

CHAPTER 8: CHINA'S EVOLVING COUNTER-INTERVENTION CAPABILITIES AND THE ROLE OF INDO-PACIFIC ALLIES

Abstract

Over the past two decades, China has invested heavily in capabilities to counter military action by the United States and its allies in the event of a conflict in the Indo-Pacific. As a result, U.S. forces and bases in the region would face a significant threat from the People's Liberation Army (PLA) in any regional contingency involving treaty allies and/or security partners, and the outcome of any such conflict is far from certain. In addition, U.S. allies Japan, the Philippines, and Australia perceive China's military buildup and aggressive actions as a growing threat to their national security and are deepening defense collaboration with the United States. As the United States continues to enhance its capacity to respond to Chinese aggression, it must navigate both potential differences with allies about the parameters of cooperation during a conflict as well as questions about how to best adapt its force posture, capabilities, and defense industrial base.

Key Findings

- The PLA plans to counter military action by the United States and potentially U.S. allies in the event of a regional conflict. Since at least the early 2000s, China's leadership has viewed the U.S. military's presence and alliance activities in the Indo-Pacific as threatening, and it continues to express concern about new developments that combine deepening allied cooperation with an expanded U.S. military footprint in the region.
- China's assertion that it will militarily defend its disputed territorial and maritime claims threatens U.S. allies and security partners in the Indo-Pacific. Should China's leadership decide to use force to enforce its claims in the South or East China Seas or with regard to Taiwan, this aggression could trigger U.S. defense commitments.
- The PLA continues to improve the quality and quantity of military capabilities needed to counter U.S. military action in the event of a conflict, including a large arsenal of ballistic and cruise missiles, air defense systems, advanced fighter jets, maritime forces, and electronic warfare (EW) capabilities.
- The PLA has also developed a redundant and resilient architecture for Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) to protect its own systems from attack, and it increasingly has the capability to disrupt or paralyze an adversary's C4ISR system. China's advancements

in counter-C4ISR capabilities such as directed energy weapons and anti-satellite technologies may threaten the United States' ability to access its own C4ISR networks for reconnaissance, targeting, and other functions in peacetime or wartime.

- Despite improvements to a broad suite of capabilities, the PLA still faces challenges in logistics and sustainment. The PLA's maintenance system may struggle to quickly repair and resupply its advanced platforms and weapons systems under harsh battlefield conditions, impacting the PLA's ability to project and sustain combat power.
- Chinese military experts perceive that U.S. and allied militaries are adapting to the PLA's improved capabilities and force posture. They observe that the United States and its allies are strengthening their missile defense capabilities while also working to improve their ability to strike China's forces. They also note that new operational concepts emphasizing geographic dispersion and joint integration across warfighting domains could also contribute to U.S. and allied forces' survivability.
- U.S. allies in the Indo-Pacific are adjusting their defense policies in response to Beijing's aggressive military posture and activities. Japanese leaders are concerned about a possible regional conflict and therefore seek to enhance Japan's military capabilities and interoperability with the United States. The current government of the Philippines views cooperation with the United States and other partners as core elements of its response to China's military and gray zone threats in the South China Sea and its own military modernization efforts. Australia seeks to deepen security cooperation with the United States, its chief defense partner, while re-posturing its own military for the possibility of great power conflict. Nevertheless, allies' interest in working with the United States to address threats from the PLA does not necessarily imply a commitment to allow U.S. military access to their bases during a conflict or guarantee the participation of allied military forces.

Recommendations

The Commission recommends:

- Congress direct the U.S. Department of Defense to produce within 60 days a classified net assessment report on current People's Liberation Army (PLA) Command, Control, Communications, Computers Intelligence, Surveillance, and Reconnaissance (C4ISR) capabilities and PLA electronic warfare (EW) capabilities (including electronic attack and electronic protection capabilities). The report should examine U.S. counter-C4ISR and counter-EW capabilities, assess the resiliency of U.S. capabilities, identify counter-C4ISR and counter-EW gaps, and provide a menu of procurement options to close the gaps. Not later than 60 days after its completion, the U.S. secretary of defense shall provide the report to the appropriate congressional committees and brief them on its findings.

