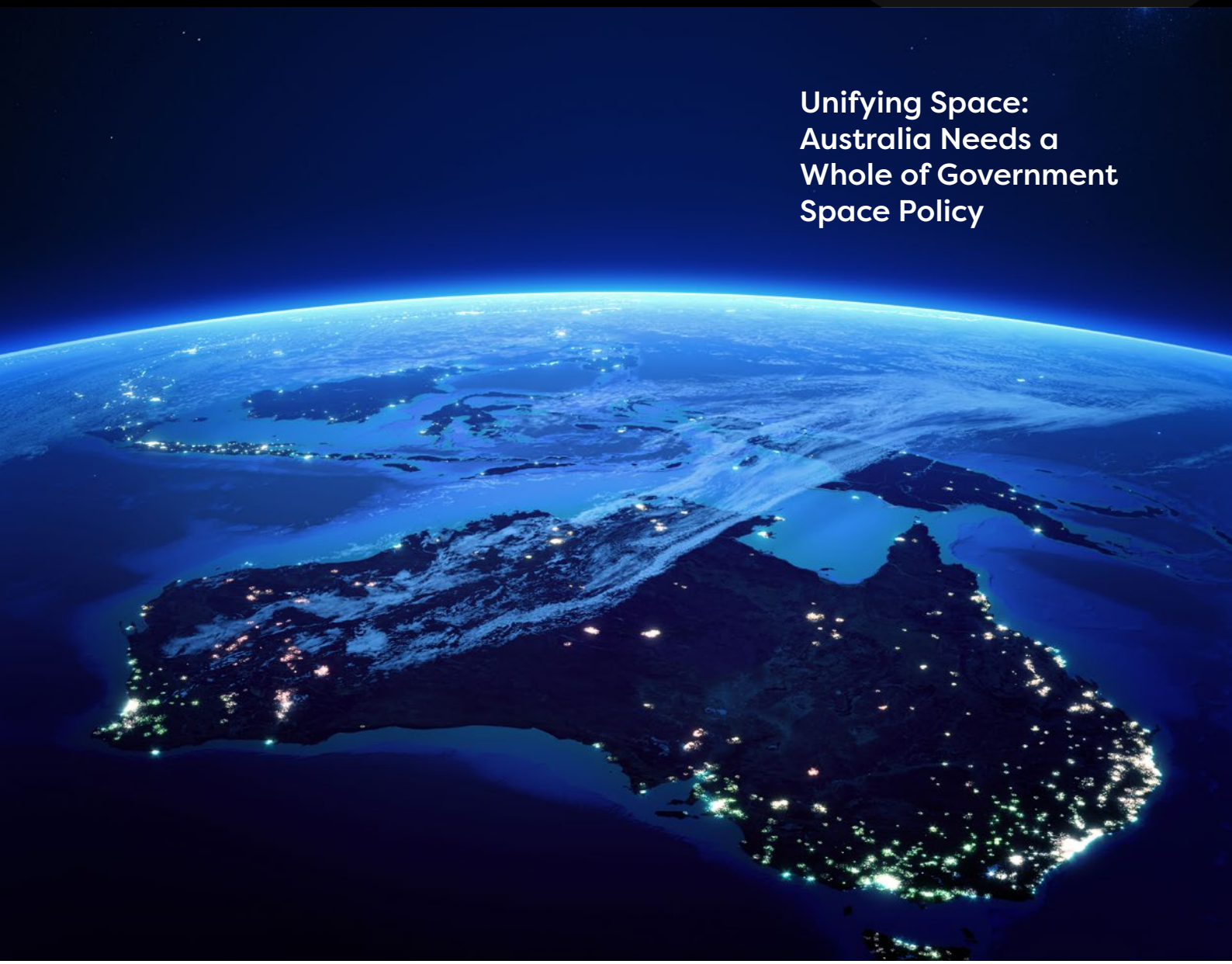
DEFENCE AND SECURITY THROUGH AN INDO-PACIFIC LENS

Unifying Space: Australia Needs a Whole of Government Space Policy



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Black Swan Strategy Paper #2

Images courtesy of the Department of Defence.

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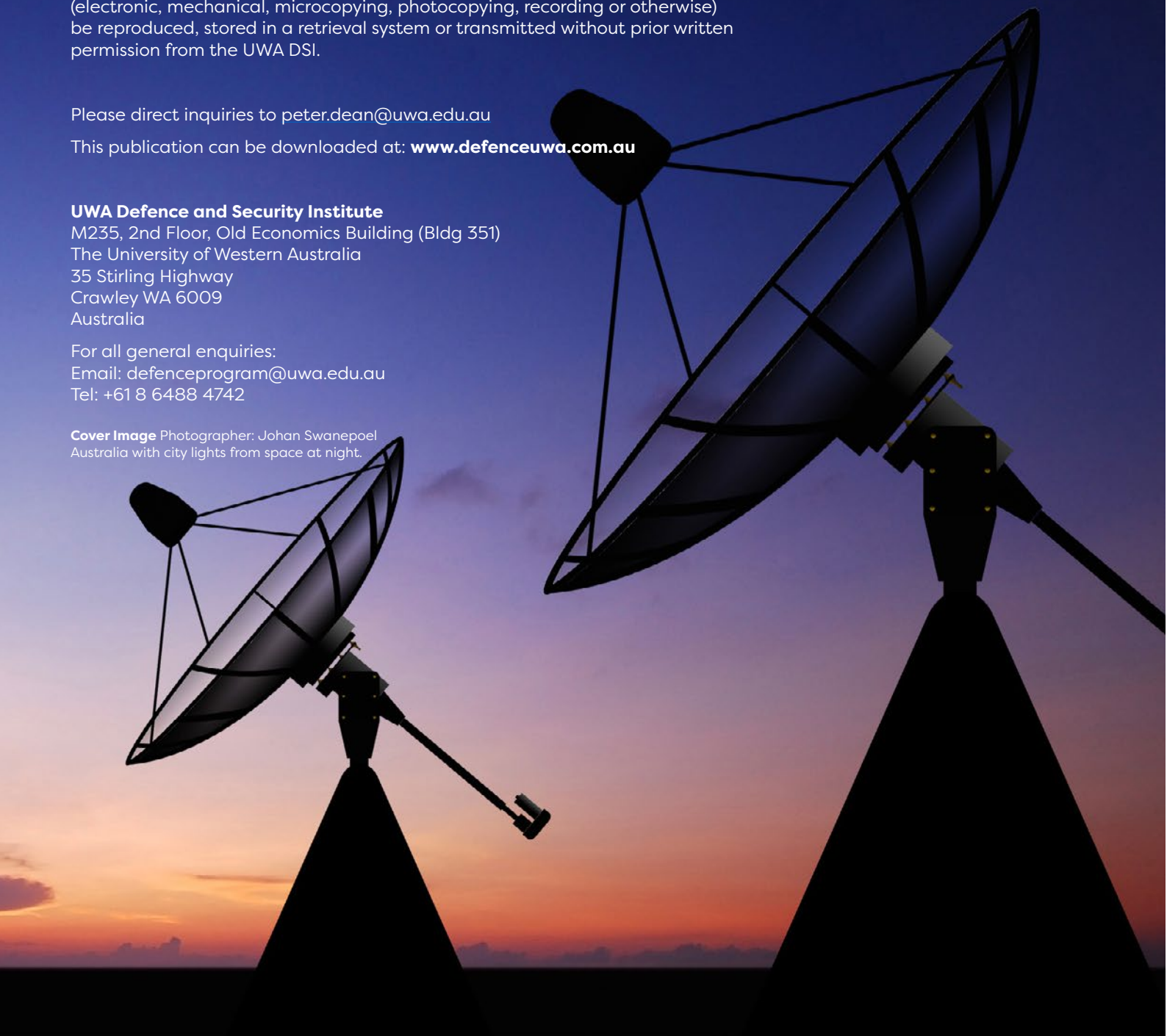
Australia with city lights from space at night.



