



# Navigating Emerging Technology and Evolving Threats in the U.S.-Australia Alliance

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## THE ISSUE

- Ongoing changes and rapid shifts in the geopolitics, economics, and military balance of the Indo-Pacific region are causing the countries there to reconsider threat perceptions and defense approaches.
- New technologies are creating opportunities for states to disrupt strategic stability, because technology is expanding what states can do with reduced risk.
- The U.S.-Australia alliance has an important role to play in contributing to both strategic stability and deterrence but realizing this goal will require risk acceptance as part of future policy and strategy.
- AUKUS sets the right tone for the U.S.-Australia alliance; more will be needed to enhance regional stability through alliance efforts.

**N**ew technologies are being developed—and old technologies are being employed in innovative ways—that force the United States and Australia to reexamine previous notions of what behaviors are judged as provocative or reassuring.

Emerging technologies, such as missiles and missile defense, space, and autonomy and uncrewed systems, are introducing new dynamics to the Indo-Pacific region. These altered dynamics are bringing new considerations to classic problems, possess the potential to exacerbate Indo-Pacific regional tensions, and actively challenge policymakers to keep pace with rapid innovation trends. Most concerning, however, is that these technological changes are occurring within the context of an increasingly competitive Indo-Pacific region.

To examine these issues more closely, the Center for Strategic and International Studies (CSIS) partnered with the Australian Strategic Policy Institute (ASPI) to convene a dialogue held under the Chatham House Rule.<sup>1</sup> The dialogue

comprised three sessions between U.S. and Australian thought leaders on how emerging technology may affect strategic stability and deterrence in the Indo-Pacific region.

In September 2021—after the dialogue summarized in this brief had ended—Australia, the United Kingdom, and the United States announced the establishment of a new agreement to cooperate on a range of technology, defense posture, and manufacturing efforts, known as AUKUS. AUKUS will be discussed briefly at the end of this paper.

## CHANGING DYNAMICS I: THE STRATEGY SHIFT

*“There is a consensus in Washington that we are in an era of strategic competition. Joe Biden and his team have been clear: they agree that the Trump administration was right that we are in strategic competition with China but disagree with the approach the Trump administration took. This idea is broad, and it is bipartisan.”<sup>2</sup>*

The dialogues made clear from the beginning that both Australia and the United States assess that China's emerging policy choices are positioning it more as a rival or antagonist than a partner in the region. Participants in Australia and the United States also noted that their respective countries' policy positions toward China reflect that new assessment. Within both Australia and the United States, advocates for closer trade ties with China appear fewer and quieter than those concerned about China's approach and influence. Dialogue participants identified numerous drivers of this change, including China's building—and then militarization—of artificial islands; its aggressive and seemingly predatory lending practices; its willingness to use law enforcement, paramilitary, and ostensibly commercial vessels to press its sovereignty claims to international waters; the massive expansion of its navy and coast guard; its employment of trade embargoes for seemingly non-existential policy differences; and its efforts to influence regional states' political processes.

As confidence falls within the Indo-Pacific region that a nuclear-armed China is willing to act responsibly or adhere to international agreements, regional states are reassessing their own security situations. The United States and Australia each published national security strategy documents that outline concerns with the ways the region is changing—and both point clearly at China. At the time of the dialogue, the seeming convergence of strategic outlooks between Canberra and Washington had not yet led to an equally ambitious response to those challenges. The shift toward risk acceptance, as one participant noted, had not yet “been internalized by the government ministries” responsible for developing new policies. Thus, a strong theme in the dialogue was the importance of demonstrating leadership and pushing the bureaucracies in the respective countries to step beyond customary operations and prudently accept risk. One participant noted specifically that “[a] major risk is that our political leaders might not seize the political moment” to push their governments to take necessary bold steps.

Several participants—particularly from the United States— noted the need for the alliance to prioritize high-end warfighting, likely in the East China Sea, to ensure that the United States and its allies retain a credible deterrent or warfighting force. However, the discussion highlighted a concern from Australian participants that the United States should not take as a foregone conclusion Australia's participation in possible East China Sea contingencies. It is not that there was reluctance to participate; rather, participants noted that it would be important for U.S. and

Australian policymakers to discuss the form and location of Australian participation, rather than take it for granted. According to one participant, “The use of coercive military campaigns by China would trigger a reaction from the Australian public, allowing the government to respond. But Australia would not be willing to be the first to take a kinetic step.”

