

South Korea and Australia in space

Towards a strategic partnership



SANGSOON LEE

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About the author

Sangsoon Lee is a Senior Deputy Director at South Korea's Defense Acquisition Program Administration (DAPA). His research interests include international space cooperation and innovation in defense acquisition systems. This report was produced during his five-month research fellowship at ASPI, undertaken as part of a personnel exchange program between DAPA and ASPI.

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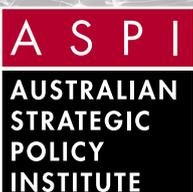
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Strategic Insight

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ASPI
Level 2
40 Macquarie Street
Barton ACT 2600
Australia

Tel Canberra + 61 2 6270 5100
Tel Washington DC +1 202 414 7353
[Email enquiries@aspi.org.au](mailto:enquiries@aspi.org.au)
www.aspi.org.au
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Contents

Introduction	4
South Korea's and Australia's space development strategies	4
South Korea	4
Australia	6
Policy recommendations	8
Joint R&D and application	8
Space launch cooperation	11
Space security cooperation	14
Enhancing the cooperation framework	14
Conclusion	15
Notes	16
Acronyms and abbreviations	17

Introduction

Space cooperation between Australian and South Korea remains stuck in its infancy and, to some extent, is treated as an end in itself. This report argues that the time is ripe for both Australia and South Korea to embark on joint projects and initiatives that would deliver tangible and practical outcomes for both countries.

For South Korea and Australia, space cooperation and space development serve as key pillars of the bilateral relationship. The two nations elevated their relationship to a comprehensive strategic partnership in December 2021,¹ incorporating space development into core areas of cooperation in the fields of economics, innovation and technology. As a part of that elevation, the leaders of both countries agreed to strengthen joint research and cooperation between space research institutes and industries.² Following that, in 2022, South Korea and Australia established a Space Policy Dialogue.³

A greater bilateral focus on expanding the scope and opportunities for space cooperation could deliver foreign-policy, national-security, defence and economic outcomes for South Korea and Australia. This report argues that there are opportunities in the bilateral relationship to boost both space cooperation (the collaborative efforts between nations to leverage space advancements for mutual benefit and to foster diplomatic ties and intergovernmental collaboration) and space development (the advancement of space-related technologies, infrastructure and industries) and is pivotal in areas such as national security, economic growth and resource management.

This report first analyses the space development strategies of South Korea and Australia and examines the environmental factors that can increase the potential for cooperation. It then proposes areas where the two countries can combine their technologies and resources to maximise mutual benefits and offers eight policy recommendations to the governments of both countries.

Scott Pace, former Executive Secretary of the US National Space Council, has emphasised that ‘International space cooperation is not an end in itself, but a means of advancing national interests.’⁴ The South Korea – Australia partnership aligns with that principle, and it’s time to realise the opportunity.

South Korea’s and Australia’s space development strategies

South Korea

South Korea is paying close attention to the rise of ‘New Space’ in the rapidly changing space development environment. The 4th Basic Plan for Promoting Space Development (henceforth referred to as the 4th Space Development Strategy), announced in December 2022, emphasises strengthening cooperation between government and industry to respond to the New Space era, in which innovative companies are leading the space economy.⁵ That marks a significant shift from the traditional ‘Old Space’ era, in which governments took the lead in space development.

South Korea is concerned that its space industry may lose competitiveness in the global space economy. According to the South Korean Government analysis, South Korea’s space technology currently lags more than 10 years behind that of advanced countries (see Table 1), and over 66% of the domestic space industry relies on the public sector. Moreover, the lack of innovation in business models is seen as a major issue. As of 2023, the size of South Korea’s space industry was only A\$4.1 billion, which is considered a very small portion (approximately 0.5%) of the global space economy, which is estimated to be worth A\$826.5 billion.⁶

Table 1: South Korean Government's evaluation of space technology levels

Field	Technology level compared to leading nations	Gap
Launch vehicle development and operation	60.0%	18 years
Space exploration	56.0%	15 years
Space observation	55.5%	10 years

Note: This table has been restructured and cited in alignment with the content of this article, based on data included in Korea's 4th Space Development Strategy and originally sourced from the Korea Institute of Science and Technology Evaluation and Planning (KISTEP).

Source: South Korea's 4th Space Development Strategy.

In its 4th Space Development Strategy, South Korea announced that it would shift the government's role from developer to enabler to address existing challenges. The government aims to transition from a government-driven model to an industry-driven approach by expanding private-sector participation in satellite and launch vehicle development. This initiative seeks to cultivate an industry-led space ecosystem, fostering innovation and competitiveness in the global market. The government also announced plans to offer more than 170 public satellite-development projects to industries by 2031, including Earth observation satellites for disaster monitoring, precision agriculture and environmental management; navigation augmentation systems to improve positioning accuracy; and next-generation communications satellites. Those efforts aim to strengthen South Korea's commercial space sector and create sustainable business opportunities.