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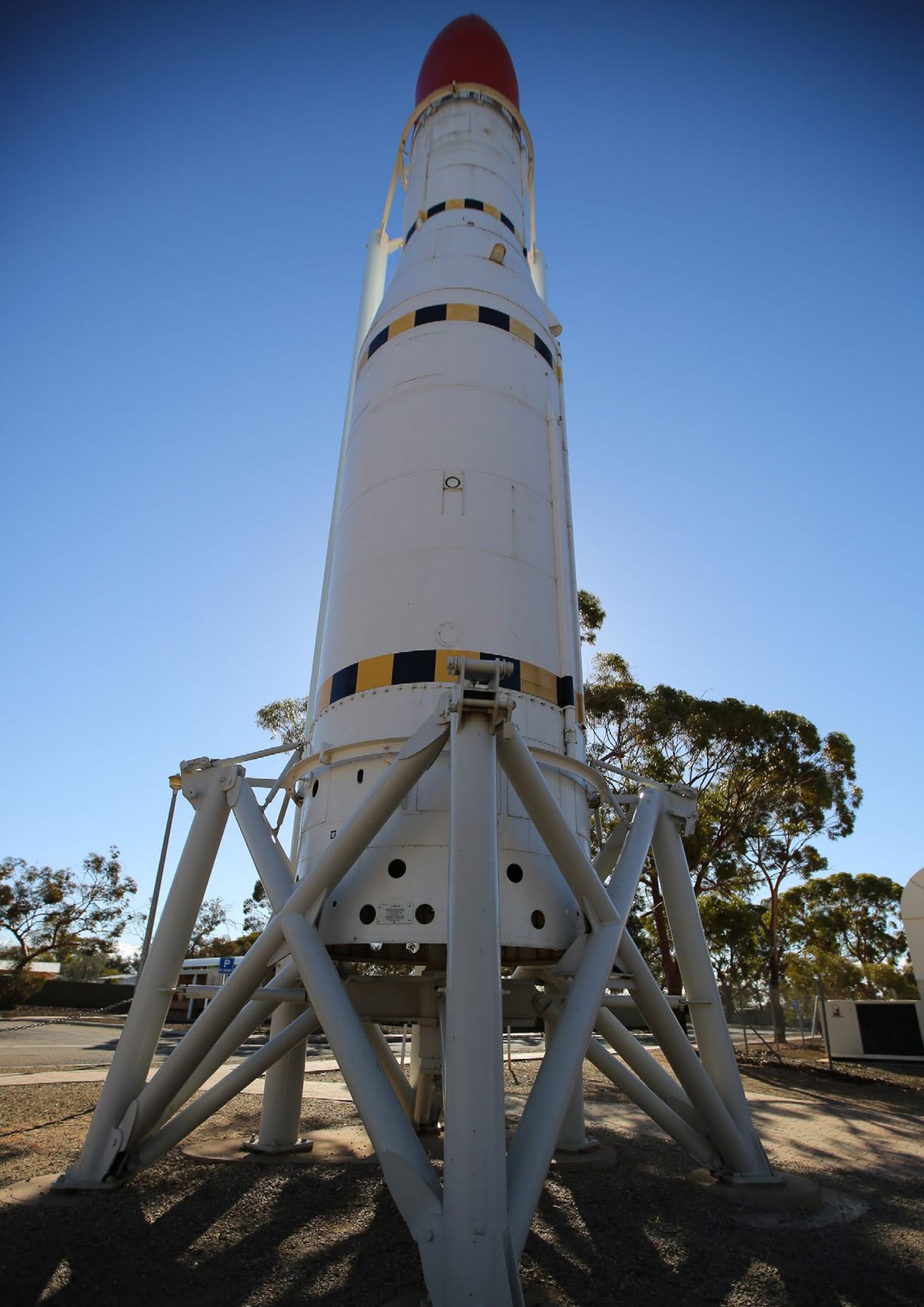
About the Black Swan Strategy Papers

The *Black Swan Strategy Papers* are the flagship publication of the UWA Defence and Security Institute (DSI). They represent the intersection between Western Australia and strategic studies – both of which are famous for their black swans. The series aims to provide high-quality analysis and strategic insights into the Indo-Pacific region through a defence and security lens, with the hope of reducing the number of 'black swan' events with which Australian strategy and Indo-Pacific security has to contend. Each of the Black Swan Strategy Papers are generally between 5,000 and 15,000 words and are written for a policy-oriented audience. The Black Swan Strategy Papers are commission works by the UWA DSI by invitation only. Any comments or suggestions for the series can be directed to the editor.



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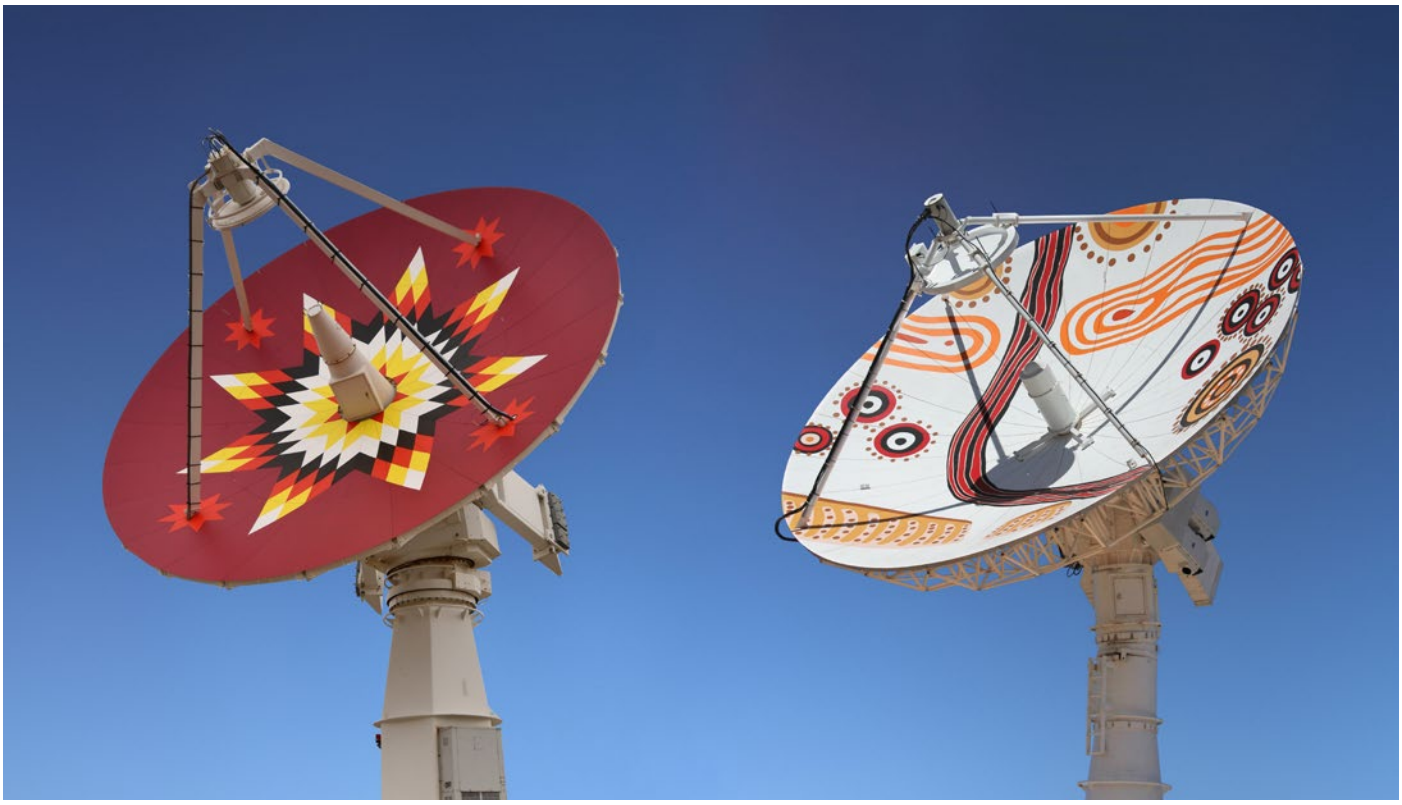

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Geoscience Australia's Alice Springs ViaSat antenna painted with Lakota Sioux and Indigenous Australian artwork (Geoscience Australia)

←
Black Arrow rocket at Woomera (Department of Defence)

