

ASPI AUKUS update 2: September 2022—the one-year anniversary

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Introduction

Consistent with a partnership that's focused on the development of defence and technological capability rather than diplomatic grandstanding,¹ there have been few public announcements about the progress of AUKUS. That's an observation we made in our first AUKUS update in May,² and one we make again in this latest update, one year on from the joint unveiling of the partnership in mid-September 2021.

Periodic press releases note meetings of the three-country joint steering groups—one of which looks at submarines and the other at advanced capabilities—but provide little hint about what was discussed.³ On Submarines, we shouldn't expect to hear anything concrete until the 18-month consultation phase concludes in March 2022.

What's changed, however, is that the strategic environment that gave birth to AUKUS has worsened markedly, most notably in Russia's invasion of Ukraine and China's escalating pressure on Taiwan and other parts of the Indo-Pacific. Those developments are making the advanced technologies AUKUS aims to foster even more relevant.



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While the political landscape across the three AUKUS partners has also changed (of the three leaders that announced AUKUS just one year ago, only one, US President Biden, remains in office), bipartisan support for AUKUS appears to be undiminished in all three capitals.

In Australia, Prime Minister Anthony Albanese's Labor government has made clear its commitment to AUKUS alongside the announcement of an ambitious Defence Strategic Review (DSR). Albanese has simultaneously worked to restore good relations with France, which temporarily withdrew its ambassador and some forms of cooperation because of the loss of the Attack-class submarine contract and what it said was a lack of Australian sincerity about AUKUS.

Britain's new Prime Minister, Liz Truss, was a staunch advocate for AUKUS as Foreign Secretary, and all the signs are that she'll continue in that vein as Prime Minister. Truss has kept Ben Wallace, a strong supporter of AUKUS, as Defence Secretary. Truss's government has also moved former National Security Adviser Stephen Lovegrove into a new role focused on nuclear defence industry partnerships. If that becomes a permanent position, it could add capacity to deliver AUKUS over the long term.⁴

This update begins by reviewing the worsening strategic context one year on from the AUKUS announcement. Next, it summarises what more we have learned about progress in the nuclear-powered submarine (SSN) program, which is at the heart of AUKUS. It then assesses how think tanks across a selection of key countries are covering AUKUS to gauge trends in the public debate. The final section of the update assesses the importance of advanced technological cooperation through AUKUS to develop capability and reinforce deterrence rapidly in the face of the strategic challenges we face. The update makes some recommendations for the best way forward.

The strategic context one year on

While there have been few public developments to report about AUKUS, there have been significant developments in the strategic environment that AUKUS is intended to respond to and shape. Twelve months on from the signing of the AUKUS agreement, we face the most dangerous strategic outlook since the end of the Cold War.

The most significant geopolitical points of frictions since the signing of AUKUS have been Russia's invasion of Ukraine on 24 February 2022 and repeated nuclear threats against NATO countries,⁵ as well as China's provocative military drills around Taiwan during and after the visit by the US Speaker of the House Nancy Pelosi in August 2022.⁶

In addition to those global events, we're also witnessing growing collaboration between Russia and China, including the February 2022 announcement of a new 'no limits' partnership between the two countries.⁷

As Chinese President Xi Jinping prepares to extend his term in office at the 20th Chinese Communist Party (CCP) Congress in October 2022, the party looks increasingly willing to use force to invade and control Taiwan. This risks a wider war between China and the US, which could involve other countries in the region, including Australia. China is rapidly modernising the People's Liberation Army (PLA) in preparation for such a conflict. That includes moving beyond the previous minimum deterrence posture by expanding and modernising the PLA's nuclear forces, potentially with the aim of reaching nuclear parity with the US and Russia.⁸

Closer to home, despite assurances to the contrary by Prime Minister Manasseh Sogavare, the signing of a security treaty between China and Solomon Islands in April 2022 has raised fears of a forward presence for the PLA a mere 2,000 kilometres from Australia's east coast.⁹

Progress in the nuclear-powered submarine program

The SSN line of activity continues its work largely behind closed doors. The signing of the Exchange of Naval Nuclear Propulsion Information Agreement between Australia, the UK and the US in November 2021 was a key step enabling cooperation between the three partners.