Additionally, the newly established Korean AeroSpace Administration⁷ has signalled its commitment to advancing core space technologies, including Earth observation satellite constellations, deep-space exploration programs such as lunar missions, and the development of next-generation launch vehicles to strengthen South Korea's commercial space sector.

While South Korea's space strategy focuses primarily on commercial development, the government has also undertaken significant institutional changes in the defence space sector. Recognising the strategic importance of space for national security, South Korea has strengthened its governance framework by elevating the chairmanship of the National Space Committee from the Minister of Science and ICT to the Prime Minister, and subsequently to the President. That reform aims to establish a more comprehensive and integrated approach to both commercial and defence space development. Additionally, the government established the Working Committee for Space Development for Security, a dedicated consultative body under the National Space Committee, to coordinate policies and enhance military space utilisation.⁸

South Korea is actively pursuing independent military space programs, including the 425 Project and a small-satellite development initiative, while maintaining cooperation with allied space assets. The 425 Project,⁹ set for completion in the mid-2020s, aims to enhance South Korea's kill-chain capabilities through a constellation of five military reconnaissance satellites—four synthetic aperture radar satellites and one electro-optical/infrared satellite. Those efforts reflect South Korea's growing commitment to strengthening its independent military space capabilities and its ability to conduct precision strikes. That shift towards greater self-reliance in military space assets aligns with South Korea's broader space development vision, which emphasises long-term stability and global cooperation.

Despite various challenges, South Korea's space strategy is notable for its clarity and continuity. The long-term vision outlined in its strategy provides a detailed road map for achieving tangible progress over the next two decades. Furthermore, the stability of those policies, even amid changes in political leadership, has been a key factor in South Korea's rapid ascent as a middle-tier space power. Those attributes make South Korea an attractive partner for international cooperation and are key factors in strengthening its position within the global space ecosystem.

Australia

Australia set an ambitious goal in its Civil Space Strategy 2019–2028,¹⁰ which the government launched in 2019: to create 30,000 space jobs and increase the value of the nation’s space industry to A\$12 billion by 2030.

The Civil Space Strategy, which has remained in place without an official update to date, contains high-level guidance on space development and is anchored on four strategic space pillars: 1) ‘International: Open door’, 2) ‘National: Increase capability’, 3) ‘Responsible: Regulation, risk and culture’, and 4) ‘Inspire: Build future workforce’.

The International pillar emphasises fostering partnerships with key allies such as the US, the UK and Europe to enhance Australia’s space capabilities. The National pillar focuses on leveraging and developing domestic space infrastructure and capabilities to bolster the economy and generate jobs. The Responsible pillar commits to ensuring that space activities are conducted in a sustainable and ethical manner, adhering to international norms and preserving the space environment. Finally, the Inspire pillar aims to ignite public interest and engagement in space, particularly by promoting STEM education and encouraging the growth of a future-ready workforce. Together, the four pillars provide a foundation for Australia to position itself as a trusted and innovative player in the global space ecosystem.

Australia places the highest strategic priority on international alliances and partnerships to strengthen its domestic space capabilities. Beyond its established ties with countries such as the US, the UK, France and Japan, Australia is actively expanding cooperation with emerging partners, including South Korea and the United Arab Emirates.¹¹

Australia is seeking to capitalise on its unique geographical advantages and develop its potential as a competitive hub for the commercial space launch sector, though recent setbacks and limited commercial activity suggest that that ambition remains a work in progress.

Key infrastructure, including the Bowen Orbital Spaceport and the newly announced Australian Space Centre Cape York, in Queensland, provides strategic access to equatorial and polar orbits, enhancing Australia’s appeal as a global launch site. With Equatorial Launch Australia recently deciding to cease operations at Arnhem Space Centre due to unresolved lease negotiations, Cape York has emerged as the new focal point for commercial space launches in Australia.¹² In November 2024, the Australian Government issued its first commercial orbital launch permit for Gilmour Space Technologies’ Eris 1 launch vehicle.¹³ The recent Technology Safeguards Agreement with the US highlights a strategic effort to try to draw greater investment into launch infrastructure as Australia seeks to elevate its position as an attractive global space launch hub in what’s becoming an increasingly competitive global sector.¹⁴

However, the 2023 cancellation of the National Space Mission for Earth Observation has raised concerns about the stability of Australia’s space strategy.¹⁵ The withdrawal of that national mission has meant the loss of an opportunity to strengthen Australia’s satellite-manufacturing capabilities for Earth observation and could be seen by Australia’s space industry partners as signalling a lack of ambition or commitment to space development.¹⁶