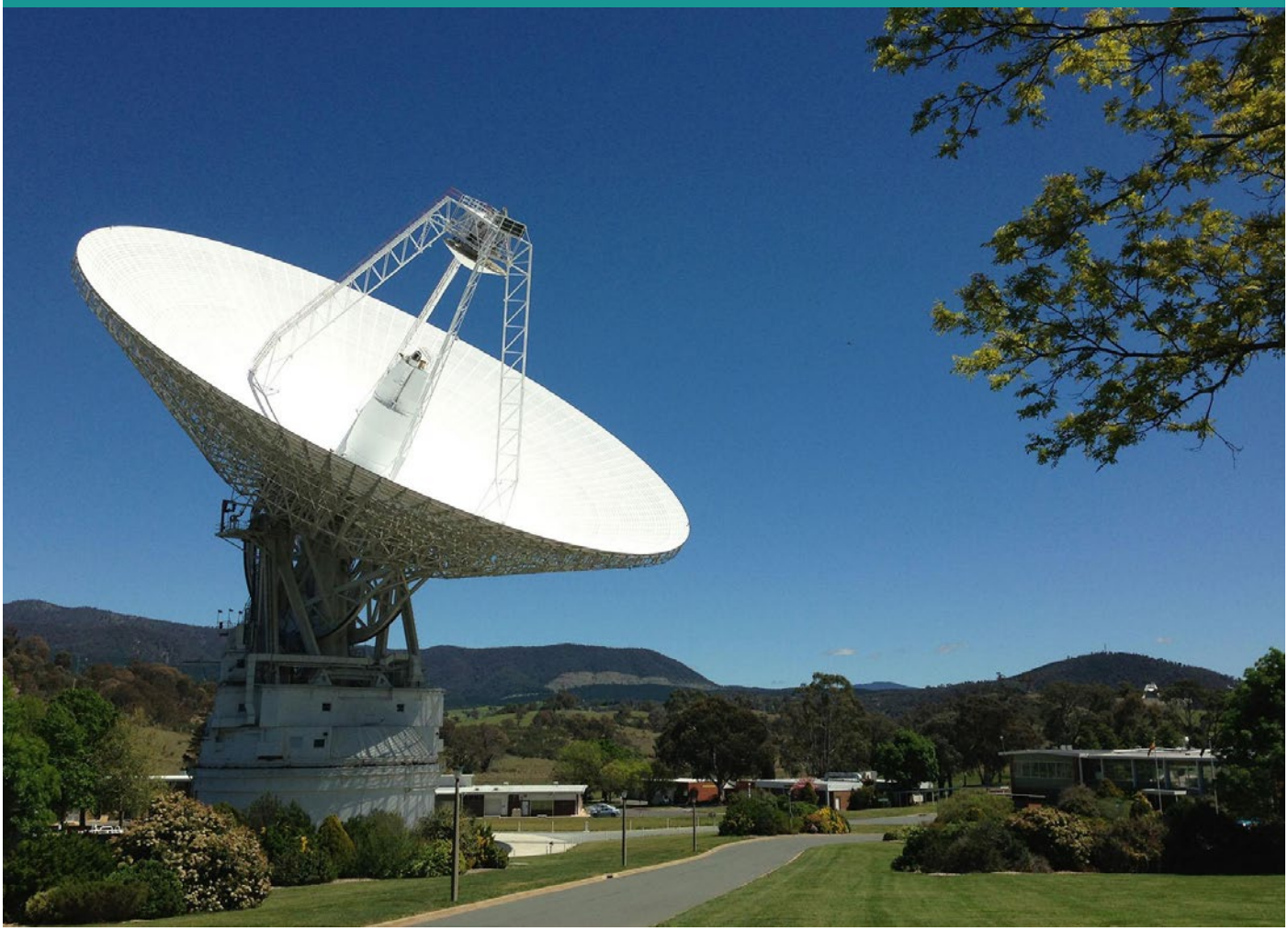
Executive Summary

EXECUTIVE SUMMARY

- Australia's past and current space experience is characterised by the intertwined threads of civilian, defence and alliance interests. Defence has dominated much of Australia's efforts in space, while in turn civilian space has been used to cement international relationships.
- Despite the overlap between different areas of Australia's space activities, Australia has consistently neglected a whole-of-government approach to policy. While a civil space policy exists, this focuses on industry; no public defence policy has yet been written.
- Given the contested and congested nature of space today, the absence of a comprehensive space policy risks continuing Australia's fragmented approach into a new era of space. Equally, there are significant benefits to developing such a policy, including a single national voice on a vital domain of national endeavour, a sustainable space industry and the efficient development of burden-sharing opportunities within the alliance.

POLICY RECOMMENDATIONS

- Australia should begin explorations of a whole-of-government space policy.
- This policy should link defence, civilian and international relationship aspects of space, as have recent United States and United Kingdom national space policies.



INTRODUCTION

To secure its future in space, Australia must answer the question of what it wants to achieve in and through space.

Two foundational issues in Australia's long, if patchy, involvement in space activities will shape its path.[1] The first is Australia's reliance on other nations, primarily the United States, for its space needs, and its use of space as a means by which to ensure continued great power interest in Australia and its security. Following from this first issue is the intertwined nature of Australia's space activities, in which defence, international engagement, industry, scientific and civilian space have flowed into one another, yet have frequently been siloed in Australian policy making. Whatever Australia's needs in space, whether encouraging cooperation with the United States and others, ensuring access to a growing sector of the global economy, or providing services to government and the public, a whole-of-government space policy is required to shape Australia's space trajectory.

The United States has long played a central role in Australia's space history and, in the face of strategic and geographic realities, will likely continue to do so into the future. References to shared space history are as commonplace as they are superficial, with Apollo and *The Dish* publicly wheeled out briefly at every public opportunity as examples of Australia's space past and the centrality of the United States to that past. Australia's historic cooperation with the United States has been essential to the way in which the Australian government has approached space and any discussion of Australia's future in space cannot occur without reference to the United States. Put another way, this relationship influences what Australia does in space as much as Australia uses space to manage the relationship at the same time. Crucially, both civilian and military space activities are intertwined here, with both forming part of the space connection with the United States. Yet, despite the interconnected nature of the scientific, industry and defence space sectors reflected in the relationship with the United States, no overarching Australian policy coordinates, guides or links them.

While historically Australia has, arguably, not lost too much in its decisions not to create a comprehensive space policy in the broader context of other national endeavours, the shifting space arena makes the continuation of this state of affairs untenable. Today, it is almost a cliché to say that space is a rapidly changing environment, characterised by seemingly exponential growth, reliance on space and ease of access to low earth orbit. It is, as many observers have pointed out, increasingly congested, contested, and competitive.[2] Space is now integrated into everyday life and vital for Australia's defence. There are opportunities for industry that did not previously exist, given the increasing relative ease of entering space. This same ease of access has also raised questions about the degree of sovereign capability Australia should pursue, both because it can leverage new capabilities, and because it may not wish to fall behind others in the region. In common with the rest of the international community, Australia is in the process of coming to grips with increased reliance on the space domain, by developing new capabilities and new governmental structures, and by working with partners to ensure security in earth orbit. However, the key areas of activity are only superficially reconciled in government approaches to space. No overarching whole-of-government policy unites them, despite the integral interplay between defence, alliance management and civilian science in space for over 60 years. If Australia wants to use space to ensure its security and prosperity, it must have a clear discussion about what its goals in space are, and how best to achieve them. This discussion is inherently one about guiding the disjointed parts of Australian space activities as much as it is about the question of the extent to which Australia should pursue sovereign capabilities and locally developed space activities rather than, or in addition to, cooperating with partners, especially the United States.

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Canberra Deep Space Communication Complex (NASA)

CHAPTER 1

Australia's space history: relationships and patchy policy

From the outset, Australia's participation in space was one in which the lines between national security interests and those of civilians were blurred, more often than not in the service of the country's interests in securing the friendship of great powers.