The new Labor government in Australia has confirmed that it's still expecting the Nuclear-Powered Submarine Taskforce established by the previous government to deliver its recommendations on the optimal path forward by March 2023, within 18 months of the original AUKUS announcement. The government has also directed the DSR team that's examining Australia's military force structure requirements to work closely with the SSN taskforce and to deliver its report at the same time.¹⁰

To ensure delivery over this crucial period, on 28 June 2022, the Albanese government announced that the Chief of the Defence Force, General Angus Campbell, and the Vice Chief of the Defence Force, Vice Admiral David Johnston, would have their terms of office extended by two years. Defence Minister Richard Marles explained the decision in terms of continuity at a crucial time:

The Albanese Government is putting a premium on continuity. This applies to strategic advice and the timely and effective delivery of key procurements including through the AUKUS framework.¹¹

Much of the initial reaction to the original AUKUS announcement was speculation about which submarine Australia would acquire. Since then, there's been growing realisation that developing other elements such as workforce are just as important for delivering an effective and timely capability as the submarines themselves.¹²

In recognition of the need for 'training and development of future commanding officers, and in order to uphold the stewardship of the Naval Nuclear Propulsion Program', the US Congress's AUKUS working group (aka the AUKUS caucus) introduced the Australia-US Submarine Officer Pipeline Act to create an Australian submariner training program in June 2022.

Under the program, a minimum of two Australian submarine officers would be selected each year to participate in training with the US Navy. Each such participant will:

- Receive training in the Navy Nuclear Propulsion School
- Enroll in the Submarine Officer Basic Course
- Be assigned to duty on an operational US submarine at sea.¹³

During a recent visit to the UK by Deputy Prime Minister Richard Marles, former UK Prime Minister Boris Johnson announced that 'Royal Australian Navy crews will train on the newly commissioned HMS *Anson* and other Astute-class submarines,' although no details about numbers or timing have been released.¹⁴ Such programs are a good start, but more will be needed to generate 2,000+ submariners for Australia's future fleet.

While speculation about the submarine design itself continues, at least one option has been ruled out. UK Secretary of State for Defence Ben Wallace has said that, once the Royal Navy's seventh Astute-class boat has been delivered, 'that's it ... We are on to our next design and our new one.'¹⁵ This confirms what a number of analysts have argued: that the Astute class was always a non-starter for Australia due to mismatched schedules and the fact that the UK's industrial base was already transitioning to support the Dreadnought-class ballistic missile submarine (SSBN) program.

Wallace suggested that the UK's future SSN could in fact be a joint design between the three partner countries, describing it as 'a truly UK-US-Australian enterprise' and a design 'that might well be fully shared with all three nations as a collaborative design'.¹⁶ While anything is possible, it would be remarkable if the Royal Navy and the US Navy (USN) could harmonise their requirements sufficiently to permit a single collaborative design in the light of the significant differences in size and capabilities of their current designs.

The industrial strategy to build Australia's submarines also remains unclear. Consistently with the previous government, Defence Minister Richard Marles has stated that the submarines would be built in Australia; however, he has also said that 'capability and strategic need must drive decision-making ... industry follows that.' He acknowledged that that could mean the first boats could be built overseas.¹⁷

However, there are also questions about the capacity of US industry to build submarines for Australia without affecting existing USN programs. Recently, the head of the USN's SSBN program provided a reminder that the nuclear deterrent remained the USN's highest priority. When questioned in an interview about the prospects for building Australian submarines, he noted that 'if we're going to add additional submarine construction to our industrial base, that would be detrimental to us right now.' Significant investment would be needed to develop additional capacity.¹⁸ However, this merely confirms what both the Navy and US industrial leaders have told Congress.¹⁹ Also, the US Government Accountability Office noted in June 2022 that the ramp-up of the USN's SSBN programs was causing delays to the SSN program due to competition for resources.²⁰

In short, many key issues in the SSN enterprise remain open and are unlikely to be resolved before the SSN taskforce delivers its recommendations to the Australian Government next year.

Progress on nonproliferation issues

Acquisition of SSNs using presently available US and UK nuclear technology would require the transfer of highly enriched uranium (HEU) to Australia. Consequently, commentators have raised proliferation concerns because HEU could in theory be transferred for use in nuclear weapons.²¹

However, under paragraph 14 of the International Atomic Energy Agency's (IAEA's) INFCIRC/153, the international nonproliferation regime does permit the use of nuclear material by non-nuclear-weapons states for 'non-peaceful purposes' such as propulsion for military vessels.²² However, since no states have yet enacted the provisions of paragraph 14, there's no existing precedent for a suitably robust safeguards regime for HEU transferred to a non-nuclear-weapons state.