Even as participants noted concern over the risks to stability in the East China Sea and the need for both the United States and Australia to prepare for a possible conflict there, Australian participants were similarly concerned with the gray zone risks that China poses. They expressed concern about the limited responses the alliance has taken to date, noting China's increased employment of gray zone tactics. One participant went so far as to say that “the intellectual cupboard is empty” on gray zones. Absent developing means to engage or respond in the gray zone, the United States and Australia may risk losing the ability to shape the perceptions of regional states and domestic audiences alike.

### **TAIWAN**

*“Taiwan is a key real test case for the alliance. If the U.S. can't respond to China, allies will question the alliance. Or if the U.S. calls in allies and they fail to respond, the U.S. will question them.”*

Much of the geopolitical discussion focused directly on the U.S.-Australia alliance or on the ways the Indo-Pacific region is changing in response to China's diplomatic, economic, and security actions. Participants from both countries agreed that Taiwan was the most likely and most dangerous potential regional flashpoint. Discussion considered U.S. and Australian objectives and interests in several possible scenarios of conflict or escalation around Taiwan. The unclassified discussions did not address specific actions or deployments but focused on what types of actions and cooperation would be politically feasible within the context of the alliance and both countries' domestic and political limitations.

Consistent with the previously noted focus on high-end warfighting, many of the U.S. participants' comments focused on whether the United States could deter a People's Republic of China (PRC) attack against Taiwan, and if so, how. A recurrent theme was the need to improve the U.S. ability—whether alone or through the alliance—to deter through denial: “Denial is the standard over Taiwan—not just providing Taiwan with defense capabilities but being prepared to actively defend them.” Discussion highlighted steps the United States could take to bolster Taiwan's political and military resistance to a PRC invasion, both

to enhance deterrence and to bolster resilience should deterrence fail. These include the United States maintaining arms sales, increasing senior leader engagement, considering closer military training with Taiwan, and being “more present in the region in the case of coercive military campaigns.”

Australian participants indicated confidence that Australia would be with the United States should certain actions be necessary in Taiwan-specific circumstances: “Though better cooperation on issues on an interagency level is needed, [Taiwan] is not an alliance issue. Australia will definitely come to U.S. aid.” They noted, however, that the Australian Defence Force may not be best employed in large-scale operations directly on or near Taiwan.

Participants offered two alternatives to deterrence by denial that may better align with how Australian participants saw their comparative advantage. The first was through horizontal escalation, “where each ally could play a role through actions that put pressure on China throughout the region, not exclusively in Taiwan.” A second option was deterrence through punishment, “not through kinetic response, but by economic means and by internationalizing the conflict,” and in so doing creating such negative impacts on China’s other goals that the cost of securing Taiwan would not be worth it. Participants were divided as to whether it was possible to create a sufficient “punishment” strategy to deter China, given its repeated statements on the importance of Taiwan to its interests.

### **CHINA’S APPROACH**

*“China has transformed from an introspective country to one that engages the world as a modern state with ambitions, military, and military power projection.”*

China has increased defense spending, informationized warfare, and brought structural changes to the PLA.<sup>3</sup> It is expanding its use of uncrewed systems in the air and at sea and is developing a global network of ground stations to support its orbital space program.<sup>4</sup> China’s counter-intervention military strategy (known as anti-access/area denial to many in the United States and Australia) is based on advanced missile programs, including long-range hypersonic anti-ship missiles, and is focused on denying U.S. access (or delaying U.S. arrival) to areas



*HMAS Canberra forms up with Navy ships from the United States of America and New Zealand on completion of Exercise Talisman Saber 17.*

Photo: Naval Institute News, licensed under CC BY-NC-ND 4.0.

where China may seek to conduct military operations.<sup>5</sup> China is also pursuing a range of cutting-edge technology areas not addressed by this project, such as quantum computing and communications, biotechnology, computer chip design and manufacture, and renewable energy and battery technologies.<sup>6</sup> Many of these technologies also pose complications for U.S. and Australian policymaking processes, since commercial firms, rather than the government, lead investment and innovation in these sectors within the United States and Australia.

This approach has implications across the diplomatic, intelligence, military, and economic levers of power. To the extent that China sees the United States and its allies as rivals or threats, attaining global leadership—and possibly market dominance—in a range of capabilities that are core to U.S. and allied prosperity and defense planning would be damaging to U.S. and allied security interests. Shifts like these, absent mechanisms to diplomatically address and moderate their outcomes, increase the possibility of either side taking steps that disrupt strategic stability.