Without early cooperation with the United Kingdom, and a continuing involvement in American space activities, Australia's contribution to space would have been significantly smaller. These relationships provided Australian scientists and engineers opportunities to contribute to space research and provided technology, capability and access to space that did not otherwise exist, allowing the Australian Government to best use space to meet its needs. In this way, some celebrated Australian space activities were the direct result of leveraging other nations' initiatives or largess, rather than a direct decision by the Australian Government to be involved in space per se, no more so than Australia's involvement in the Apollo moon landings or the first (and only) Australian-launched satellite. Moreover, early on in the Space Age, the Australian Government's needs in space were not necessarily access to space but were instead the opportunity to engage with allies or access the security they might provide. Australia's space history is overwhelmingly one of cooperation: in turn, this cooperation was frequently seen by the government of the day as being in the service of Australia's security.[3]

Australia's first foray into space was alongside the British at the Weapons Research Establishment (WRE) in Woomera, South Australia. The WRE was entirely a Defence project: highly classified, focused on developing weapons, and with science and engineering used purely in terms of their military application. Moreover, Woomera was conceptualised by the Australian Government not just as a source of weapons technology, but as an integral part of Australia's contribution to the defence of the British Commonwealth and means why which to access to the traditional source of Australia's security, the United Kingdom. The establishment of Woomera as the world's largest rocket testing range and involvement with the United Kingdom also saw the testing of the Europa rocket, built by the European Launch Development Organisation of which Australia was a part. Ultimately, however, Australia's interests were in the strategic benefits of Woomera and the technology that might accrue from research there, as well as the possibility of defraying its sunk costs. When the British wound down their military research, and when the Europeans moved their testing elsewhere, interest in space alone was not sufficient to retain Australia's continued cooperation in rocket development with either.[4]

Australia's geographic position in the southern hemisphere and its strategic, political and cultural alignment with the West made space one of the means by which it could grow the relationship with the world's newest superpower, the United States. That Australia's first offer of space assistance – the hosting of Defence satellite tracking facilities – was made by the Minister for External Affairs at the 1956 ANZUS Council meeting is no surprise.[5] While this offer was not initially taken up, Australia did agree to host ground stations for American civilian satellite launches that year. This, too, was seen by the Australian Government in terms of the security implications, with the Defence Committee, the peak strategic advisory body, supporting the proposal because of 'the *military* significance of a successful satellite program [emphasis added]'.[6] In addition, the first station was to be sited at Woomera, which was run as a Defence establishment. The agreement that would lead to Australia participating in the moon landing was similarly deeply entangled in Australian perceptions of security. During the 1960s, internal government discussions made Australia's goals when it came to space clear: to seek 'United States interest, and particularly United States defence interest, in Australia'. In the words of the Defence and External Affairs Ministers in 1966, Paul Hasluck and Alan Fairhall, this interest was to be encouraged not only when there was a direct scientific or defence benefit to Australia, but also in those areas that the United States saw as important, 'irrespective of their potential benefit to the Commonwealth'.[7] Whether civilian or military, space was a means to ensure Australian security through strengthening the alliance.

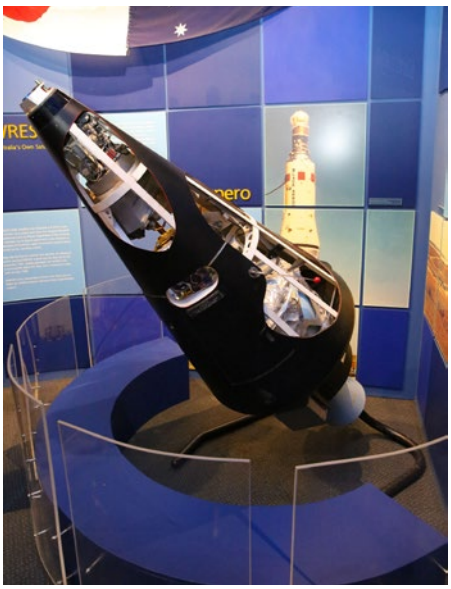
For its part, the United States saw space as a vital national goal, focused on the race for the moon and, far less publicly, a host of military satellites. While profoundly nationalistic, American efforts included, from the beginning, a significant degree of cooperation. NASA's own charter included the lofty goal of 'cooperation by the United States with other nations and groups of nations'.[8] To a large extent, this was necessary to ensure the successful completion of American space goals, such as in the location of tracking and data relay sites around the world, or the signing of a series of treaties on return of astronauts landing in foreign countries. At the same time, cooperation provided an opportunity to demonstrate the superiority of the American system compared with that of the Soviets.

Australia participated in American military programs as much as it supported NASA. In 1966, the agreement to establish the joint facility at Pine Gap was signed, which is often cited as the central pillar of the Australia-United States alliance. The Australian Government was quick to point out the benefits of involvement in Pine Gap, including access to military and scientific research, although it did not reveal the facility's intelligence and defence purposes and the importance the United States attached to it. The press at the time was less reluctant to acknowledge Australia's use of Pine Gap to ensure its own security, with *The Age* referring to the agreement as 'buying an umbrella'.[9]

The period from the 1970s onwards have been described as a time of stagnation and policy failure for Australian space[10], but, in many ways, it represented a continuation of Australian approaches that had been developed over the previous decade and a half sought to meet its needs not in space, but through space. Individual space decisions, whether civilian or military, were seen in terms of their diplomatic, economic or defence benefit. In this way, when the British and Europeans moved on from testing at Woomera, Australia declined involvement with the precursor to the European Space Agency on the grounds that it was too expensive and did not meet Australia's security and economic goals.[11] By contrast, American tracking stations and Pine Gap remained, reflecting their continued importance in Australian eyes. In 1979, when the government commissioned its first national communications satellite system, Aussat, it was to meet specific Australian communication needs, and did not form the beginning of any Australian space program.[12] To discuss this period as a 'failure' in space is to ignore the fact that, for Australia, space was a means by which to achieve other objectives, not least security.

Australian space during the 1980s and 1990s was characterised by fragmented space structures and a lack of interest and funding within government, which resulted in attempts at policy and direction that were largely short lived. Brett Biddington has described this period as being shaped by a 'bifurcated narrative between space as a national security priority and as an industry development priority'.[13] The ad hoc nature of Australia's approach to space was recognised in a 1985 report by Sir Russell Madigan of the Australian Academy of Technological Sciences, which called for a comprehensive space policy 'as a matter of urgency'.[14] It also recommended the establishment of government structures to manage Australian space. These were created in the form of the Australian Space Office and Australian Space Board, but these were underfunded and non-statutory and were eventually disbanded by the Howard government in the mid-1990s.

Although Madigan consulted with Defence, his report did not examine space in national security. Defence fell outside its terms of reference, reflecting the division of space according to the goal achieved there, rather than the medium in which it was achieved.[15] Largely left out of the national space discussion, not least because of the sensitive nature of Pine Gap and other space-related capabilities, Defence thinking continued the Australian tendency to see space as merely the place where certain ends were met, rather than as a domain in and of itself. Space was not seen by Defence as a key part of its strategic outlook or as a force structure priority during the 1980s and 1990s.[16] In 1992, strategic thinker Des Ball wrote of 'a lack of any single coherent or comprehensive Defence perspective on space matters – let alone any single Defence focal point'.[17] Even as late as 2003, the Howard government's *Space Engagement Statement* saw no need to pursue self-sufficiency in space in the face of adequate cooperative arrangements with other nations and the availability of commercial space capabilities.[18]



