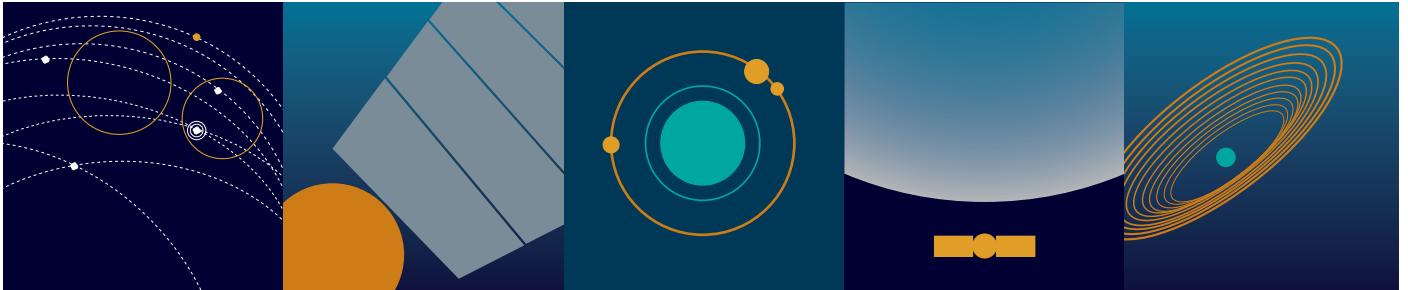


Signals from Space: Why we need a space-first strategy for New Zealand

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A space-first strategy is vital for strengthening sovereign resilience, protecting our land, sea and sky, accelerating GDP growth, and enhancing national capability. It would empower New Zealand to operate with greater independence while contributing meaningfully to the security and prosperity of our allies and partners.

New Zealand should leverage off our geographic advantages and our perception as a comparatively safe, educated and well-regulated country that plays well with its neighbours. New Zealand has many advantages that should make it a leader in national defence and sovereign resilience capability and capacity. Yet even with a signalled uplift from 1% to 2% of GDP investment into defence, we are still seen as a country unable to defend itself, entirely reliant on others.¹ Despite an increase of \$9b in spending announced, our national defence and strategy documents are relatively silent on space strategy, yet Australia and the UK are signalling a 'space first' strategy for national security.² What is New Zealand missing and how have we become so strategically disconnected from our allies?

The good news: New Zealand is already a leader in space, and in oversight of maritime safety at sea

New Zealand has some of the most favourable conditions in the world to grow its leadership in space and vertical launch. Quiet skies. Vast southern oceans. Membership of Five Eyes. A respected legal system and high-functioning education institutions.

Thanks to the relentless focus of Sir Peter Beck and Rocket Lab, New Zealand is now recognised for its world-class space regulations, and was among the first nations to appoint a Minister of Space. Today, Rocket Lab is one of the world's most productive and reliable rocket producers, with a deep supply-chain ecosystem. We also have our first generation of NZ-bred experts solving the world's hardest space problems. Sir Peter's contribution to our economy cannot be overstated.

New Zealand's heritage in space and Earth observation runs deeper than Rocket Lab. We already monitor over 25% of the world's oceans through the maritime safety programmes of both the New Zealand and Australian governments, operating around the clock from centres in Wellington and Canberra.³ Every vessel transmitting automatic identification system signals (AIS) – and every SOS signal from Kiribati to the Ross Sea, from Easter Island to Australia's Indian Ocean Exclusive Economic Zone (EEZ) – is quietly and competently tracked by Kordia, a sovereign state-owned enterprise using largely offshore-leased satellite services and data.

All of the opportunity, but none of the assets – we rely almost entirely on others

Our remote location demands that any meaningful vision for domestic and Oceanic regional resilience and protection contemplates Earth, maritime and space domains. However, our country has no unifying vision for improved situational awareness and resourcing across the three domains. Nor has a pan-government strategy for sovereign resilience – including key stakeholders such as the Defence Ministry, NZ Space Agency, New Zealand Defence Force (NZDF), the new Ministry for Cities, Environment, Regions and Transport, and commercial interests operating in the sector – been developed, let alone articulated.

New Zealand is also seen as incapable of defending itself, heavily reliant upon the investment of its allies and neighbours. According to the Stockholm International Peace Research Institute (SIPRI), New Zealand's defence spending stayed at roughly 1.1% to 1.2% of GDP between 2014 and 2024 of GDP, well below that of our Five Eyes partners (circa 2.2% over the same period), and of our closest regional allies – Australia at 1.9% and Singapore at 2.8%.⁴ While trusted, and regularly deployed in peacekeeping, training and support roles, New Zealand is not seen as a highly capable partner in times of conflict. Since around 2011, when spending dipped below 1.2%, New Zealand has underinvested in talent, estate and base maintenance, fleet and support compared to its peers and partners.⁵ Skilled military talent has departed at rates exceeding 30% at their peak.⁶ In 2024 the Chief of the Defence Force described the Navy as 'extremely fragile', with significant workforce issues in specialist technical trades.⁷