An underlying theme to the dialogue was the question of whether a force could be a credible deterrent if it was not assessed by a rival to be sufficiently survivable. For example, participants discussed concerns that political leadership could end up judging themselves to be in a condition to “use or lose” certain capabilities, due to the combination of emerging technology, asymmetry of mass vs. exquisiteness,

and political risk calculations. Participants were concerned with the escalation implications of such a position. For example, if the United States was able to credibly demonstrate an ability to target (or disable) all of China's nuclear forces in a single strike, it would decrease China's confidence in the survivability of a second-strike capability and incentivize a rapid decision on whether to use nuclear weapons or not.

## CHANGING DYNAMICS II: TECHNOLOGY

Three technology areas underpinned the dialogue: missiles and missile defense, space, and uncrewed and autonomous systems. For example, missiles and related systems are increasing in range, speed, and maneuverability, even as they proliferate through traditional military acquisition channels. Discussions noted that access to new, high-impact capabilities is being democratized via the commercial sector, especially in the case of space and of uncrewed and autonomous systems. Further, lower barriers to entry are driving faster discovery and commercialization of emerging technologies—and doing so at greatly reduced cost. Government acquisition is seen as falling behind the commercial sector.

### MISSILES AND MISSILE DEFENSE

Advances in missile and missile defense technology may have the most direct impact on strategic stability in the Indo-Pacific. An initial observation in discussions noted that in many ways, global militaries are focused primarily on creating a “projectile-centric force structure . . . at the end of the day, forces want to be able to destroy things.” China's People's Liberation Army Rocket Force (PLARF) is a leader in this trend, and its growing number of long-range missiles is of concern to the United States.<sup>7</sup> PLARF is developing new missile technology and currently fields a large number of shorter-range missiles able to target U.S. and allied forces in Japan and Korea, as well as to threaten Taiwan.<sup>8</sup> China's naval buildup, particularly the expansion of its large surface combatant ships, expands the ways it could choose to engage in a conflict, potentially firing a greater quantity of missiles from unanticipated directions, complicating missile defense efforts.<sup>9</sup>

Like China, the United States is also pursuing more sophisticated and capable weapons, such as hypersonic missiles,

long-loitering munitions, long-range ground-based fires, and others that could provide specific tactical or strategic advantages. U.S. efforts to develop and field new missile technology are often presented domestically as a necessary response to China's large and growing rocket forces, along with its rapidly expanding navy. Further, the U.S. withdrawal from the Intermediate Nuclear Forces Treaty allows the United States to pursue several strike capabilities it views as important to retaining a credible military force—for deterrence or conflict—in the Indo-Pacific region.<sup>10</sup> One participant noted how the withdrawal functions as a double-edged sword—insofar as it enables the United States to develop additional strike capability, while potentially increasing tensions with China—saying, “The withdrawal from the INF treaty is a poster child for the environment we find ourselves in now.”

Another concern noted that high per-unit cost, long lead manufacturing, and often difficult transportation and installation efforts decrease the impact of U.S. missile systems, especially missile defense systems. For the U.S. alliance system, this is further compounded by an impression among allies that the current U.S. missile production capacity is inadequate to meet demand for missiles during an actual high-end conflict. A participant stated that the United States and its allies “clearly do not have enough” missiles or launchers “for an offensive force” capable of defeating China.



*A large crane positions a new L-band radio receiver cone at Canberra Deep Space Communication Complex on August 19, 2015, in Tidbinbilla, Australia.*

Photos: Martin Ollman/Stringer/Getty Images

## SPACE

Access to space for both military and civilian uses is a growing focus of Indo-Pacific actors. Countries in the region continue to develop national programs—including kinetic and non-kinetic counterspace capabilities, as well as civilian space access—and support burgeoning commercial space industries. Lower-cost and more frequent access to space due to developments from commercial space firms contributes to the renewed focus on space throughout the region. Proliferation of space actors, one participant noted, will likely require greater efforts to establish behavioral norms in space, despite the challenges of doing so across an increasing number of actors.