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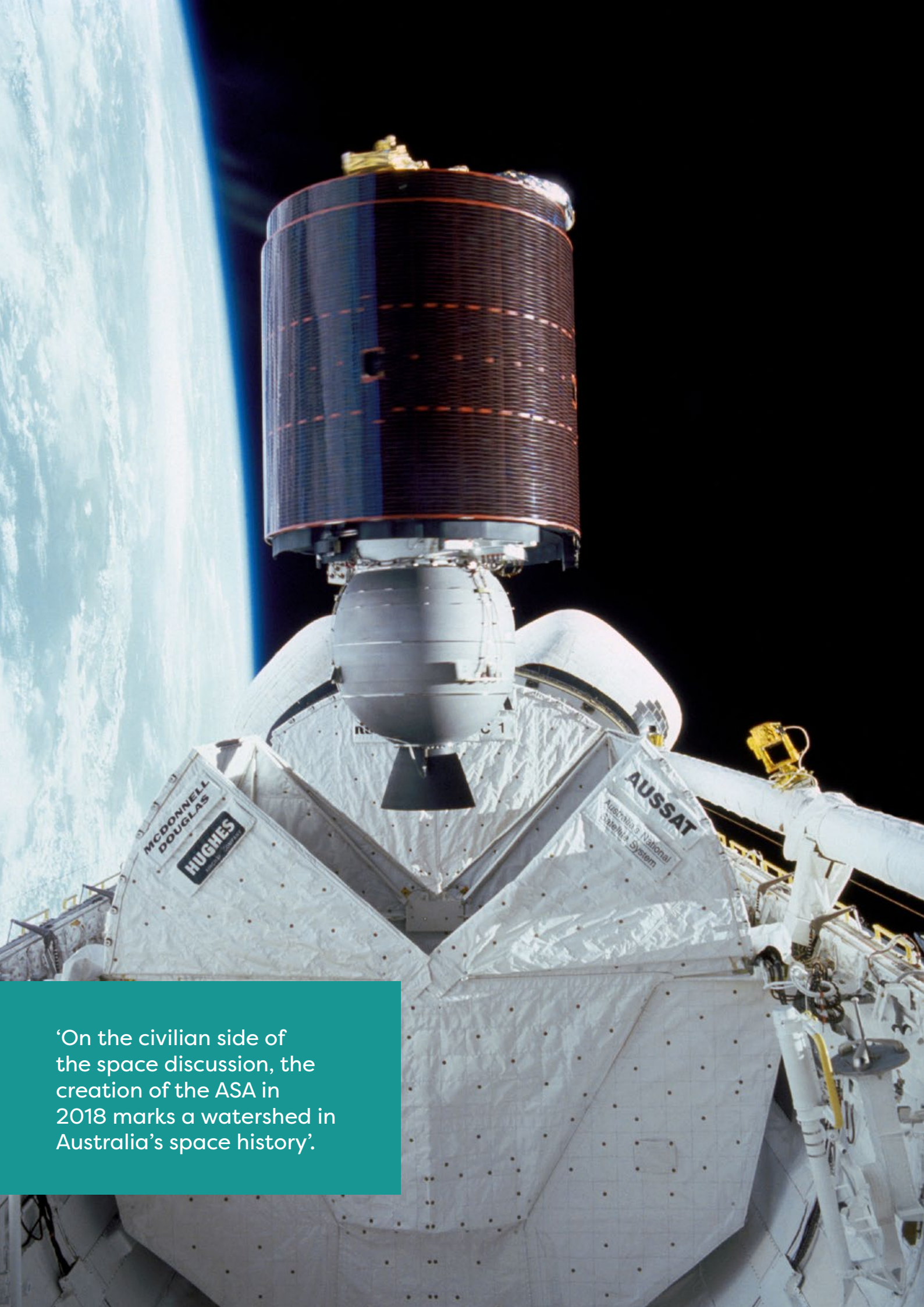
WRESAT exhibit at Woomera (Department of Defence)



‘On the civilian side of the space discussion, the creation of the ASA in 2018 marks a watershed in Australia’s space history’.

CHAPTER 2

Not there yet: bedding down Australia's approach

Only by the late 2000s did Australia's attitudes towards space begin to change.

A 2008 Senate Committee report, cheekily titled 'Lost in Space', seemed to capture the start of a movement towards a more sustainable Australian approach. It reiterated previous calls for an Australian space agency to coordinate and examine Australia's needs in space. Unlike the previous decades' experience, this report was not alone in discussing the importance of space. The 2009 Defence White Paper was the first in eight years and it discussed space at length for the first time. The white paper noted that space itself, rather than the capabilities that happened to reside there, was an area of importance and interest.[19] Part of fostering Defence's space capabilities was the principle of 'self-reliance', alongside the acknowledgement that the sheer cost of space-based assets would require a level of international collaboration.[20]

In 2010, space was mentioned explicitly in the joint communiques of the Australia-United States Ministerial Consultations (AUSMIN) for the first time, in which Australia and the United States expressed concern about 'the increasingly interdependent, congested, and contested nature of outer space'. A concrete outcome of this meeting was the release of a Space Situational Awareness Partnership Statement of Principles and a joint statement on space security that acknowledged the crucial nature of satellites to defence activities.[21] These ideas were not novel, but the injection of space into a discussion of Australia's security and the alliance was new.

The next decade saw a continuation of this acknowledged centrality of space to Australia's security, albeit slowly. There was a great deal of growth in Australian defence space capabilities, such as in joint defence facilities and the Wideband Global Satellite project, to which Australia contributed the equivalent cost of one of a constellation of American satellites. The 2016 Defence White Paper shifted Australia away from being merely a 'passive consumer of Space services provided by other states' to assessing what local capability it could purchase or create.[22] In laying out Australia's responses to changes since the 2016 White Paper, the 2020 Defence Strategic Update emphasised space as 'critical to ADF warfighting effectiveness, situational awareness and...communications'.[23] This criticality necessitated a significant increase in space capabilities, the Update argued, met through working with industry and the Australian Space Agency (ASA), and laid out in the Force Structure Plan.[24] As Malcolm Davis points out, the formal recognition of space as a domain of vital importance to Australia and a domain in which free and uncontested access was not a given represents a significant step from the 2016 White Paper. However, even with the creation of the Space Division and the coming space domain review, the absence of a Defence space strategy in the public domain has created an 'information vacuum' in discussions of Australian defence space policy.[25]

The September 2021 announcement of the trilateral AUKUS security pact reaffirms much of Australia's pre-existing perception that its security is best met through a close relationship with the United States and the United Kingdom.[26] The merits of AUKUS for Australian security have been the subject of intense discussion about how far Australia should rely on allies, primarily the United States, for its security. For space, the affirmation of the relationship with the United States and the United Kingdom is a historical rhyme with the space activities of the 1950s and 1960s. It is also one that the government, as with other areas of defence engagement with these two nations, will no doubt emphasise publicly as it has done in the past when discussing space.

The 2021 AUSMIN Joint Communique, released on the same day as the AUKUS announcement, reinforced and detailed the relationship in space, with the two countries presenting the alliance as a means by which to 'ensure a safe, stable, and secure space domain'. For instance, cooperation with the American National Reconnaissance Office would grow Australia's space knowledge and capabilities, while Australia would contribute to the NRO's broader global coverage. Reference was also made to a Space Framework Agreement, which pointed to a more broadly ranging arrangement that would encompass civil research, exploration and the use of space for peaceful means, but no detail was given.[27] The broader scope of this arrangement, beyond purely military or industry interests, offers tantalising opportunities for whole-of-government utilisation of space. However, it raises more questions about how Australia would shape such a framework without a clear statement of its own aims.

On the civilian side of the space discussion, the creation of the ASA in 2018 marks a watershed in Australia's space history. The new agency has acted strongly to cement its position in a way that previous Australian space bodies could not, through a clear statement of its goals and aspirations, public engagement, and partnerships with other nations and their space agencies. The centrality of the relationship with the United States is clear in the funds committed to international cooperation by the Australian Government through the ASA, particular in the commitment of $150 million to NASA's US Moon to Mars mission. It is clear that the ASA seeks to outlast preceding