Australia’s Defence Space Strategy focuses on securing and advancing space assets critical to national security. The 2022 Defence Space Strategy and the 2024 National Defence Strategy identify space as a new frontier for defence operations, emphasising the importance of enhancing space domain awareness, communications, and intelligence, surveillance, and reconnaissance capabilities, particularly through collaborations with allies. That shift underscores that the space domain is now regarded as an independent operational domain, moving beyond its previous role as merely an ‘enabling adjunct’ to the maritime, land, and air domains.¹⁷ The Defence Space Command, established in 2022, plays a pivotal role in strengthening Australia’s military capabilities in space. Furthermore, Australia works closely with key allies and partners, including the US, the UK, Canada, and New Zealand, actively participating in the Combined Space Operations initiative¹⁸ to improve space situational awareness and intelligence sharing.

Moreover, the Australian Defence Department, under the 2024 Integrated Investment Program (IIP), plans to invest between A\$9 billion and A\$12 billion to enhance its defence space capabilities. That budget is intended to be allocated across areas such as satellite communications, space sensors and space control (see Table 2).¹⁹ However, only A\$590 million has been confirmed for allocation within the overall investment plan. While the A\$9–12 billion figure signals a long-term ambition for space defence, the actual scale of expansion remains uncertain following recent budget adjustments.

Table 2: Defence space spending under the IIP, 2024–25 to 2033–34

Capability element	Approved planned investment	Unapproved planned investment	Total planned investment
Satellite communications	\$150 million	\$5.0 billion – \$7.0 billion	\$5.2 billion – \$7.2 billion
Space sensors	\$250 million	\$3.0 billion – \$4.0 billion	\$3.3 billion – \$4.3 billion
Space control	\$190 million	\$300 million – \$400 million	\$490 million – \$590 million

Source: 2024 Integrated Investment Program.

The largest portion of the investment plan is allocated to satellite communications, which was initially centred around Defence Project JP9102, which aims to strengthen the Australian Defence Force’s communications in the Pacific and Indian oceans by deploying two, three or four large military communications satellites into geostationary orbit (GEO), 36,500 kilometres above the Earth’s surface. However, on 4 November 2024, the project was abruptly cancelled,²⁰ even though Lockheed Martin had already been selected as the preferred contractor.

The cancellation was explained by the Australian Government’s assessment that, given the rapid acceleration in space technologies and the evolving threats in space, a single-orbit GEO-based satellite communications system would no longer meet strategic priorities.²¹ Despite that rationale, it’s important to note that JP9102 was originally designed as a stepping-stone towards a multi-orbit system, with subsequent phases delivering low Earth orbit (LEO) and medium Earth orbit (MEO) capabilities. That broader vision highlights why the cancellation attracted media attention and was seen by some in the defence and space sectors as controversial;²² it leaves Australia without a clear plan for replacing its ageing satellite communications architecture. As a result, the decision has sparked significant debate across the space sector, with many questioning the government’s approach²³ and emphasising the critical need for a defined procurement project for multi-orbit communication satellites.

Without a clear alternative, Australia risks falling behind in satellite communications capabilities, which are vital for national security—not only for enabling long-range strike capabilities that rely on US space-based assets, but also for ensuring secure and resilient military communications in the Indo-Pacific region—and for maintaining strong strategic ties with allies and partners in the region.

The space sensors component of the IIP explicitly references the agreement made last year with the US and the UK to install the Deep Space Advanced Radar Capability in Australia. That project aims to enable space situational awareness out to GEO, enhancing Australia’s ability to monitor and track objects in deep space.

Finally, the IIP emphasises the development of space control capabilities. Australia recognises the growing threat posed by adversarial counter-space capabilities of nations such as China and Russia. Australia is prioritising the strengthening of the Australian Defence Force’s ability to prevent interference with or attacks on its use of the space domain.

One of the biggest challenges in Australia’s space development is uncertainty. As mentioned above, the Australian Government has cancelled major space projects in both the civil and the defence space sectors. While changes to such projects may occur due to shifting government investment priorities or advances in adversarial technologies, the inability to propose new and convincing alternatives following such cancellations raises doubts among various

stakeholders within Australia and among international partners regarding the current Australian Government's commitment to the space sector.

Australia must find solutions to ensure sustainable investment in space development. A reasonable alternative is to seek strong partner nations that share common values and vision. Collaborative development with close partners can help to address budgetary constraints.

Moreover, joint development and use of space assets by multiple countries can reduce the risk of threats to those assets by distributing operational control and ownership across multiple stakeholders, making them less attractive targets for hostile actions. Additionally, multinational cooperation enhances resilience through diversified infrastructure, shared situational awareness, and coordinated defence measures against counter-space threats.

Policy recommendations

This report makes eight policy recommendations for both the South Korean and Australian governments.