The three AUKUS partners have made a very strong commitment to establish such a regime.²³ The new Australian Labor Party government when in opposition made its support for AUKUS contingent on Australia continuing to meet its nonproliferation obligations. Since the election, it has adhered to that position.

The partners have been working very closely with the IAEA to begin the development of a robust safeguards regime. While it's still early days, in July 2022 IAEA Director General Rafael Grossi visited Australia to discuss nonproliferation issues and stated 'I am satisfied with [Australia's] expressed commitments to comply with all of its obligations towards nuclear non-proliferation.'²⁴ The IAEA Board of Governors is expected to consider Grossi's report at its meeting on 12-16 September.

The 10th Review Conference of the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), held in New York in August, stimulated discussion of AUKUS.

Several countries submitted working papers ahead of the NPT Review Conference.²⁵ Indonesia's submission provoked much media attention: some claimed that it showed Indonesia opposed Australia's SSN program and indeed was working to prevent it.²⁶ Whatever the private view of the Indonesian Government may be, the working paper doesn't oppose Australia's acquisition of SSNs. In fact, it provides a pathway towards the establishment of a robust safeguards regime:

Indonesia calls upon all States parties to the Treaty to garner political will and create opportunities for IAEA member States to develop a constructive approach on verification and monitoring arrangements of the nuclear naval propulsion programme, with a view, among others, to enhancing safeguards agreements that tighten monitoring measures for uranium designated for naval propulsion reactors in non-nuclear-weapon States to prevent diversion of that material for use in a nuclear weapons programme.²⁷

China has made its opposition to AUKUS clear, including in working papers submitted for and in interventions at the NPT Review Conference.²⁸ China's recommendation that a 'special committee' analyse AUKUS seems unlikely to gain traction. It seems that China is seeking ways to politicise, complicate and delay the process that the IAEA already has in hand. Ironically, Russia raised concerns that AUKUS 'provokes tension in the sphere of international security', and Iran spoke of 'double standards'. However, some responsible members of the international community also raised concerns, including Malaysia. Several countries welcomed Australia's engagement with the IAEA on this issue.²⁹

Reflecting international concerns, the AUKUS countries submitted a joint working paper to the NPT Review Conference that commits not only to establishing a new safeguard regime (see the text box below), but also setting a precedent that's robust enough to manage states with a less credible nonproliferation history than Australia's:

Australia, the UK and US are working closely with the IAEA to ensure that the precedent set by Australia's acquisition of conventionally armed nuclear-powered submarines strengthens the global non-proliferation regime and closes the door to any potential misuse of these elements of the NPT framework for the purposes of developing a clandestine nuclear weapons program.³⁰

Potential elements of a new safeguard regime

Paragraph 10 of the Australia-UK-US joint working paper submitted to the NPT Review Conference proposed four elements that frame the approach to the submarine program. These could in theory form the kernel of a new safeguard regime:

1. Australia will not pursue uranium enrichment, reprocessing or nuclear fuel fabrication;
2. Australia will receive nuclear reactors that are already welded into the submarines, with the nuclear material inaccessible and in a form that could not be used in nuclear weapons without processing facilities that Australia will not have;
3. The AUKUS countries will remain fully engaged with the IAEA to implement a suitable verification process;
4. Australia will work with the IAEA to develop additional safeguards outside the submarine program, reassuring the international community that there is no undeclared nuclear material or activity in Australia.

