



# **Australia Gearing for Defence Innovation**

by Alison Z. Pang  
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# BRIEFING NOTE

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## AUSTRALIA GEARING FOR DEFENCE INNOVATION

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Australia is facing a deteriorating geopolitical environment. The escalation of China-U.S. competition as China seeks a strategic regional advantage through coercive tactics, as well as the collaboration between Russia, North Korea, and Iran in their destabilizing aggression further undermine international norms and stability. This new, challenging environment requires a whole-of-government approach to defence, one that aligns defence, foreign, trade, and economic policy to coherently respond to hybrid threats, such as foreign interference, grey zone tactics, and cyberattacks. As a result, Australia has moved away from [a balanced force](#) posture to a focused one in response to the risks of great-power conflict at its doorstep. The previous balanced force posture diversified Australia's defence to prepare for a wide range of contingencies, from disaster relief to overseas counter-terrorism deployment, since there was no single pressing domestic threat, e.g., an invasion. In contrast, a focused force posture optimizes national defence to deal with the "most consequential risk"—any threats to Australia and its immediate region. The country has adopted [a strategy of denial](#) for these objectives, i.e., deterring adversaries from taking damaging action and preventing conflict from arising with credible military force backed by cutting-edge technology. Strengthening ties with allies and partners (especially AUKUS) and fostering innovation are indispensable for this strategy.

In its 2024 iteration, the National Defence Strategy emphasized for the first time the importance of innovation to accomplish strategic objectives. To address barriers to innovation and the adaptation to advanced technology, the Australian government established the [Advanced Strategic Capabilities Accelerator](#) (ASCA), modeled after the U.S. Defense Advanced Research Projects Agency (DARPA), a Department of Defense agency that incubates advanced and disruptive military technology. Like DARPA, ASCA brings together the defence industry and academia to solve the most urgent demands of the Australian Defence Force (ADF) and accelerate the procurement process to allow the ADF to access innovative solution at pace.

ASCA's process starts with a capacity manager (such as the Chief of Navy, Chief of Army, and other Group Heads) identifying a mission need. Establishing a direct need-to-project pipeline helps eliminate waste of resources on projects without a clear path to application. ASCA then works with industry and academia to co-design a technological approach outline. During the formal development process, the capacity manager monitors ASCA closely to ensure the practicality of the solution being developed. Regulators are brought in during the testing phase to streamline oversight and accelerate advancement to the contract phase. After the project is approved, the contract is directly awarded to a pre-vetted ASCA firm or university, based on a value-for-money assessment that evaluates cost, quality, and effectiveness to ensure the best return on investment. Although some industry partners may find the new process frustrating, it saves them resources and time from reapplying and pitching for a contract they have already been working on.

The new framework pushes for deeper reform in the procurement process to be more flexible and effect-based, which the government is willing to back with legislation. Instead of traditional open-market tendering, ASCA invites universities and firms, especially start-ups, to pitch days at least twice a year. This approach challenges the current boundaries of procurement by improving government-industry communication and integrating emerging technology. The government can state its focus clearly to the firms to help guide their priorities, while firms get the opportunity to showcase their existing projects and capacities. By allowing firms and universities to apply for different levels of clearance, ASCA offers a platform for more diverse participants, especially small to medium enterprises (SMEs). Although geared towards co-development with AUKUS partners, ASCA prioritizes Australian firms in order to build resilience against supply chain disruption from global crises, a lesson the government learned during COVID-19. Attracting private finance, such as venture capital and private equity, is another disruptive change. AUKUS Pillar II already embraced a [multi-sovereign public-private funding](#) structure, launching the AUKUS Defence Investors Network, composed of 300 venture capital firms, family offices, and corporate venture capital groups. Risk-tolerant private investors are well-suited to shoulder risks in research and development.

ASCA focuses on delivering technologies that can help Australian obtain an [asymmetric advantage](#), targeting the development of capabilities such hypersonic missiles, directed energy, trusted autonomous systems, quantum technology, information warfare solutions, and long-range fires. Investing in the aforementioned cutting-edge technology plays to the advantage of Australia as a developed, middle power. The development and acquisition of Ghost Shark, the ["Mission Zero"](#) of the Extra-Large Autonomous Undersea Vehicle (XL-AUV) program, embodies the

efficiency of ASCA's new procurement procedure. This uncrewed submarine, [capable of](#) persistent intelligence, surveillance, reconnaissance, and strike, would provide the Royal Australian Navy (RAN) with stealthy, long-range warfare capacity. The RAN initiated the project in 2022, co-developed it with ASCA, Defence Science and Technology Group (DSTG), and Anduril Australia, and forty-two Australian firms participated in the supply chain. The prototype was delivered a year earlier than planned in 2024.

ASCA also hosts challenges and competitions for industry and research institutions to address specific defence needs. Three firms – AMSL Aero, Boresight, and Grabba Technologies – won a \$2.2 million AUD contract each from the [Sovereign Uncrewed Aerial Systems](#) (UAS) Challenge to produce 100 general-purpose UAS. The [AUKUS Electronic Warfare](#) Innovation Challenge, jointly launched by ASCA, the U.S. Defense Innovation Unit (DIU), and the U.K. Defence and Security Accelerator (DASA), awards contracts to firms across the three countries.

Australia's defence strategy is evolving to address growing geopolitical tensions and regional instability. By shifting to a focused force posture and prioritizing innovation through initiatives like ASCA, Australia aims to enhance its military capabilities and deter emerging threats. Collaborating with industry and AUKUS partners, these reforms ensure a more agile and resilient defense posture, ready to meet future challenges.

## About the Author

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**Alison Z. Pang** is a graduate student at the Norman Paterson School of International Affairs (NPSIA) at Carleton University. She holds a B.A. in International Relations from the University of Toronto and currently works at the Macdonald-Laurier Institute as a summer fellow. Her academic interests include Asia-Pacific security, digital authoritarianism, democratization, and democratic backsliding.

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