Joint R&D and application

Small satellites

1. Australia and South Korea should more strategically harness their complementary technological strengths and enhance collaboration on small satellites. This should include the joint development (including design and manufacture) of small satellites to strengthen their respective space capabilities and reduce external dependencies.

One of the most promising areas for cooperation is the joint development of small (under 100-kilogram) satellites. As the space environment becomes increasingly competitive, exquisite and high-cost satellites are becoming vulnerable targets.²⁴ While it may take years to replace damaged or destroyed large satellites, small satellites are much cheaper to develop and launch.

In particular, developing constellations of small satellites is effective in mitigating counter-space threats.²⁵ The ease of access to the commercial sector also contributes to the activation of the space industry. The small-satellite development and launch market is projected to grow nearly fourfold over the next decade.²⁶

South Korea plans to launch dozens of small satellites by 2030 to monitor crisis situations around the Korean Peninsula and surrounding waters, focusing on enhancing early-warning capabilities against strategic targets such as mobile launchers in North Korea.

According to South Korea's 2024–2028 Mid-Term Defence Program, by 2030, 40 small satellites will be deployed to enhance surveillance and reconnaissance capabilities specifically targeted at monitoring North Korea.²⁷ The satellites will provide real-time imagery and data on key strategic targets, such as mobile missile launchers, underground facilities and military movements, ensuring rapid and accurate assessments of potential threats. After 2030, periodic development and launch demand is expected to match the life cycles of existing satellites, maintaining a consistent and updated surveillance network.

Australia also requires Earth observation satellites to monitor the marine environment, prevent bushfires, forecast weather, and gather strategic information on the rapidly changing security scenario in the Indo-Pacific.²⁸ Although the Australian Government's program for the development of a sovereign satellite capability was cancelled in June 2023,²⁹ Earth observation is still one of Australia's National Civil Space Priority Areas.

As of now, Australia continues to rely on overseas satellite information services. The Australian Government appears to have determined that utilising foreign satellite imagery services is more cost-effective than developing its own Earth observation satellite projects. While that approach may save costs in the short term, the missed opportunity to build domestic satellite-manufacturing capabilities would incur greater long-term costs.³⁰

Moreover, continued reliance on foreign—particularly US—satellite services, especially in defence and government-operated space programs, introduces additional strategic risks due to potential unpredictability and reliability concerns under the second Trump administration. The administration's emphasis on isolationist policies, reduced support for allies and uncertain approach to international cooperation further heighten those risks, making it imperative for Australia to explore alternative satellite capabilities.

Therefore, this dependency also highlights an opportunity: *collaboration with South Korea in satellite development* could reduce Australia's reliance on foreign satellite services while fostering domestic manufacturing capabilities.

Jointly developing small satellites presents a strategic opportunity for South Korea and Australia to synergise their technological strengths and foster rapid innovation. South Korea's precision manufacturing capabilities, combined with Australia's expertise in data applications and satellite ground systems, can significantly enhance development cycles and unlock new market opportunities.

South Korea brings world-class precision and manufacturing expertise, grounded in its experience developing the KOMPSAT (Korea Multi-Purpose Satellite) series. Australia, on the other hand, holds a distinct advantage in developing satellite data applications, leveraging its geographical strengths and advanced ground observation capabilities. Notably, Australia excels in generating actionable insights quickly through data analysis and utilisation. Those complementary strengths of both nations can significantly shorten the entire development cycle of small satellites—from design and manufacturing to launch and data application.

And small satellites, compared to traditional large satellites, require less time and resources to manufacture and launch, enabling rapid experimentation and iterative development. This provides a conducive environment for the two countries to collaboratively test and refine various technologies swiftly. The shortened development cycles inherently accelerate the pace of innovation, allowing South Korea and Australia to stay ahead in an increasingly competitive global space industry.

Furthermore, a close supply chain would be formed, allowing mutual support as primary partners if one country's manufacturing facilities become inoperable. Through joint development, space companies in both countries could also expand into third-party markets. The experience gained from entering international markets would be reinvested into new technology development, creating a virtuous cycle of innovation.

Successfully dividing responsibilities for satellite bus and payload design and manufacturing poses challenge, but addressing those challenges through well-defined agreements and collaborative processes could significantly enhance satellite development capabilities for both countries.

Positioning, navigation and timing

2. South Korea and Australia should work more closely together on positioning, navigation and timing, and that should include the deployment of Korean Positioning System (KPS) satellite constellation ground stations in Australia to enhance shared resilience and strategic capabilities.