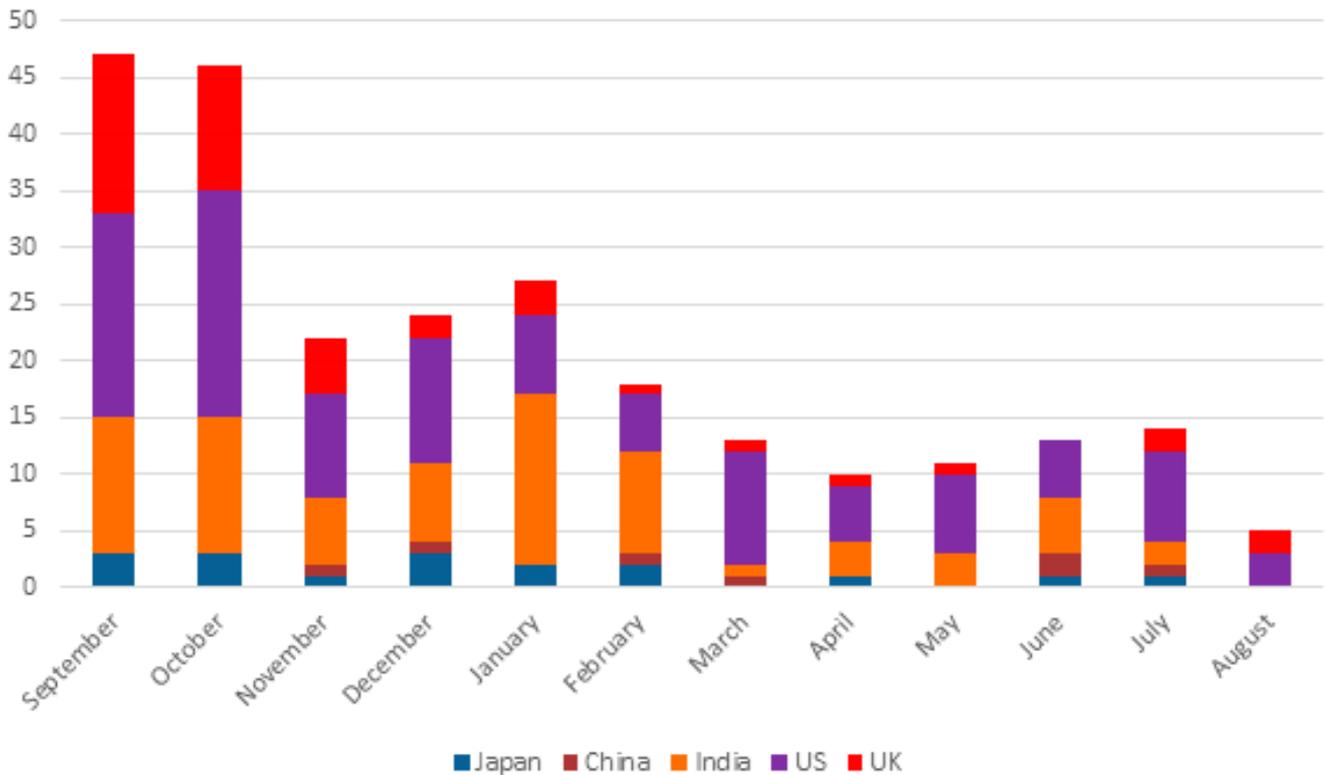
These points had been raised before the July working paper, but they are worth summarising again here because they are at the heart of efforts to reassure the international community that AUKUS can strengthen, rather than undermine, non-proliferation regimes. Experts continue to debate whether these proposals are realistic or effective.

Think-tank coverage of AUKUS

Since the last ASPI update in May, AUKUS has continued to feature prominently in international think-tank publications, albeit in reduced numbers. ASPI has continued to track published research and commentary—with a focus on output from the UK, China and Quadrilateral Security Dialogue (Quad) countries, with the exception of Australia. This data collection helps highlight the different debates, policy issues and areas of interests of both AUKUS members and key countries in the Indo-Pacific region.

The think-tank output that we've monitored includes every published report, commentary, podcast, panel discussion, interview and blog post from the top 10 largest defence, strategic studies and international affairs think tanks in those countries.³¹ We've focused on output where AUKUS was a focus, or at least was prominently mentioned. Our analysis of think tanks in China and Japan was conducted in both local languages and English. The subsequent results in Figure 1 indicate that more output was produced in the six months following the announcement of AUKUS (September 2021 to February 2022) compared to the next six-month period to the end of August 2022.

Figure 1: Think-tank output on AUKUS per month from Japan, China, India, the US and the UK between September 2021 and August 2022



Note: This data collected by ASPI included the top 10 largest defence, strategic and international relations think tanks by publication of each nation. Not all think tanks that we included in our data collection published content on AUKUS.

Output was again dominated by the US (38 pieces of content), India (14) and the UK (7) during the six-month period from March to August 2022. This trend was consistent throughout the first 12 months of AUKUS, when the US produced 108 pieces, followed by India (75), the UK (43), Japan (17) and China (7). The downturn in published pieces from February 2022 onwards is, in part, likely because of the lack of major AUKUS announcements.

Following AUKUS's announcement, key themes from the first six months that continued to be actively discussed this year include nuclear nonproliferation, great-power competition and the cyber dimensions of AUKUS, albeit to lesser degrees. Despite a drop in numbers, think-tanks' analysis of AUKUS was reimagined after February in the light of global developments, including Russia's invasion of Ukraine, the Australian federal election in May and Boris Johnson's resignation as UK Prime Minister in July.