HMNZS *Canterbury* was unavailable from late 2023 until March 2024 due to unavoidable maintenance and workforce shortages. HMNZS *Wellington*, HMNZS *Otago* and HMNZS *Hauea* were all placed into 'care and custody' due to staffing shortages.⁸

In 2025, the government announced a transformational budget for defence of 2% of GDP by 2032, an increase over the three-year budget window of \$9b on previous periods.⁹ The ambition is admirable, but bringing current assets and pools of talent up to pre-2020 levels will consume a large chunk of that new investment, as will investments into armoured vehicles and naval fleet. New equipment purchases have been criticised as being stuck in the 20th century.¹⁰

New Zealand has not positioned itself as a credible 21st-century partner, nor one with a plan to sustainably build and maintain the high-performance, innovative talent for which we have been renowned.

Space-first defence strategy – a future-facing defence and sovereign-resilient mindset

Other than general references to a \$300m–\$600m investment in 'space capabilities' and 'space-based systems', the NZDF's recently released strategic defence policy and the *2025 Defence Capability Plan* are light on its strategy for space-based surveillance and regional maritime sovereignty considerations, and any dual-purpose commercial and sovereign investment in space-based technology.¹¹ Given our location, small population and small economy, this seems naive in itself, but even more so when contrasted with the 'space first' approach taken by the Australian defence force.¹²

Lieutenant General Susan Coyle, Chief of Joint Capabilities (with command over Australia's space, cyber and national defence support capabilities) was reported as saying at a defence conference in March that 'space security is no longer a future consideration; it is present and an urgent requirement'.¹³ She is the highest-ranking military officer responsible for protecting Australia's digital and orbital (satellite) infrastructure. I saw her speak at the Space Symposium in Colorado Springs in April, where she noted Australia was taking a 'space first' approach to defence investment. It was also announced at that same conference that in July this year she would become the Chief of Army. Coyle's approach was consistent with that outlined by colleagues in the EU, Japan and the US. Dual-use Earth observation investment and the interconnectedness of space and domestic cyber resilience were repeated themes of this conference. Why is New Zealand an outlier on 'space first' thinking for defence?

Small states can do this well

Scale and deep pockets are not prerequisites. Four small-nation examples show what a deliberate, space-first ecosystem strategy can achieve (see Box 1).

Shared themes from these examples? Start with dual-purpose commercial and sovereign resilience Earth observation investment; get your partners behind you and then strategise for a strong and evolving capacity for situational awareness and incident response.

Box 1: Small nations can do this well

1. **Luxembourg** – established its space agency in 2018 with a clear mandate: connect innovators, develop workforce, drive space commerce, and act as liaison to the European Space Agency (ESA). The result: space now contributes an estimated 2–4% of GDP, with an ambition to reach 5%.¹⁴
2. **Singapore** – built its 2013 Office for Space Technology and Industry into the newly formed National Space Agency of Singapore, with a vision for regional leadership in aviation, maritime, connectivity and sustainability. Singapore is already a strong performer in small satellite development and maritime domain awareness.¹⁵
3. **Norway** – co-funds maritime surveillance satellites and Arctic monitoring through ESA and allied partnerships – a partnered sovereignty model that punches well above its weight given its proximity to Russia and a vast maritime domain.¹⁶
4. **Slovenia** – joined ESA as an associate member, partnered proactively with European allies, and now operates its own Earth observation satellites – used for forest fire response, water health management and regional co-operation.¹⁷

From ground to orbit: building the surveillance stack New Zealand needs

Robust sovereign capability demands a layered approach – persistent surveillance from the sea floor to low Earth orbit (LEO). Monitored critical undersea cables. Ground stations. Surface vessels. Airspace. Satellites. Each layer reinforces the others.

Earth observation arrays are only cost-effective for small nations when built in partnership and designed for multiple purposes – defence, fisheries protection, safety at sea. The EU is rapidly expanding its own dual-use orbital infrastructure, serving both defence and commercial purposes, in pursuit of greater strategic independence.¹⁸ In late 2025, ESA member states approved €22.3 billion in funding, the largest contribution in the agency's history. As these ambitions scale, constraints in European launch capacity and the strategic importance of Southern Hemisphere coverage are driving increased reliance on global infrastructure and international partners.¹⁹

These prospective partners to shared infrastructure from Europe and our Five Eyes partners want what we have: a first-world, high-volume, open-access launch location as part of a diverse global portfolio. We offer geographic position, sound regulation, an active space agency and skilled labour. The more launches that occur in New Zealand, the cheaper the payload access for government and partner-owned satellites – and the stronger our own orbital surveillance layer becomes.