Positioning, navigation and timing (PNT) is one of the National Civil Space Priority Areas outlined in Australia's Civil Space Strategy.³¹ Accurate and reliable positioning information is particularly crucial for Australia's key industries, such as agriculture, resource development, maritime operations and aviation. In response to those needs, the Australian and New Zealand governments have launched a joint initiative, the Southern Positioning Augmentation Network (SouthPAN), to provide Satellite-Based Augmentation System services tailored to the region.³²

SouthPAN significantly improves the accuracy of traditional global navigation satellite systems, reducing the positioning error from 5–10 metres to as little as 10 centimetres. As the corrections are delivered directly via satellite, the system maintains consistent precision even in areas with limited mobile network or internet connectivity. That capability offers substantial benefits to industries across Australia and New Zealand, including agriculture, maritime operations and aviation.³³ According to SouthPAN user case study testbed projects,³⁴ precise positioning technology has the potential to generate approximately A\$7.6 billion in economic value across various industries, including agriculture, aviation, transportation and construction.

Similarly, South Korea has developed the Korea Augmentation Satellite System (KASS), which is a GEO satellite-based precision GPS augmentation system designed for aviation users. KASS provides precise corrections, reducing GPS errors to within 2 metres, while delivering reliable data across the nation to ensure safe and accurate navigation for aviation operations.³⁵

Building on that foundation, South Korea is also reducing its reliance on foreign PNT systems by developing the KPS, which is a regional navigation satellite system. The KPS aims to deliver ultra-precise PNT information, with accuracy levels to within 10 centimetres, to support advanced technologies of the Fourth Industrial Revolution, such as autonomous vehicles, drones and uncrewed ships. This strategic initiative positions South Korea as a key player in the emerging global PNT ecosystem.³⁶

South Korea and Australia share a common interest in developing national infrastructure to enhance the accuracy of PNT information, presenting significant potential for collaboration in the PNT field. In the case of South Korea, ensuring the precision of the KPS requires the establishment of an extensive network of ground monitoring stations capable of receiving navigation satellite data. Without a widely distributed network of those stations, ground-based orbit determination performance may deteriorate.³⁷

Given the orbital configuration of the KPS's satellite constellation (Figure 1), Australia is an optimal location for placing ground monitoring stations. In fact, Japan's Quasi-Zenith Satellite System, which has a similar orbital configuration to the KPS, has also established ground stations in Australia.

Figure 1: Orbital deployment of the KPS satellite constellation



Source: South Korean Ministry of Science and ICT, 'KPS and KASS status update'.

Australia could secure an additional PNT system option by using the KPS. That would enhance Australia's resilience in the event of global navigation satellite system service disruptions caused by natural disasters, satellite system failures or the actions of adversaries. In the long term, collaboration through the systematic integration of the KPS and SouthPAN could provide the benefits of multi-orbit and multisystem capabilities.

Furthermore, cooperation in satellite navigation systems could extend into advanced technology industries, and autonomous driving technologies serve as a prominent example. Autonomous driving technologies rely heavily on high-precision positioning data, and, since both countries would use the same satellite navigation systems, there's significant potential for joint application development.

Australia has strong incentives to pursue technological collaboration with South Korea in autonomous driving. According to ASPI's *Critical Technology Tracker*, South Korea ranks fifth globally in autonomous driving technology, ahead of Australia.³⁸

Moreover, high-precision positioning data holds significant military utility, making PNT cooperation critically important from a national-security perspective. Such collaboration would serve as both a symbolic and a practical tool for strengthening diplomatic ties between Australia and South Korea. It would build mutual trust and positively influence broader economic and security cooperation between the two nations.