- Congress direct the Office of the Director of National Intelligence, in conjunction with the U.S. Departments of Defense, Commerce, and the Treasury and other relevant agencies, to conduct a comprehensive review of potential technological chokepoints across the People's Republic of China military industrial base and devise plans to apply controls, in conjunction with allies, to slow China's military development.
- Congress reinvigorate and recommit to space as an area of strategic competition, including by conducting a review of the commercial space industry to determine if there are regulatory updates that would ensure that the U.S. commercial space industry is able to innovate as quickly as possible while maintaining safety as a top priority.

Introduction

China continues to develop capabilities to resist future military action by the United States in a conflict involving U.S. allies and partners in the Indo-Pacific, such as a PLA invasion of Taiwan or effort to control waters and disputed features in the South and East China Seas.*¹ The PLA has invested heavily in air, maritime, missile, space, and EW capabilities to target and degrade U.S. forces and bases in the Indo-Pacific region.² As a result, the threat to the United States and its allies is growing more acute.

“Anti-Access/Area Denial” and “Counter-Intervention”

This chapter uses a set of related terms to describe PLA capabilities relevant to restricting the access and operations of foreign military forces. “Anti-Access/Area Denial” (A2/AD) is a U.S. military term referring to an opponent's military operations that aim to restrict military forces' ability to enter into a theater of operations (anti-access) and to restrict military forces' freedom of action within an area of operations under the opponent's direct control (area denial).³ This chapter refers to military capabilities that could contribute to such operations as “A2/AD capabilities.” These capabilities include ballistic and cruise missiles, air defense systems, advanced bombers, maritime forces, and EW capabilities.⁴ “Counter-intervention” is an English term used to describe China's operational approach to employing military capabilities that would enable it to deter and, if needed, defeat a foreign military's attempts to become involved in a conflict in areas adjacent to China.⁵ Counter-intervention does not itself constitute a Chinese strategy; rather, it is a component of PLA operational practice with operational and strategic implications for the United States and its allies.⁶ This chapter uses the term “counter-intervention

*China views resolving longstanding territorial and maritime claims in these areas as falling within the scope of its stated national defense objective to defend China's “sovereignty, security, and development interests.” China's 2019 defense white paper specifies that this includes safeguarding “national sovereignty, unity, territorial integrity and security”; deterring and resisting “aggression”; opposing and containing “Taiwan independence”; and safeguarding China's “maritime rights and interests.” It also includes other objectives related to political and social stability, Tibet, sustainable development, space, electromagnetic, and cyber. China Aerospace Studies Institute, *In Their Own Words: China's National Defense in the New Era*, March 16, 2021, 6–7; State Council Information Office of the People's Republic of China, *China's National Defense in the New Era*, July 2019, 7.

**“Anti-Access/Area Denial” and “Counter-Intervention”—
Continued**

scenario” to refer to a situation in which the PLA seeks to resist and defeat a foreign military’s involvement in a conflict in the Indo-Pacific, including military action by the United States or its allies in response to a PLA invasion of Taiwan. It uses the term “counter-intervention capabilities” to refer to A2/AD capabilities used in a counter-intervention scenario.

This chapter evaluates China’s counter-intervention capabilities as well as U.S. and allied efforts to address the regional security challenges they pose. The chapter begins with an assessment of China’s perceptions of U.S. and allied military actions in the Indo-Pacific and its investment in capabilities that disrupt U.S. and allied abilities to defend against, target, and strike Chinese assets in conflict. It then examines the value of U.S. alliances in countering China’s counter-intervention and surveys the approaches and perspectives of three U.S. allies in the region: Japan, the Philippines, and Australia. It concludes by discussing implications for the United States. The chapter draws on the Commission’s March 2024 hearing on “China’s Evolving Counter Intervention Capabilities and Implications for the United States and Indo-Pacific Allies and Partners,” consultations with experts, open source research and analysis, and the Commission’s June 2024 fact-finding mission to Taiwan, Japan, and U.S. Indo-Pacific Command.

China’s Approach to Countering U.S. and Allied Military Actions in the Indo-Pacific

China’s leadership views the U.S. military’s presence, activities, and alliance commitments in the Indo-Pacific region as hostile, leading the PLA to focus significant efforts on planning and training for the possibility of U.S. military involvement in a regional conflict. This perceived need to deter and contest U.S. military activity informs its operational planning, its intense observation of U.S. and allied defense cooperation, and its investment in a suite of capabilities designed to restrict enemy forces’ operations in the Indo-Pacific region.