Additionally, emerging Earth-observation capabilities have the potential to increase near real-time visibility into many areas of the world. This will likely enhance leaders' confidence in their information and in the quality of decisionmaking that such information enables. Simultaneously, increased reliance on national assets in space for intelligence, surveillance, and reconnaissance (ISR), communications, cueing, and targeting creates a potentially weak link in a range of systems, given the fragility of space assets and the time and cost associated with replacing them should a satellite be disrupted. Growing risks to the space complex led participants to consider whether "space is a stabilizing aspect or not going forward." Discussions highlighted three main concerns.

First, ground-stations for space-based capability remain highly vulnerable to kinetic and non-kinetic attack. Space has long been a key element of U.S. strategic early warning systems to detect launches of intercontinental ballistic missiles (ICBMs). Advances in both ground- and space-based means to degrade or destroy the efficacy of satellites creates a vulnerability, and U.S. systems long relied upon may not provide adequate information in a crisis. Additionally, increased access to space by and for commercial purposes is deeply intertwining space into the economic fabric of many societies, potentially opening them to gray zone tactics in space that target commercial assets, rather than military assets, to create a political or economic impact, rather than a military one.

Second, while the escalatory potential of targeting strategic nuclear satellite systems is well understood, a growing reliance on space for critical conventional military functions—such as command and control and position, navigation, and timing information—may complicate the escalation ladder. As military and commercial capabilities are increasingly commingled on satellites, interference with or destruction of these assets may be highly escalatory to U.S. policymakers—in ways potentially unknown to the attacker. For example, attacks against satellites may be viewed by rivals as de-escalatory, but if those assets also act as a command-and-control node for military forces, the disruption could be viewed by Washington as highly escalatory.

Finally, to the extent that emerging Earth-observation capabilities allow near real-time monitoring of large parts of the globe, it reduces a state's confidence in its own ability to develop or deploy capabilities covertly—even within its own borders. The reduction in stealth and the resulting compression of a decision window for possible retaliatory capabilities could lead to a dynamic of "use it or lose it" across a range of capabilities—most concerning, nuclear forces—resulting in a compression of the escalation dynamics into minutes or hours, rather than days or weeks, as was the case in generations past.

## UNCREWED AND AUTONOMOUS SYSTEMS

Uncrewed and autonomous systems may enable new concepts of operation that could be highly disruptive to strategic



*The Air Force's Global Hawk unmanned aerial vehicle (UAV) makes aerospace history as the first UAV to fly unrefueled 7,500 miles across the Pacific Ocean.*

Photo: U.S. Air Force/Handout/Getty Images

stability. Against the backdrop of uncertain escalatory risk from missiles and missile defense, not to mention space, much of the discussion around uncrewed and autonomous systems focused on what states seek to avoid and what consequences that avoidance incurs. Two main topics emerged in the discussion: the reduced risk to personnel when deploying uncrewed systems and the potential for uncrewed and autonomous systems to incentivize provocative or escalatory actions.

First, there is a general perception that the destruction of an uncrewed system causes no loss of human life and has a low relative cost. This may result in states lowering their thresholds to fire upon vessels—air or sea—operating near national territories. To the extent that firing upon vessels becomes routine, reintroduction of manned vessels may lead to crisis if operators do not realize the change. Second, lacking crews to risk, states may experience fewer constraints on employing uncrewed or autonomous systems in ways that are provocative. However, this dynamic may also provide states more response flexibility during a crisis. For example, in the event that a remotely crewed platform is downed by an adversary, a state might find it politically acceptable to explore options other than retaliatory—and potentially escalatory—strikes. Indeed, one participant offered historical examples pointing to the reduced escalatory potential of downing an uncrewed platform, such as Iran’s alleged downing of a U.S. RQ-170 in 2011 and its shooting of a U.S. Navy RQ-4 Global Hawk in 2019—with limited known U.S. retaliation.

As the use of autonomous and uncrewed systems increases—including the adoption of unanticipated concepts of operations across air, sea, and land domains for uncrewed platforms—this will further strain existing conventions on what constitutes threat, risk, and escalation. Likewise, the continued development of these technologies could cause escalation.<sup>11</sup> For example, companies are experimenting with uncrewed or autonomous systems for missions monitoring weather, ocean conditions, and fish stocks. Additionally, nations are experimenting with uncrewed or autonomous surface and sub-surface vessels for missions ranging from maritime ISR to possible future uncrewed strike platforms.<sup>12</sup> The technology exists now for countries to leverage the commercial capabilities for ISR, and plausibly to create forms of autonomous or uncrewed strike—for example, autonomous sea mines.<sup>13</sup>