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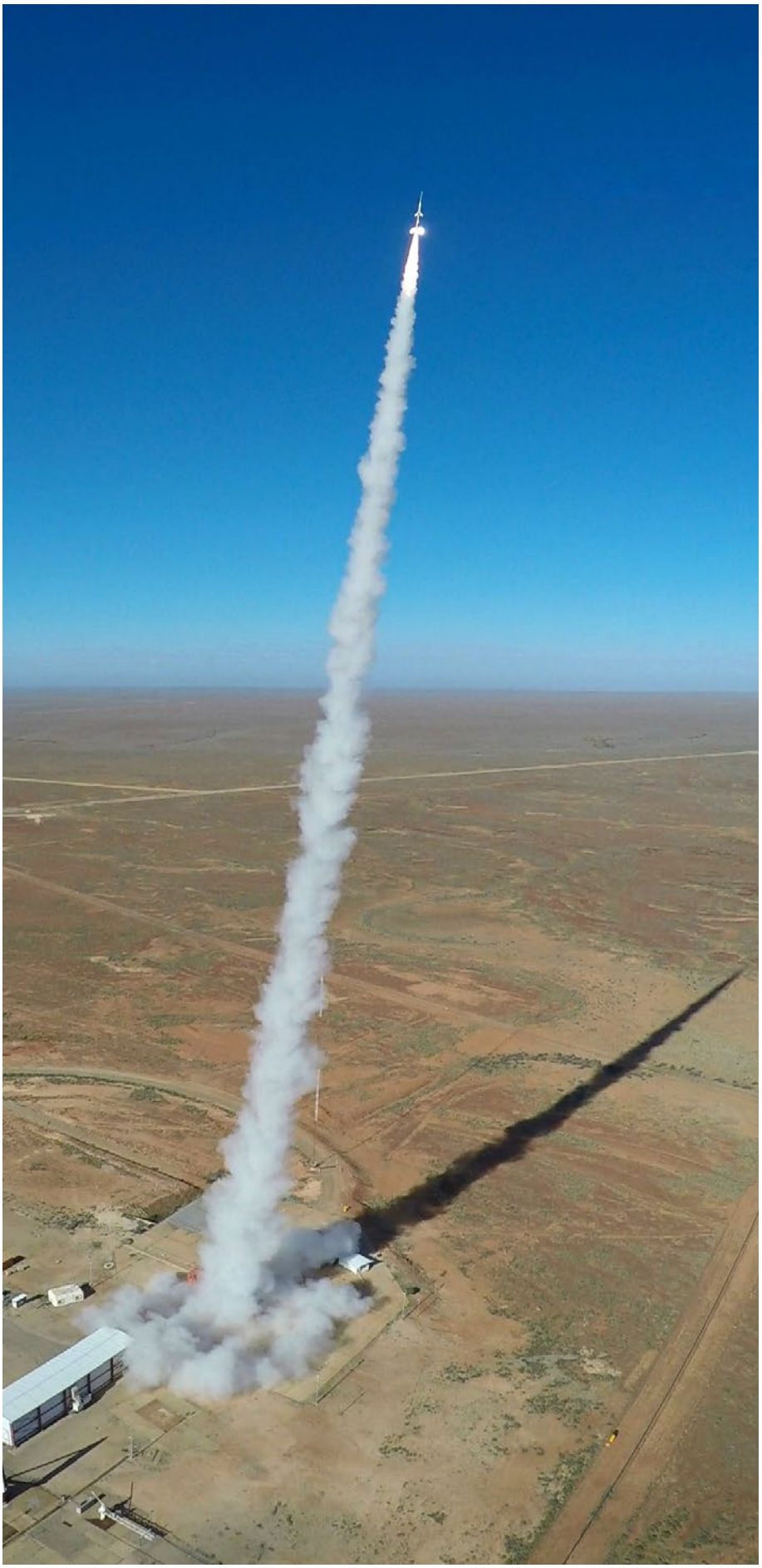
Australia's AUSSAT communications satellite (NASA)



organisations, not least by being the public face of Australian space, a move that can only be good for the broader public discussion. It is worth noting, however, that the ASA is not a statutory body and therefore is still subject to the whims of the government of the day, as was the Australian Space Office.

While it is touted as a whole-of-government entity, there is a tension between brief references to a wide-ranging, whole-of-government strategic space approach – reflected in the broad title of the ASA and its likely association with NASA in the public mind – and the agency's overwhelming focus on industry. The ASA's stated purpose is 'to transform and grow a globally respected Australian space industry that lifts the broader economy, inspires and improves the lives of Australians – underpinned by strong international and national engagement'.[28] These goals were reiterated in the 2019 ASA policy *Advancing Space: Australia's Civil Space Strategy, 2019 – 2018*. The strategy has four pillars: 'open the door internationally; develop national capability in areas of competitive advantage; ensure safety and national interest are addressed; and inspire and improve the lives of all Australians'.[29] In the strategy's detail, however, each of these pillars is orientated towards the government's focus on industry and jobs above all else. In this way, the commitment to NASA's return to the moon has been announced in terms of investment in local business, while even the agency's goal of 'inspiration' is aimed towards building a space-orientated workforce.[30]

Yet Australia's needs in space are not merely commercial. Australia's security requirements, such as complex intelligence satellites, or its interest in improving the lives of ordinary Australians, such as through communications with remote areas or weather prediction and bushfire spotting, might not generate financial wealth but do have significant national benefits. Similarly, research, particularly that which is long term and blue-sky, might not have immediate commercial applications but is vital for technological, engineering and policy development. Industry innovation and growth is laudable but is not the only goal in space. It is unlikely that

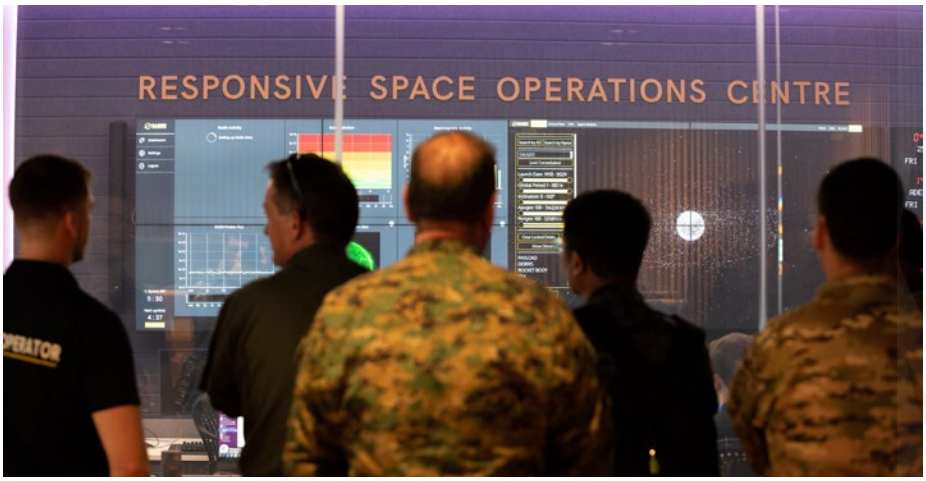
it is the only space objective that the Australian public supports; indeed, the constant use by the ASA, government and commentators of language that emphasises the inspirational, transformative and exciting nature of space when justifying space industry is testament to this. It is unlikely that the public desires simply more jobs in the space industry: if it wants (and is willing to support and pay for) anything in space, it is likely to be more than that. A focus on industry therefore does not address space in Australia as a whole, continues the historically fragmented nature of space policy, and entrenches a focus on capability and technology over strategy and national need.[31] If the answer to the question 'why grow Australia's space industry' is anything other than 'to create more jobs' then Australia's approach to space is unfinished. In the so-called 'Space 2.0' environment, it is industry that can lead innovation and deliver capability, supported by university-provided education and blue-sky research. However, industry is one part of a broader space ecosystem that includes capabilities and aims that do not have immediate financial gain as their primary objective.

The ASA's creation was well received in the United States, with Congress passing a resolution affirming the long cooperation between the two nations to mark the moment. In doing so, it offered a telling reminder that the relationship is seen by both sides in terms of security: the congratulations began with references to military cooperation and the ANZUS Treaty as background to space cooperation.[32] That the tangled nature of Australian space is readily recognised by the United States, but not within Australian space policy, is a limitation for Australia's future in space. Indeed, the *Australian Civil Space Strategy*, as the latest statement of Australia's trajectory in space, in this way stands in contrast to the national space policies of its two closest partners, the United States and the United Kingdom.

The United States Government's overarching guidance on space is clear, direct and truly whole of government. Written under the Trump Presidency but accepted by the Biden Presidency (one of the few such policies), the National Space Policy recognises that American space activities encompass 'three distinct but interdependent sectors: commercial, civil, and national security', and provides explicitly cross-sector guidelines alongside sector-specific guidelines[33] The delineation between 'civil' and 'commercial' is a contrast to the Australian strategy in that science and exploration is not combined with industry. International cooperation is also a key part of the policy. Since NASA's creation, the role of space in diplomacy has been stated explicitly and interwoven within American policy. By contrast, while relationships are key to Australian uses of space, they are not integrated into the strategy other than as a way to further industrial growth.