China’s Leadership Views U.S. Indo-Pacific Military Activities and Alliances as Hostile

China’s defense leadership has long viewed the U.S. military presence and alliances in the Indo-Pacific region as a threat to China’s security interests. Every Chinese national defense white paper* since 2000 has referenced U.S. military presence and deployments as well as U.S. alliance activities in the Indo-Pacific among the chief challenges in China’s security environment.†⁷ In 2000, the

* China’s defense white papers are policy documents published every few years that outline the country’s security objectives and military activities at a high level. Dennis J. Blasko, *The Chinese Army Today: Tradition and Transformation for the 21st Century*, Second Edition, Routledge, 2012, xv–xvi.

† China’s 2000, 2004, 2006, 2008, 2010, 2015, and 2019 white papers mention the United States by name with regard to these activities. The corresponding statement in the 2002 and 2013 white

defense white paper listed “negative developments in the security of the Asia-Pacific region,” including “the United States... further strengthening its military presence and bilateral military alliances in the region.”⁸ Nearly two decades later, China’s 2019 white paper delivered a similar message, stating, “The U.S. is strengthening its Asia-Pacific military alliances and reinforcing military deployment and intervention, adding complexity to regional security.”⁹ With regard to military presence, the series of nine white papers over this period demonstrates an enduring concern about the United States increasing, adjusting, and reinforcing its military deployments in the region.¹⁰ With regard to alliances, the white papers reiterate perceived threats from the United States strengthening, consolidating, and enhancing its regional alliance relationships generally, and on several occasions they draw specific attention to alliance coordination between the United States and Japan, South Korea, and later, Australia.¹¹

Influential experts within China’s strategic policy community voiced similar concerns during the same two-decade period. In 2011, a professor from China’s leading military academy, National Defense University, published a book entitled “On Maritime Strategic Access,” which argues that China faced strategic maritime encirclement by the United States and its allies in the Pacific.¹² The author claims that during the Cold War, the United States had “used the offensive system of the large number of military bases and island chains” in the Pacific to “build a ‘crescent-shaped maritime encirclement’” of China and the Soviet Union, “besieging” them and seeking to control their maritime strategic access to the Pacific.¹³ The book then claimed that since the end of the Cold War, the United States has sought to seal off China’s maritime access to the Indian and Pacific Oceans through a ring of military bases along an “island chain blockade line,” pointing out deployments in Japan, South Korea, Guam, Hawaii, and the Western Pacific in particular.*¹⁴ In 2011, a PLA expert writing for the journal of an influential research organization affiliated with China’s Ministry of State Security (MSS) argued that the United States was deliberately exaggerating the threat of China’s A2/AD capabilities to justify investing in advanced weaponry, shifting military deployments to the Pacific, and increasing its “containment” of China.¹⁵ The author argued that the United States sought to use its Pacific military presence to “interfere in issues concerning China’s core interests,” namely China’s claims to Taiwan, in the South China Sea, and in the East China Sea.¹⁶ An

papers reference the United States in oblique statements about “certain” or “some” countries. China Aerospace Studies Institute, *In Their Own Words: 2019 China’s National Defense in the New Era*, March 16, 2021; State Council Information Office of the People’s Republic of China, *China’s Military Strategy*, May 2015; Information Office of the State Council of the People’s Republic of China, *The Diversified Employment of China’s Armed Forces*, April 16, 2013; Information Office of the State Council of the People’s Republic of China, *China’s National Defense in 2010*, March 31, 2011; Information Office of the State Council of the People’s Republic of China, *China’s National Defense in 2008*, January 20, 2009; Information Office of the State Council of the People’s Republic of China, *China’s National Defense in 2006*, December 2006; Information Office of the State Council of the People’s Republic of China, *China’s National Defense in 2004*, December 2004; Information Office of the State Council of the People’s Republic of China, *China’s National Defense in 2002*, December 2002; Information Office of the State Council of the People’s Republic of China, *China’s National Defense in 2000*, October 2000.