Of course, the United States is incorporating entire technological systems, not just individual emerging technologies, into its activities. This creates the potential for

unexpected effects as a result of the interactions between multiple new systems—in other words, a new system of systems. A disruption to one of the systems involved could impose a shock across the whole system of systems in ways that are presently unknown, underappreciated, or unanticipated. The commingling of legacy technologies with current and emerging ones, as well as the infrastructure needed for interoperability between systems, creates a larger potential set of vulnerabilities for rivals to target. Furthermore, increases in potential attack speed—such as through hypersonic weapons, large-scale cyberattacks, or others—reduces the time to detect and respond to such attacks, thus decreasing the necessary duration to effectively neutralize a system.

For example, U.S. missile defense capabilities are dependent upon adequate warning from airborne or space assets, communicated through other satellites to a ground station that utilizes cyber networks to alert an operator whose commander determines whether to fire a counter-missile. It takes only a few moments of interruption at any one of those steps to delay a U.S. action until it can no longer be effective. Such disruption can occur without physical destruction or even lasting damage.

Participants generally agreed that new technology resulted in a roughly comparable level of strategic stability for the alliance and for Indo-Pacific efforts. However, they noted that the accumulation of many new complexity-compounding variables suggests that a wider range of outcomes is likely, some of which may result in less stability or even instability. For instance, while discussing space (though offering a concept that can be generalized to other technologies), one participant asked, “How resilient are our capabilities in a future conflict? At what point does one power get strike dominance over the other?” As nations, their economies, and their militaries increasingly rely on complex but potentially fragile systems of systems, the possibility for a miscalculation, or an error that leads to unintentional escalation, is also growing.

Even though participants were generally comfortable with the rate of change for risk in the Indo-Pacific, discussions seemed to gravitate toward situations where the current norms of strategic stability would be disrupted. Another concern—and area of major discussion—involved risks of coercion or conflict about Taiwan. A third theme present in many discussions was the degree to which the alliance is leveraging its technology, research and development, and high-end manufacturing capabilities to create advantages in emerging technologies, as well as the degree to which

the existing intellectual and manufacturing infrastructure for emerging technologies hampers both deterrence and warfighting effectiveness.

## ANALYSIS AND IMPLICATIONS

Over the course of the dialogue, participants assessed that the risks to stability today were, on balance, about the same as over much of the past 30 years. This assessment was made despite emerging technologies contributing to national leaders being both willing and able to take a wider range of potentially risky or provocative actions.

From the perspective of Washington and Canberra, the single greatest change occurring in the Indo-Pacific over the past decade is China's increasingly aggressive actions to assert its interests. Many regional states are left with little choice but to believe that China seeks to impose its will with the barest regard to the sovereignty, rights, or freedoms of its neighbors. As the United States, China, and other regional states act to protect their interests, a potential risk is that those actions will be perceived as antagonistic or escalatory by rivals, inducing further antagonistic or escalatory acts. Absent better understanding of how actions are perceived, and what is considered threatening, growing mistrust can lead to a greater possibility of escalation.

Discussants generally agreed on the concerns facing the U.S.-Australia alliance in the region, differing more on ranking of concerns rather than the concerns themselves. One Australian participant stated that gray zone tactics are the most concerning security scenario for Australia. U.S. participants were more likely than Australian participants to prioritize high-end conflict as the greatest concern in the Indo-Pacific. Participants from both countries frequently raised concerns over China's intent to retake Taiwan, whether through gray zone or military attack. Despite some divergence on prioritization, it is the judgment of the authors that participants were concerned with both scenarios, with some difference as to the relative degree of concern.

Looking across the region, participants discussed that the alliance would be able to meet current obligations over the near term. In the medium to long term, however,



*U.S. secretary of defense Lloyd Austin shakes hands with Australian prime minister Scott Morrison as he arrives to the Pentagon on September 22, 2021, in Arlington, Virginia.*

Photo: Drew Angerer/Getty Images

confidence in that assessment shifted. Drivers of the differing views included the ability of the United States and Australia to adopt emerging technologies and innovative concepts of operation, as well as their ability to recruit other regional states to embrace similar approaches. Even as participants expressed confidence in the ability of the alliance to meet future regional needs, they shared concern at the lack of specific plans or processes to conduct combined preparations for those contingencies.