Space launch cooperation

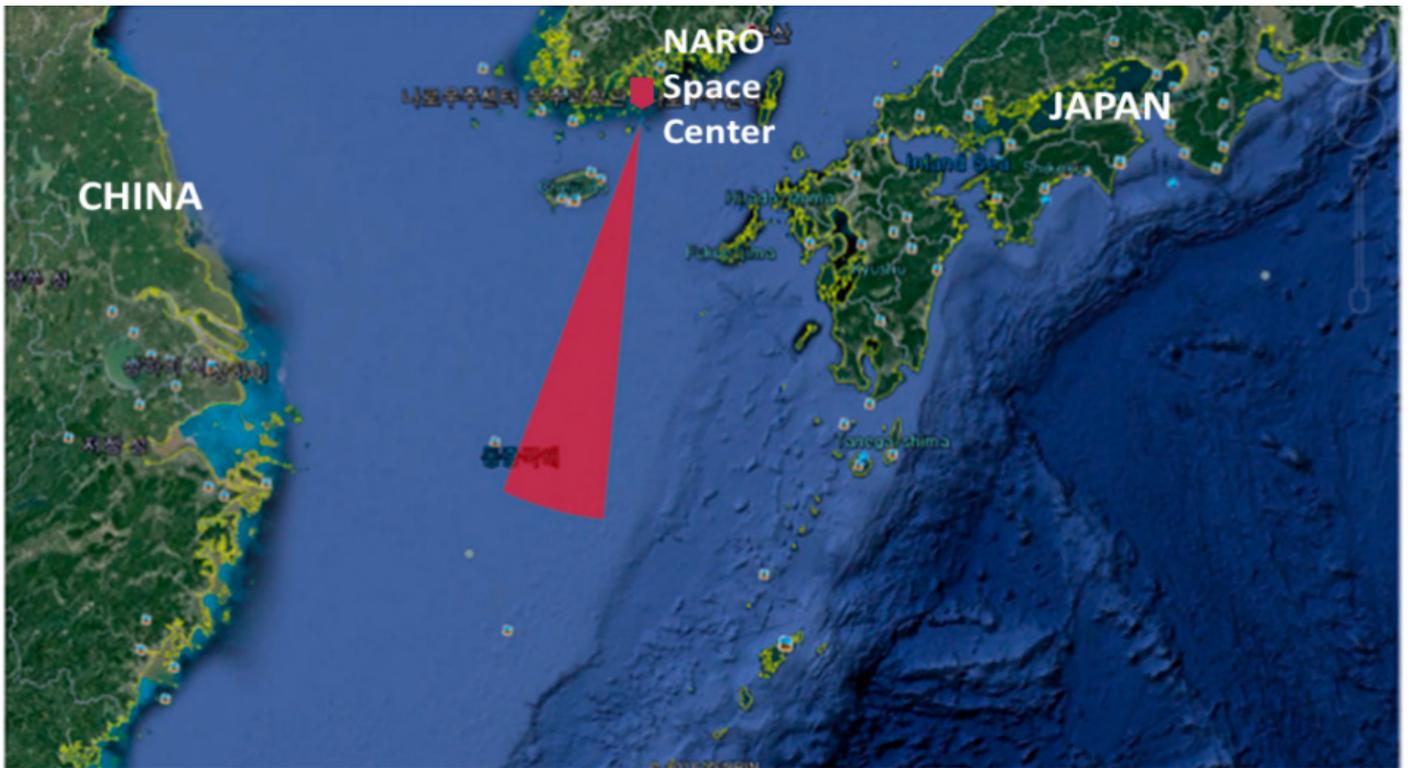
3. South Korea and Australia should work more closely together on building and encouraging commercial collaborations. That should include streamlining procedures such as space launch permits, export licences and the payment of export–import taxes, all of which would make the cross-border movement and launch of commercial rockets more efficient.
4. The South Korean Government, South Korean industry, or both, should build and operate a space launch site in Australia. That task would be complex but, if successful, South Korea would be able to secure a permanent space launch site that offers geographical advantages for space launches while remaining distant from adversarial threats. For Australia, such a development would generate significant economic opportunities and would help to further open up an emerging industry that has great global potential.

One of South Korea's key strategies in the New Space era is the launch of a commercial space launch service industry. However, there are several challenges to overcome, the most significant being the issue of launch site infrastructure.

South Korea's only space launch site, the Naro Space Center, faces several geographical limitations that hinder its ability to support a competitive commercial space launch industry:

- *High latitude*: Unlike launch sites near the equator, it can't fully exploit the Earth's rotational velocity.
- *Weather conditions*: Frequent typhoons and adverse weather conditions increase the likelihood of launch delays.
- *Limited azimuth range*: The azimuth range for securing a safe launch corridor is constrained (see Figure 2).

Figure 2: Launch safety corridor of the Naro Space Center



Source: Ki-tae Park, Research on the necessity of building the second space rocket launching sites for breakthrough development of ROK National Space Power, *Journal of Space Technology and Applications*, 2022, 2(2):146–168, online (in Korean).

Due to those factors, launches from the Naro Space Center are inefficient, relying solely on rocket propulsion to place satellites into orbit. That limits payload capacity and increases costs,³⁹ reducing South Korea’s competitiveness in the global commercial launch market. The 4th Space Development Strategy includes plans to build a second space centre to address those issues, but its realisation remains uncertain. That necessitates the exploration of alternative solutions, such as leveraging international launch sites.

Australia’s launch sites provide a cost-effective and strategically advantageous alternative to address the geographical limitations of South Korea’s current launch infrastructure. Those sites offer cost-saving benefits and a wider range of orbital options, providing competitive advantages for South Korea in commercial launch services.