While UK think tanks covering AUKUS tended to focus on domestic politics, US and Indian research institutions produced several pieces of analysis assessing the impact on AUKUS of Australia's new Albanese government, and that resulted in a small spike in Australia-focused AUKUS output.³² In contrast, Australian domestic politics were a relatively minor consideration in the first wave of pieces published after the announcement of AUKUS in September 2021.

There was also a drop-off in interest in nuclear nonproliferation following an initial surge in December and January 2022, which is again perhaps a consequence of a lack of official updates on AUKUS. One noteworthy exception was Jennifer Ahn's assessment of AUKUS within a wider analysis of the ongoing nuclear weapons debate in South Korea published by the US think tank the Council of Foreign Relations.³³ Indian think tanks tended to view AUKUS through the lens of the Quad and geostrategic competition, particularly following the Russian invasion of Ukraine. The conflict also resulted in a small uptick in US pieces about AUKUS in March, but appeared to have minimal impact on the quantity of AUKUS output coming out of Japan.

Despite low numbers, Japan's published works have remained overwhelmingly positive towards AUKUS. Similarly to the initial September–February period, Japanese think tanks have continued to use panel discussions to examine AUKUS, particularly in relation to the Quad. One of those discussions from the Nakasone Peace Institute involved analysts and other experts discussing the potential evolution of the Quad following US President Biden's visit to Japan in May 2022.³⁴

By comparison, Biden's visit wasn't a major theme in Chinese defence and security think tanks. Instead, the few Chinese pieces of analysis over the past six months, almost entirely from the Taihe Institute in Beijing, focused on the Ukraine conflict and great-power competition. One of those pieces was independent analyst Christian Hayward's analysis of a new Indo-Pacific version of NATO developing in opposition to China.³⁵ Large research bodies such as the Houde Institute and the China Institutes of Contemporary International Relations were also examined, but they lacked any specific mention of AUKUS. As noted in the preceding update, that may be due to the majority of their think-tank output not being made publicly available on their websites for international readership.

In summary, it's understandable that AUKUS is stimulating less analysis while there's relatively little substantial news about its progress to report over the past six months. Research institutions have had their hands full covering major international events, including the Ukraine–Russia conflict and ongoing tensions surrounding China's aggressive behaviour targeting Taiwan. That said, there remains a small but relatively consistent stream of output analysing AUKUS in the context of the Quad and the Indo-Pacific strategic environment.

AUKUS advanced capabilities beyond SSNs: opportunities and recommendations

The AUKUS agreement has continued to evolve against the backdrop of the worsening strategic environment. AUKUS is a technology-sharing agreement, with a focus most prominently on the acquisition by Australia of SSNs, but also on eight areas of advanced technology collaboration:³⁶

- cyber capabilities
- artificial intelligence
- quantum technologies
- additional undersea capabilities (beyond the SSNs)
- hypersonic and counter-hypersonic capabilities
- electronic warfare
- innovation
- information sharing.

Those technologies are important to the development of an Australian long-range strike capability, consistent with needs identified in the 2020 Force Structure Plan. In line with Australia's aim of a sovereign manufacturing capability for guided missiles, some of the AUKUS technologies will hopefully be suitable for domestic production, improving the reliability of supply in a conflict.³⁷

The very long wait for the acquisition of SSNs (the arrival of the first nuclear submarine is likely to be no earlier than the late 2030s) shifts emphasis onto long-range strike and advanced AUKUS technology collaboration to deliver capability and deterrence within a shorter time frame. This is reflected in the requirements of the 2023 DSR, which has a helpfully short 10-year time horizon, even though the range of decisions the DSR must tackle may already be unrealistically broad and difficult to resolve within the present resource envelope.³⁸

There's a balancing act between losing focus by adding too many areas of technological collaboration under AUKUS and missing out on opportunities for fruitful coordination in key sectors. One sector that's presently not listed separately as an AUKUS priority, for example, but that might be worth adding, is military space capabilities. This is a surprising omission in some ways, given the

vital importance of the space domain and Australia's rapidly developing commercial space sector.³⁹ Likewise, AUKUS could more explicitly establish a focus on human-machine teaming in air power, which could allow collaboration with the US in its Next Generation Air Dominance project and more broadly on lethal autonomous weapons.