### **POST-DIALOGUE DEVELOPMENT: AUKUS**

In September 2021, the leaders of Australia, the United Kingdom, and the United States announced a new agreement colloquially called AUKUS, after the signatory countries. The signatories agreed to collaborate more closely on diplomacy, security, and defense in the Indo-Pacific region.<sup>14</sup> The initial project is a collaboration to enable Australia to acquire nuclear-powered submarines. The agreement also notes intent to cooperate on defense science and technology, the industrial base, and supply chain issues. As the announcement of AUKUS occurred after the conclusion of the dialogue summarized in this paper, perspectives offered in this section are only those of the authors, without the benefit of the diverse insights of dialogue participants. AUKUS demonstrated willingness by both President Biden and Australian prime

minister Morrison to take large steps to strengthen the alliance in the face of current and emerging challenges. The dialogue raised concerns about the degree to which the leaders would be able to infuse their sense of urgency and willingness to accept risk into their respective governments. The bold vision of AUKUS and its high-profile announcement represent a tangible and credible way to do just that.

The AUKUS agreement begins to address another concern raised in the dialogue: how the United States and Australia can continue contributing to regional stability in ways consistent with Australia's concerns about being directly involved in potential military clashes. With nuclear-powered submarines, Australia would have a credible deterrence capability that is well-suited to conduct important missions that support both Australia's interests and alliance needs throughout the Indian and Pacific Oceans. In addition to recently announced cooperation on hypersonic weapons science and technology cooperation, the alliance should explore a range of additional near-term research, posture, and acquisition initiatives that have the potential to enhance security while managing the risks of provocation or instability that may emerge from such actions.

AUKUS demonstrates the potential benefits of a trilateral focus on common priorities. Such groupings enable participants to focus on collaboration in more targeted and creative ways than is often possible in larger groups. Another potentially impactful trilateral grouping could be between Australia, India, and the United States. The three countries' shared interest in Indian Ocean security and their ongoing engagement in the Quad create a foundation on which greater dialogue among nongovernmental experts could identify areas for expanded cooperation and avoid the pitfalls that can emerge in any relationship.

Finally, though AUKUS does not propose any direct means of addressing gray zone options for the United States and Australia—identified by dialogue participants as a shortfall—it in fact represents such a step. By demonstrating a willingness to take unexpected action in ways that do not directly impact other states, especially rivals, AUKUS itself is a means of contesting changes to the status quo.

## KEY FINDINGS AND RECOMMENDATIONS

**Finding:** The intellectual cupboard is bare when it comes to gray zone options.

**Recommendation:** *Develop a gray zone playbook.* The United States should establish an interagency policy committee process within the National Security Council staff, with all participating offices and agencies tasked with providing a range of options—including nontraditional and potentially escalatory options—to be included in a gray zone playbook. Australia should conduct a similar process and both countries should compare products at the 2022 meeting of the Australia-U.S. Ministerial Consultations (AUSMIN).

**Finding:** Existing U.S. force posture in the Indo-Pacific is inadequate for competition, deterrence, or conflict.

**Recommendation:** *Expand U.S. force posture, possibly including permanent posture, in Australia.* This should include increasing the rotational presence of the Marine Corps and Air Force, establishing U.S. Navy facilities in Australia's west and north, and leveraging Australia's training ranges for in-region readiness-building for the U.S. Army, Marine Corps, and Air Force.

**Finding:** The Australian and U.S. militaries are not adapting fast enough to new technology; there is insufficient experimentation within the force.

**Recommendation:** *Increase research and development, experimentation, and concept testing between the United States and Australian militaries.* This should include expanded collaborative research and development between universities, labs, and companies. It should include ongoing and iterative experimentation with concepts of operation for small unit, large formation, joint, and combined efforts. It should also include joint training areas for autonomous systems use in future operations. As operational tempo drops and forces reset post-Afghanistan, leaders should create time for their subordinates to experiment and innovate with existing and new technologies and capabilities.

**Finding:** The alliance lacks adequate manufacturing capacity or existing stocks of missiles to sustain high-end conflict.

**Recommendation:** *Create new missile production lines in Australia.* The secretary of defense should drive a process within the U.S. Department of Defense (DoD) and its industrial suppliers, and with Australia, to create new production lines for munitions in Australia such as the Tomahawk, the Long-Range Anti-Ship Missile (LRASM), and standard missile 6 (SM-6).