Northern Australia’s geographical proximity to the equator provides ideal conditions for space launches, as rockets can leverage Earth’s rotational velocity to reduce fuel consumption and achieve higher orbits more efficiently. Currently, only one key spaceport is operational in the region: Abbot Point in Bowen (20°S).⁴⁰ Previously, Arnhem Space Centre in Nhulunbuy (12.1°S) offered similar benefits but it has now ceased operations.⁴¹ Meanwhile, Equatorial Launch Australia is constructing a new spaceport in Cape York, Queensland, which is expected to further enhance northern Australia’s strategic value for space activities upon its completion.⁴²

Additionally, Space Centre Australia, based in Cairns, Queensland, is developing state-of-the-art facilities to support launches into low, medium and high Earth orbits and deep-space missions.⁴³ Leveraging its proximity to the equator, the new centre aims to provide cost-efficient and technologically advanced launch capabilities. Space Centre Australia also emphasises environmental stewardship and aims to foster international partnerships, making it a promising hub for future space activities.

In southern Australia, facilities such as the Koonibba Test Range,⁴⁴ near Ceduna, and the Whalers Way Orbital Launch Complex,⁴⁵ on the Eyre Peninsula, provide complementary launch capabilities. Those locations are well suited for polar and Sun-synchronous orbits:⁴⁶ Koonibba specialises in suborbital launches, and Whalers Way is preparing for future orbital launches.

Compared to traditional launch sites such as Cape Canaveral (28°N) or Tanegashima (30°N), Australia’s northern and southern geography provides clear strategic and geographic advantages,⁴⁷ enabling diverse launch trajectories and cost efficiencies (Figure 3).

Figure 3: Australia’s space launch sites



Source: ‘Launch site—Bowen Orbital Spaceport, Australia’, Gilmour Space, 2024, [online](#); ‘Launch’, Southern Launch, 2024, [online](#); ‘Equatorial Launch Australia to move spaceport to Queensland’, Equatorial Launch Australia, 2024, [online](#); ‘Location’, Space Centre Australia, 2024, [online](#).

Given those benefits, cooperation between South Korean and Australian companies is already well underway. In 2024, during the Land Forces conference in Melbourne, South Korea’s major defence company, Hanwha Group, agreed to explore the use of Australian launch services through a partnership with Gilmour Space Technologies.⁴⁸ Additionally, South Korean space launch venture Innospace has signed an agreement with Equatorial Launch Australia for the use of its spaceport facilities for five years.⁴⁹

Additionally, the recently updated Missile Technology Control Regime implementation guidelines announced by the Biden administration introduce greater flexibility in export controls for space launch vehicle systems, allowing for case-by-case reviews.⁵⁰ That change facilitates easier access to US-origin components and has the potential to ease existing restrictions on launching South Korea–developed space launch vehicles incorporating US technology from Australian sites. Those policy changes by the US create a highly favourable environment for advancing space launch cooperation between South Korea and Australia.

As raised above, space launch cooperation between South Korea and Australia could take two forms. The first would be a greater focus on supporting ongoing commercial collaborations. The two countries should streamline procedures such as space launch permits, export licences and the payment of export–import taxes. That would make the cross-border movement and launch of commercial rockets much more efficient.

The South Korean Government or South Korean industry should directly build and operate a space launch site in Australia. That task would be complex but, if successful, South Korea can secure a permanent space launch site that offers geographical advantages for space launches while remaining distant from adversarial threats.

That second option would also be advantageous for Australia. For South Korea to operate a launch site in Australia, establishing manufacturing and testing facilities for launch vehicles locally would be efficient. Doing so would create significant economic opportunities, such as new job opportunities for Australians. For instance, Hanwha Defence's Armoured Vehicle Centre in Geelong, Victoria, created 1,800 jobs, setting a positive precedent for such ventures.

Space security cooperation

5. South Korea and Australia should enhance collaboration on space situational awareness and space traffic management initiatives to enhance the security of their shared space capabilities.

Space is increasingly becoming a contested domain, and adversarial nations are investing heavily in counter-space capabilities, which include electronic warfare (jamming, spoofing), cyberattacks, directed-energy weapons and kinetic anti-satellite systems. In particular, China and Russia have demonstrated operational counter-space capabilities that pose risks to space assets operated by allied nations, including South Korea and Australia.⁵¹

Given such evolving threats, enhancing the resilience and redundancy of space assets has become a critical priority. Developing multi-orbit architectures, deploying disaggregated constellations of small satellites and strengthening cybersecurity measures are key approaches to mitigating the risks. South Korea and Australia can further collaborate on space situational awareness and space traffic management initiatives to enhance the security of their shared space infrastructure.

Furthermore, as the militarisation of space continues to expand, establishing international norms and standards for responsible behaviour in space is crucial. South Korea and Australia can work together within the international community to promote responsible space activities and ensure the sustainable use of space.

By fostering cooperation in those areas, South Korea and Australia can not only protect their space assets but also contribute to strengthening regional and global security.