Cyber—which is one of the eight areas of focus—is an area of low-hanging fruit. The AUKUS partners already work hand in glove (and with Canada) in cyberspace and on critical technologies. The three partners are aligned on how to implement 5G technology—including publicly, which separates them from many others who are aligned but doing so privately so as not to risk Beijing's coercion. The AUKUS partners could make a 5G statement that shows the world there are alternative pathways to Chinese technology and seek other countries to join. The partners should work together to ensure that other countries looking for a secure and reliable network and supply chain have confidence that support exists in a complicated technical area. This also provides AUKUS with a pathway to engage later on 6G and other critical technologies as it continues to develop.

There is also a strong case over the longer term for including partners such as Japan and South Korea in some technological sectors where they have key expertise and industrial capacity⁴⁰ and the 5 April 2022 AUKUS Leaders Statement opens the door to such broader collaboration: "As our work progresses on these and other critical defence and security capabilities, we will seek opportunities to engage allies and close partners."⁴¹ Unlike the submarine component of AUKUS, there's no need for all advanced capabilities to be an exclusive partnership and there will be key benefits to being strategically inclusive. Japan in particular is an obvious potential AUKUS partner and while it may be too early to invite Japan to join,⁴² AUKUS members should consider inviting Japan as an observer to select future discussions and forums. In return, Japan should better balance out its engagement across the AUKUS partners. For instance, the Japanese Government should consider increasing its policy focus on Australian and UK defence issues, which is currently very small in comparison to the US.

But, for now at least, locking in tangible progress among the three core partners by keeping AUKUS fairly narrowly focused outweighs the benefits of expanding the areas of cooperation or too quickly including external partners.

The most pressing areas of AUKUS advanced technology collaboration are perhaps those that sound the most anodyne: innovation and information sharing. Innovation is required to overturn traditional Defence mindsets about research and procurement in order to obtain capability faster. The innovation that's stimulated by cooperation with two highly advanced partners could, for Australia, be complemented by the establishment of an agency comparable to the US's highly successful Defence Advanced Research Projects Agency (DARPA)—a proposal previously recommended by ASPI⁴³ and adopted as a 2022 election commitment by the Albanese government.⁴⁴ A DARPA-style agency that could help rapidly convert military-related science and technology into actual capability would provide clear advantages to Australia. It would also enhance our contribution within AUKUS and could help overcome current barriers to information sharing, such as the US's International Traffic in Arms Regulations.

It's important that AUKUS not only makes progress but also retains its focus on new capabilities that can be acquired rapidly and will significantly boost deterrence. This is necessary to ensure that the ADF can shape, deter and respond to likely challenges in the region. Beyond the SSNs, the immediate priority should be long-range strike and deploying critical and emerging technologies to counter China's own rapidly developing capabilities. Achieving that may require making some difficult choices and trade-offs in the DSR in March.

Notwithstanding the paucity of public announcements, the deterioration in the strategic environment over the past year has only reinforced the need for AUKUS to succeed. We know that the development of submarines is a critical and long-term endeavour. It should be accompanied by a patient determination to identify the right capabilities across the full range of defence and security technology and develop them efficiently as a cooperative venture—first between AUKUS members and then, where appropriate, with trusted partners.

We don't have to see every move being made or listen to a press conference on every development, but strategic communication is important. Regular public updates will instil public confidence in the three countries and their close partners. It will also show Beijing and Moscow that the AUKUS partnership remains strong and focused on both innovation and deterrence. Regular updates incorporated into speeches and made through statements following working-level meetings, for example, would take a lead from the Quad's success in mitigating Beijing's disinformation efforts. It would help to demonstrate to regional countries and key stakeholders that AUKUS is about strengthening, not undermining, peace and stability.

Notes

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Acronyms and abbreviations

ADF	Australian Defence Force
CCP	Chinese Communist Party
DARPA	Defense Advanced Research Projects Agency (US)
DSR	Defence Strategic Review
HEU	highly enriched uranium
IAEA	International Atomic Energy Agency
NATO	North Atlantic Treaty Organization
NPT	Treaty on the Non-Proliferation of Nuclear Weapons
PLA	People’s Liberation Army
Quad	Quadrilateral Security Dialogue
SSBN	ship, submersible, ballistic, nuclear (nuclear-powered ballistic missile submarine)
SSN	ship, submersible, nuclear (nuclear-powered fast attack submarine)
USN	US Navy

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