The United Kingdom's 2021 *National Space Strategy*, while acknowledging that the country has hitherto 'remained largely earthbound', plans to turn Britain into a major space power. The plan includes five pillars: growing the space economy; promoting the values of Global Britain; leading scientific discovery; protecting and defending national interests in and through space; and using space to deliver services for Britain and others. Like the United States, albeit from a different foundation, the United Kingdom policy sees space as a medium to achieve broader British goals through coordinated efforts from the space sector. Importantly, the policy recognises that 'the space ecosystem is highly interconnected', with success in one area dependent on success across all elements of British space efforts.[34]

The example of the UK-Australia Space Bridge serves to illustrate the difference between the way in which space is both presented by Australia and by the United Kingdom, and how space policy is currently framed in each country. Signed in 2021, the Space Bridge is explicitly mentioned in the British *National Space Strategy* as an example of international collaboration and draws on the shared history of space research at Woomera during the 1970s. The contrasting titles of the British and Australian press releases announcing the Space Bridge show the different place the cooperative agreement holds in each country. The British presented the agreement as helping the two nations 'get ahead in the global space race', reflecting the way in which industry growth is but one part of a broader push to grow British space power, and the consequent achievement of national objectives through the application of this power. By contrast, the Australian press release lauded the way in which the Space Bridge would 'unite Australia and UK space industries'.[35]



Service Attachés and Advisor's Group (SAAG) Engagement Program members at the Australian Space Discovery Centre, Adelaide (Department of Defence)

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Rocket Launch, Woomera (Department of Defence)

CHAPTER 3

A whole-of-government space policy

Civilian and defence space have always been entangled in Australia. In the absence of a coordinated and centralised approach to space in Australia, however, the country runs the risk of being without clear goals as the rest of the world devotes increasing energy to achieving their own ends in space.

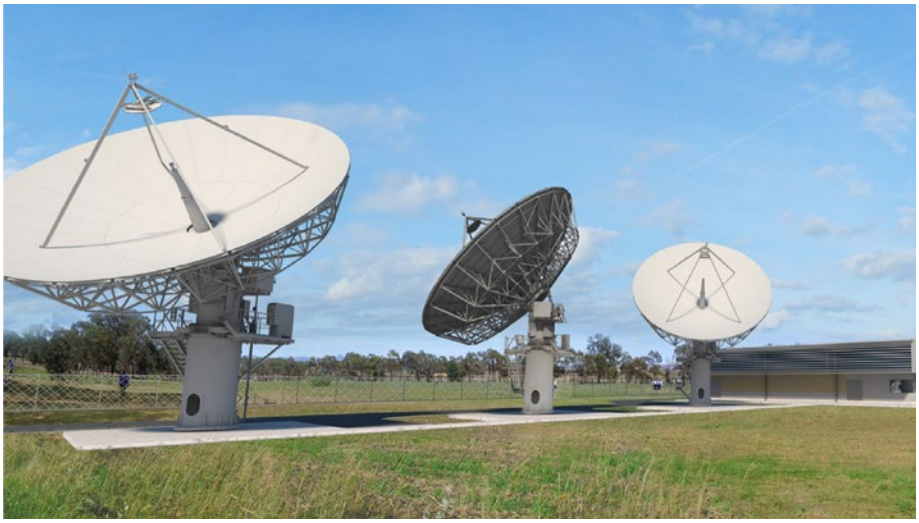
How Australia wishes to manage the space relationship with the United States, in what way the country might seek to grow a space industry, how far it wants to go down the path of self-reliance in space, and to what extent it wants to pursue space exploration goals are all questions that cannot be fully answered individually or without a national space policy.

The details, structure and focus of a future space policy should be a much broader public discussion. However, any Australian space policy should outline what Australia wants to do in space as a whole, and how it can achieve this through a mixture of sovereign activities and collaboration. The first, and most important, question is what Australia requires from space to achieve broader national goals, in line with the nation's values and outlook.

The answer should be tailored to Australian needs, and policy framers (and the public) must resist the urge, so common in space discussions, to see Australian space activities as 'America-lite'. Just as the moon landings dominate public conceptions of NASA in the United States, so too can American space efforts shape how smaller nations see space.[36]

A space policy should also be whole of government, not just in consultation between departments, industry and institutions, but also in the overarching policies that guide them. Every part of Australia's space sector should pull together towards a cohesive set of goals and aspirations.

The pillars of Australia's space activities on which any policy might rest can be summarised as security, industry, science and research, international partnerships, and inspiration and values.[37] The first pillar, Australia's security in and through space, should be seen within this policy as achievable not just through military and intelligence space, but also by building alliance structures and international norms and regulations. Australia has been doing this for decades, as seen in use of cooperation with NASA in furtherance of the relationship with the United States, and in supporting legal and regulatory structures, such as the Outer Space Treaty. Climate change, economic security and national infrastructure resilience also form a part of the security calculation.



Secondly, industry is both a means by which to achieve security, research or other aims in space by building local capability as well as potentially a lucrative new market to be tapped.

Third, science and research, conducted within universities, by CSIRO and within industry, underpin any efforts in space. Space workforces, technology, planning and policy are impossible without applied and blue-sky research by academics, not all of whom are scientists and engineers.

Fourth, a space policy should reflect the fact that space has been used by Australia for international collaboration since the dawn of the space age, whether by federal government in its search for security, or by institutions in support of research.

Any Australian space policy must recognise and centre international cooperation as a tool to further space efforts while also recognising that space is a medium through which diplomacy can be undertaken.

Finally, efforts in space also constitute something that can accord with a set of values in that nations, groups and individuals may engage in space activities because they think it is inherently important to do so. Australia recognises this in the language it uses to sell its space activities, tapping into a broader public support and enthusiasm for space. While there may be better ways to spend or make money, or to improve individual lives, any policy should recognise that, like the arts, sport or science, going to space is something many groups of people agree to support because it accords with individual and collective values, and has the potential to inspire, excite and interest.

There are multiple benefits that would accrue from creating a national space policy. Most importantly, it would

allow for the discussion of space as a strategic whole by government, scholars, commentators and the public, rather than as a collection of capabilities and enablers. Capability acquisitions do not a policy make; a focus on assets can engender a dominance of tactics over strategy in any discussion.

A space policy would aid in decision making across government, a requirement all the more necessary given the country's small size and finite resources. The relatively small size of Australia's needs and capabilities make policy alignment between Defence, industry, science, and civilian activities, and between Australia and the United States, even more important to achieve economies of scale in industry, science and Defence, and also in two-way burden-sharing within the alliance.

A unified space policy would also allow for the focusing of the Australian space industry's efforts in service of broader space-related objectives. A 2021 submission by the Space Industry Association of Australia to the Parliamentary Inquiry into Australia's space industry identified the 'disjointed space priorities, policy and funding' as a strategic risk for Australia's space industry targets, particularly in the lack of coordination between defence and civilian space endeavours.

The submission pointed out that overlapping federal and state policy on Australian space and across all departments and levels of government undermines the balance of Australian needs and funding with the capabilities and development of local industry.[38] Bringing the Department of Defence into the industry conversation is also vital. Over 70% of Australia's space companies have Defence as a customer.[39] Not coordinating Defence's requirements with the goals of industry, other government departments and science wastes an opportunity to build a more sustainable space sector that has the support and confidence to innovate and conduct blue-sky research.

The development of sovereign space capability is one of the burning

questions of Australian space, potentially pointing to a future in which Australia's relations with the United States are less than firm. However, defence self-reliance does not mean self-sufficiency and Australia will always need to work with other nations in civilian and defence space.[40]

Equally, any Australian efforts to stand up local capability should not be seen as a zero-sum game.[41] Rather, initiatives such as the development or purchase of satellites, a modest launch capability, or other space or ground-based capabilities represent an opportunity to burden-share with partners. Australia currently contributes to shared security needs, buying into American capabilities, hosting ground stations and sending personnel on exchanges. There is room for expansion here, although Australia should not fall into the trap of assuming that decisions about shared capability can act in the place of a broader policy.