Rocket Lab has catalysed a considerable ecosystem. The NZ Space Agency estimates the sector now contributes over \$2.5 billion per annum to the economy.²⁰

There are structural constraints, however. Rocket Lab owns the only vertical launch site in New Zealand and does not permit other companies to use it – rational for them, but limiting for us. As Rocket Lab is a US-domiciled firm and holds its launch licence with the US Federal Aviation Administration (FAA), all Māhia launches require FAA approval – a dependency noted with concern by some potential European partners.²¹

The case for a second, open access, NZ CAA-governed vertical launch site

We have another potential launch site in Christchurch – Tāwhaki.²² This needs a bit of investment and more feasibility work to confirm its viability as a vertical launch site, with a vision for an open-access spaceport that various companies, including the major firms like Arianespace, Northrop Grumman, Blue Origin, Space X and even Rocket Lab itself, can use on behalf of global space agency and Earth observation clients, universities and researchers in New Zealand and worldwide and the scale contractors such as Thales, OHB and Airbus.

New Zealand also has some excellent ground Earth station facilities such as Warkworth and SpaceOps' magnificently located Awarua in Southland. The latter has some internationally unique advantages in terms of its low-trajectory view of the South Pole and its clear skies. New Zealand can become a major player for launch and ground operations for ourselves and our allies – a major plus. Furthermore, New Zealand has robust radio and terrestrial telecommunications networks, enhanced by proposed future investment in diverse, high-capacity international connectivity to support growth in data compute and transmission. We have the skies, the sites and the supporting infrastructure to receive, transmit and process data. And don't forget we are part of Five Eyes – the US and EU see this as a major advantage.

The quantum of additional funding Tāwhaki would require is not significant for private-sector primes and integrators (e.g. Airbus, OHB, Thales, Lockheed), when directed by their own clients such as ESA. Indeed the Europeans probably have the biggest problem to solve at present, as they seek to triple their own Earth observation array population. If we can partner with allies we can enable cost-effective, sovereign coverage and control. A Five Eyes/ESA Earth observation network – for example – would then form part of our own ecosystem of ground, sea and air surveillance and defence/commercial use cases, while being part of a broader regional intelligence sharing network. Collectively with Canada and Australia alone, the mid-sized Five Eyes nations could affordably launch a meaningful Earth observation array that supports domestic resilience and commercial opportunity, while strengthening our sovereign resilience and contributing significantly to our respective defence intelligence capabilities. If New Zealand is to really excel in this space we will need to partner with our allies, like Australia and Canada, and seek co-funding from other partners who are keen to have access to some of our infrastructure to support their own Earth observation satellite arrays and intelligence gathering. Second-tier membership of ESA, such as Associate or Cooperating State, is a plausible pathway for New Zealand in terms of access to significant funding. Canada already holds Cooperating State membership, while Australia is looking at ways to strengthen its relationship.²³

Talent: NZDF as the national trades engine

We have seen the enduring talent and capability ecosystem benefits that Sir Peter Beck and Rocket Lab have created in New Zealand and offshore. A second, sovereign-owned launch asset and a locally launched and operated dual-purpose Earth observation array will create further

jobs across space launch and operations supply chains, generate university research opportunities, and attract foreign capital into early-stage companies – while directly strengthening defence of our shores. We don't need ownership of a unique network, and this may well be out of reach for a nation the size of New Zealand, but with allies such as Canada and Australia keen to increase maritime domain awareness and sovereign control of such data, the opportunities for shared investment while forging a unique contribution to partners are timely considerations for us.

Yet we face a critical talent constraint. Weak pastoral care of first- and second-year apprentices across the education system and industry drives high trainee churn. We see accelerated departure offshore in skilled and experienced talent in communications, electronics, mechanical engineering and cyber. The major service providers to space, energy, telecommunications, data and cyber are all importing talent to meet demand. This isn't sustainable for New Zealand; nor is it building bright futures for school leavers who are not contemplating university.

From personal experience – having led the telco business that built nearly half of New Zealand's mobile radio network – I know that employers are reluctant to take on school leavers without the pastoral resourcing to support them. NZDF-trained tradespeople are the most sought-after in the market – and for good reason. Defence pastoral care is unrivalled in turning school leavers into skilled, productive, disciplined professionals.

There is a real business case for growing defence investment from the planned 2% to 3%, with additional funding committed to new intakes, trades training and leadership development. Meaningful co-funding might reside within the Vote Education budget. The economic return on a domestic, NZDF-trained trades workforce is significant – as are the social equity outcomes for school leavers entering a clear, well-supported career pathway.

The integrated vision

Space is not only about rockets and moonshots. It is the future of everyday telecommunications, a sector already fundamentally disrupted by satellite communications. Leading nation-states today understand a national space strategy is central to national resilience, data sovereignty, environmental health, protection of food supply and trade, and strengthening international partnerships. New Zealand has the geography, the regulations, the reputation and the relationships. What we lack is an integrated national strategy that connects the dots: from the sea floor to LEO, from school leaver to satellite engineer, from trusted ally to indispensable partner.

A space-first approach to sovereign resilience puts us in alignment with our Five Eyes partners, NATO, our OECD peers, and the demands of the 21st century.²⁴

Sovereign resilience, GDP growth, foreign investment, jobs

It's not rocket science – it's a capability ecosystem. Let's have a strategy and investment thesis to ignite our huge potential and reach for the stars.

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