Enhancing the cooperation framework

Track 1.5 space dialogue

6. South Korea and Australia should establish a Track 1.5 space dialogue, to commence in 2025.

A Track 1.5 dialogue between South Korea and Australia should integrate diverse perspectives and expertise from governments, the private sector and civil society to help to build greater collaboration between the two countries. With commercial partnerships between South Korea and Australia already underway in the field of launch cooperation, it's essential that lessons learned from those experiences are shared regularly with government and civil-society groups.

Recommendations from a 1.5-track dialogue, particularly regarding regulatory harmonisation and practical collaboration, should be integrated into official government-to-government discussions. By channelling those outcomes through mechanisms such as the 2+2 Foreign and Defence Ministers Meeting, both nations can ensure actionable policy impacts and sustained cooperation.

Government-to-government agreement for space launch cooperation

7. South Korea and Australia need to develop and sign a government-to-government agreement on space launch cooperation. The agreement should include robust security provisions, regulatory harmonisation measures and legally binding mechanisms to ensure long-term stability and policy continuity.

To establish a stable framework for space launch cooperation, it's essential to ensure that it's legally binding through a government-to-government agreement.

Many aspects of space technology are sensitive and directly related to national security, which necessitates robust security protocols within the agreement to prevent technology leakage between partner nations.

Additionally, as each country may have different regulations and procedures regarding space launches, an intergovernmental agreement plays a key role in harmonising those frameworks, reducing redundant regulations and improving operational efficiency. Such alignment helps to ensure consistent compliance with requirements related to launch authorisations, export controls, taxes and environmental regulations.

Beyond one-time collaborations, such agreements serve as a mechanism for strengthening long-term partnerships. The legally binding provisions of an agreement and institutionalisation of such cooperation can maintain stability in cooperation, which should remain unaffected by changes in administration or policy shifts.

Space technology working group

8. South Korea and Australia must establish a technology working group in the fields of small satellite development and PNT to facilitate exchanges of expert opinions on joint R&D and practical applications. As areas for joint development and use expand, additional specialised technology working groups may also be formed.

In addition to those foundational areas, the working group could also explore ambitious joint projects, often referred to as 'moonshot' projects, that aim to achieve transformative goals. Examples include a joint ROK–Australia lunar rover designed to explore lunar resources, a collaborative mission to a resource-rich asteroid, or advanced research on 'Space 3.0' technologies such as space manufacturing, resource utilisation and space logistics. Such projects would not only provide a clear vision for collaboration but also lay the groundwork for long-term advances in space technologies.

Participation in the technology working group is recommended to include diverse representatives from research institutions, universities and companies from both countries. Given that both nations are focusing their space policies on promoting space industries, the working group should cover a broad scope, from foundational technology development to the discovery of viable business models.

Discussions on technical standards may also be included, as they ensure interoperability and compatibility between both countries, enabling each to function effectively within a shared space-technology supply chain.

Conclusion

Space cooperation between South Korea and Australia stands at a pivotal moment. Both countries, equipped with unique strengths in satellite technology, space launch infrastructure and strategic locations, are well positioned to forge a robust partnership in space development. South Korea's commitment to advancing its space industry aligns with Australia's geographical advantages, creating a complementary foundation for collaborative initiatives.

Several promising avenues for cooperation emerge, including joint development of small-satellite technology, enhanced positioning and navigation systems, collaborations in space security, and access to efficient, geographically advantageous launch sites. Establishing a Track 1.5 dialogue and a space technology working group

will allow both nations to integrate diverse expertise and derive more practical solutions from their respective sectors. Furthermore, an intergovernmental agreement would provide a legal framework that facilitates seamless, long-term collaboration.

By advancing those initiatives, South Korea and Australia can reinforce their positions as key players in the global space ecosystem. Moreover, in an era in which space is increasingly contested, strengthening resilience against counter-space threats through multi-orbit architectures, space situational awareness and space traffic management will be crucial for securing national and regional stability.

ROK–Australia collaboration not only enhances mutual security and economic resilience but also establishes a scalable model for future international partnerships in the space domain. By integrating space security cooperation into their broader space partnership, both nations can play a leading role in promoting responsible space governance while safeguarding their critical space assets.

Collaboration between South Korea and Australia is driven by mutual ‘apolitical’ interests that are unwavering despite political changes. That apolitical nature ensures continuity and stability in the partnership, regardless of shifts in the political leadership in either country. Therefore, a comprehensive approach that encompasses both economic and security dimensions will further solidify their enduring space partnership.

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Acronyms and abbreviations

GEO	geostationary orbit
GPS	Global Positioning System
IIP	Integrated Investment Program
KASS	Korea Augmentation Satellite System
KPS	Korean Positioning System
LEO	low Earth orbit
MEO	medium Earth orbit
PNT	positioning, navigation and timing
R&D	research and development
ROK	Republic of Korea
SouthPAN	Southern Positioning Augmentation Network
STEM	science, technology, medicine and mathematics