**Finding:** The possibility that inadvertent escalation or provocation results in conflict will likely grow over time as positions in Washington and Beijing harden. Asymmetric

understanding of risk assessment regarding emerging technologies between Washington and Beijing may accelerate this possibility.

**Recommendation:** *Develop shared understanding of potential conflict or escalation trigger events.* The DoD, through the Defense Threat Reduction Agency or another component, should examine conditions in which differing understandings of how emerging technologies are employed may lead to the United States or the PRC committing forces and engaging in conventional conflict—as well as considering what might lead to nuclear employment.

**Finding:** Trilateral groupings grounded in the U.S.-Australia alliance enable targeted cooperation and focused signaling, the likes of which is more difficult to do in larger groupings.

**Recommendation:** *Encourage increased collaboration with strategic partners in the Indo-Pacific through expanding trilateral discussions.* The DoD, through DTRA or other components, should prioritize continued track 1.5 and track 2 trilateral engagements involving Australia and other regional allies or partners. India may be the most impactful country in this regard. Additional trilateral engagement partners to consider include Indonesia, Japan, South Korea, the Philippines, New Zealand, and Vietnam.

**Finding:** AUKUS will need to deliver more than submarines by the mid-2030s to truly shape security and stability in the Indo-Pacific region.

**Recommendation:** *Continue further U.S.-Australia conversations to develop and create actionable joint initiatives.* The United States and Australia, possibly with the United Kingdom, should convene track 1.5 and track 2 dialogues to develop and evaluate near-term initiatives in research, posture, and acquisition that have the potential to enhance security while managing risks of provocation or instability that may ensue from such actions.

## CONCLUSION

The dialogue summarized in this report provided a venue for strategic leaders, leading analysts, and experienced practitioners from the United States and Australia to exchange views on what was working and what needed focus within the alliance, including in the realm of emerging technologies. Both the dialogue and the announcement of AUKUS make clear that the U.S.-Australia alliance is as strong as it has ever been. At a time when regional states see growing instability and are concerned about their place in an increasingly tense region, the alliance has an opportunity to lead by example. ■

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Cover Photo: Drew Angerer/GettyImages

## ENDNOTES

- 1 For more information on Chatham House Rule, see “Chatham House Rule,” Chatham House, <https://www.chathamhouse.org/about-us/chatham-house-rule>.
- 2 Unless otherwise specified, all quotes in this brief are from participants in this CSIS dialogue series held under Chatham House Rule.
- 3 Elsa Kania and John Costello, “China’s Quest for Informatization Drives PLA Reforms,” *The Diplomat*, March 4, 2017, <https://thediplomat.com/2017/03/chinas-quest-for-informatization-drives-pla-reforms/>.
- 4 Abhishek Bhalla, “China Tests New UAVs for Plateau Operations near Kailash Range in South of Pangong Lake,” *India Today*, May 25, 2021, <https://www.indiatoday.in/india/story/china-tests-new-uavs-for-plateau-operations-near-kailash-range-in-south-of-pangong-lake-1806522-2021-05-25>. For reports on China’s uncrewed maritime operations, see Yen Nee Lee, “‘Missile-like’ Object Found in Indonesian Waters Is a Chinese Underwater Drone, Says Defense Analyst,” CNBC, January 11, 2021, <https://www.cnbc.com/2021/01/11/chinese-underwater-glider-haiyi-found-in-indonesian-waters-defense-analyst.html>. For a detailed examination of China’s ground-based space complex, see Peter Wood et al., *China’s Ground Segment Building the Pillars of a Great Space Power* (Montgomery, AL: China Aerospace Studies Institute, Air University, March 2021), <https://www.airuniversity.af.edu/Portals/10/CASI/documents/Research/Space/2021-03-01%20Chinas%20Ground%20Segment.pdf>.
- 5 Office of the Secretary of Defense, *Military and Security Developments Involving the People’s Republic of China* (Washington, DC: U.S. Department of Defense, 2020), <https://media.defense.gov/2020/Sep/01/2002488689/-1/-1/1/2020-DOD-CHINA-MILITARY-POWER-REPORT-FINAL.PDF>.
- 6 James McBride and Andrew Chatzky, *Is ‘Made in China 2025’ a Threat to Global Trade?* (New York: Council on Foreign Relations, May 13, 2019), <https://www.cfr.org/backgrounder/made-china-2025-threat-global-trade>.
- 7 Office of the Secretary of Defense, *Military and Security Developments Involving the POC*.
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