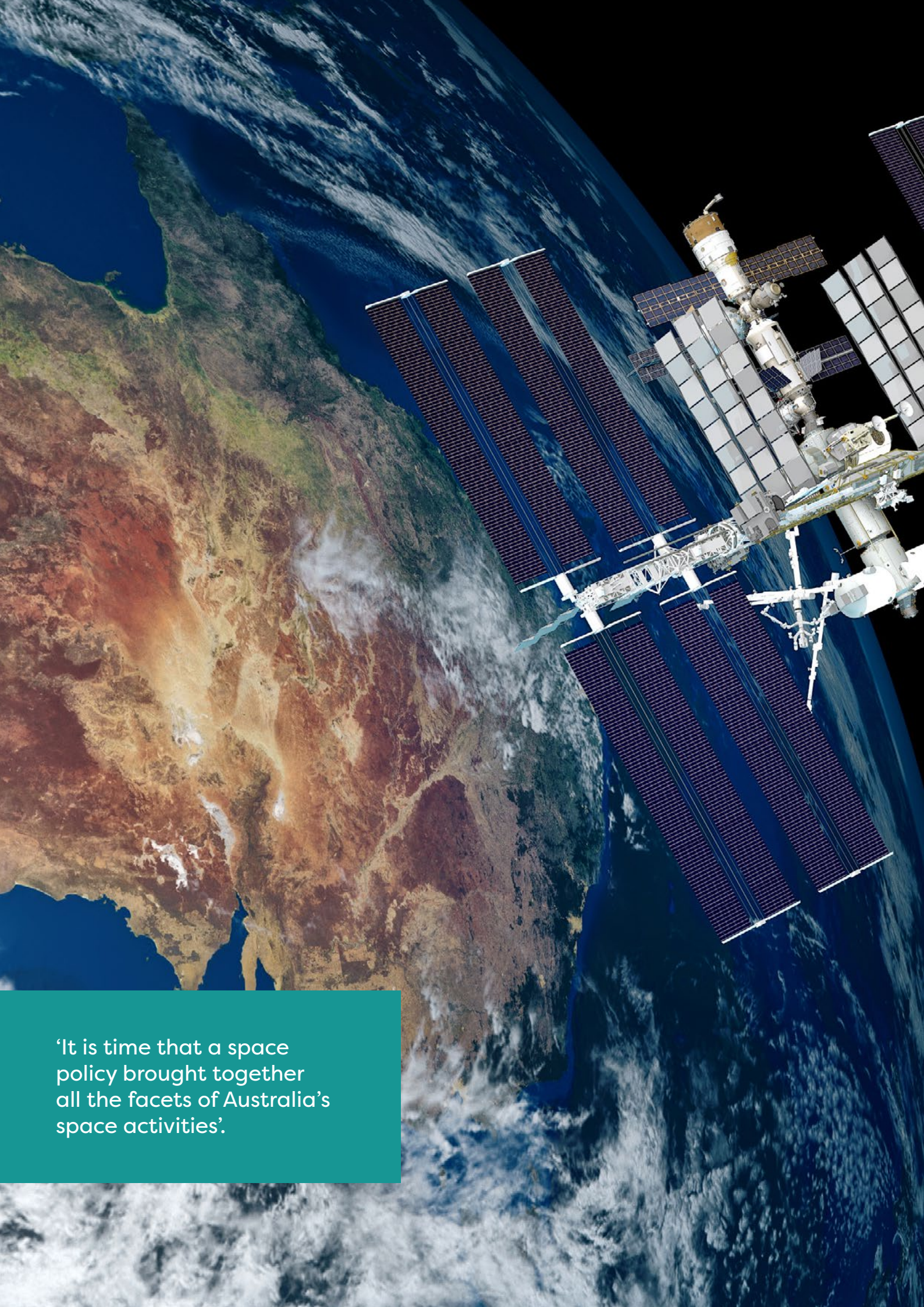
Space is one of several mediums in which Australia can and does manage the relationship with the United States and others. This has been the case in the past, and there is no reason to assume that this will markedly change in the short and medium term. The geographical realities that make Australia a useful partner will not change: Australia continues to look up at the southern sky. In discussions with the United States, which is likely to be Australia's major (but not sole) space partner for the foreseeable future, policy clarity and the ability to match ends with ways and means would give Australia a stronger voice at the alliance table.

Australia can also use space to burden-share in other ways, such as through its role as a Pacific power. Australia is in a position to not only manage or own space-assets that are orientated towards the Pacific, but also to provide space-based assets and access to regional partners. How long, perhaps, until space capabilities are affordable and common enough that smaller Pacific nations could reasonably afford them?

Australian action here, in the medium term, could represent a contribution to the ANZUS alliance and other relationships. The ADF already has as one of its functions 'shaping' operations in the region, so it can maintain access when it is needed, and deny others similar access. Supplying space-based capabilities to meet the inevitable need of Pacific nations is one way Australia can achieve similar goals, while at the same time denying adversaries similar opportunities. As with any other aspect of space, activities such as these are more difficult to imagine, enter into and leverage if Australia's focus is on capability, rather than a strategy to use a collection of capabilities.

↑
Pine Gap (Department of Defence)

←
Satellite ground station
(Department of Defence)



‘It is time that a space policy brought together all the facets of Australia’s space activities’.

CONCLUSION

A new and comprehensive space policy in Australia would be an opportunity to bring fractured ideas and myriad moving parts together, and in turn improve public debate and government direction on space.

To varying degrees, space is perceived as technical, new, expensive, and primarily enabled by the nation state. Some of these perceptions are changing as industry grows, more and more engineering and science is undertaken, policy is developed by government, discussed in public and researched at universities. Australia's long history of declining to be involved in significant space expenditure, whether for good or for ill, means it is now facing decisions about what it should do in space and why. The debate has improved in recent years but is often shaped by the tendency to overemphasise technology and capability in the place of strategy and policy.

Much is yet to be done. On one hand, government policy should address the perception that space is expensive and unnecessary (the 'giggle factor'); on the other, it should reject those who call for Australian space efforts that do not match with national need. Does Australia need a substantial space sector any more than, say, the capability to manufacture aircraft or cars? If so, why? These are important questions that must not be ignored but also cannot be addressed without a clear statement on Australia's objectives in space.

Coming to terms with Australia's history in space means accepting that much of what the country did is not just evidence of Australia's capacity for significant efforts in space proportional to our size, but also of the way in which we have always used space as a medium for security and alliance management in addition to civilian space exploration. As the space domain becomes commercially and militarily congested, Australia must decide on how best its interests are served there.

Australia declined to create a whole-of-government space policy in the 60 years since human-made objects were placed in orbit, seemingly without drastic consequences. However, the rapidly changing nature of space makes that approach increasingly risky. Australia will not be able to address any threats in space without a clear concept of what it wants to achieve. Crucially, both Defence and civilian space activities will be central to Australia's space security, as will the United States, as they have been for the past 64 years. It is time that a space policy brought together all the facets of Australia's space activities.

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Artist image of ISS over Australia
(Sasa Kadrijevic)

ENDNOTES

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THE FUTURE OF THE AUSTRALIA – U.S. ALLIANCE

THE ALLIANCE NETWORK PROGRAM

This Black Swan Strategy Paper has been developed as part of the Alliance Network Program. This program supported by the Embassy of the United States of America, is a multi-year public diplomacy, research and engagement activity designed to bring together influential leaders and emerging scholars currently specialising in regional security, economics or public policy to discuss the state of the Australia-United States Alliance and explore new areas of knowledge.

The first itineration of the program, developed by the Perth USAsia Centre under the direction of Professor Peter J Dean, took place on 13-14 February 2020 at the Strategic and Defence Studies Centre at the Australian National University. The subsequent program in 2021, developed by the UWA Defence and Security Institute, held workshops in Perth (UWA DSI), Brisbane (Griffith Asia Institute) and Sydney (United States Studies Centre) between March and May 2021. The workshops were designed to ascertain Australian views of the Alliance relationship and were held under the Chatham House Rule to encourage a frank and open discussion. From each of these workshops, a small number of emerging and early career scholars were selected to undertake further policy work and travel to Washington DC to engage with US think tanks and policy makers. This Black Swan Strategy Paper represents a policy discussion from one of these emerging scholars.

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