*Regarding Japan and South Korea, the text claims that the United States had formed its military alliances with these states specifically “to suppress the PRC’s strategic space along the maritime direction.” China Aerospace Studies Institute, *In Their Own Words: On Maritime Strategic Access*, April 2024, 236.

article in the same journal in 2016 describes the U.S. military's forward deployment to the region as a key enabler of undesirable U.S. "coercion" in the East and South China Seas.¹⁷

Characterizations of U.S. "Deterrence" in Chinese Sources

Although official and unofficial Chinese sources occasionally describe U.S. policy as "deterrence" and acknowledge that the United States seeks to "deter" certain Chinese military actions, they generally do so while dismissing U.S. actions as hostile or destabilizing. Some scholarly sources explore what they describe as U.S. "deterrence" policy at length; for example, two articles in China's *Journal of International Security Studies* in 2022 detail what the authors call a U.S. strategy of "deterrence by denial" against China and the associated trends in U.S. military development.*¹⁸ The authors variously acknowledge that the United States seeks to prevent China from launching a military attack in the Western Pacific against Taiwan, U.S. forces, or U.S. allies, or from forcibly resolving disputes in the South China Sea, but they still dismiss U.S. commitments to regional stability and conclude that the United States sought to "contain" China and pursue its security at China's expense.†¹⁹ Official statements from China's Ministry of Foreign Affairs and Ministry of National Defense also occasionally mention U.S. "deterrence"‡ as part of their effort to delegitimize U.S. actions. Some accuse the United States of using "deterrence" as a façade to conceal aggressive intentions, while others simply claim that trying to "deter" China is an aggressive act in itself.²⁰ China's Ministry of Foreign Affairs also expresses the perspective that U.S. efforts to deter China through nuclear weapons deployments, nuclear sharing, alliance commitments to allies, and activities in cyberspace are motivated by aggression.§²¹ Finally, Chinese officials have stated that China cannot

*A state practicing "deterrence" seeks to persuade an opponent to refrain from undertaking a specific action. Deterrence relies on credible threats that create fear in the mind of the opponent that if it undertakes the unwanted action it either will be unable to achieve its objective—which is known as deterrence by denial—or will suffer unacceptable retaliation for doing so—which is known as deterrence by punishment. For more on deterrence and its application to the Taiwan Strait, see U.S.-China Economic and Security Review Commission, Chapter 4, "A Dangerous Period for Cross Strait Deterrence: Chinese Military Capabilities and Decision-Making for a War over Taiwan," in *2021 Annual Report to Congress*, November 2021, 390–392.

†This negative view of U.S. intentions also informs assessments by both authors that U.S. deterrence of China may not succeed. One author describes a security dilemma in which China will "strive to break out of" what he calls "military intimidation" by the United States and its allies and claims that this will "inevitably" lead to the failure of U.S. deterrence. The other author draws on the concept in deterrence theory that successful deterrence requires coupling coercive threats with "reassurance" that the threat will not be carried out if the deterred party refrains from taking the unwanted action. The author argues that, for both the United States and China, "coercive threats" have begun to overwhelm "reassurances," leaving deterrence unbalanced and potentially ineffective. Chen Xi and Ge Tengfei, "An Analysis of the United States' Deterrence by Denial Strategy against China" (美国对华拒止性威慑战略论析), *International Security Studies*, September 16, 2022, 24. CSIS Interpret Translation; Zuo Xiyang, "Adjustments in the United States' Conventional Deterrence Strategy against China" (美国对华常规威慑战略的调整), *International Security Studies*, September 16, 2022, 18. CSIS Interpret Translation.

‡Many other official descriptions of U.S. and allied actions by these institutions never acknowledge that they are intended to deter China from military action, instead simply describing them as belligerent, provocative, and aimed at undermining China's security. China's Ministry of Foreign Affairs, *Foreign Ministry Spokesperson Lin Jian's Regular Press Conference on July 11, 2024*, July 11, 2024; China's Ministry of Foreign Affairs, *Foreign Ministry Spokesperson Mao Ning's Regular Press Conference on May 27, 2024*, May 27, 2024.

§On multiple occasions in 2024, China's Ministry of Foreign Affairs adopted this angle in an apparent attempt to delegitimize U.S. policy on North Korea. In one statement, a ministry

Characterizations of U.S. “Deterrence” in Chinese Sources—*Continued*

or will not be deterred from undertaking what they regard as appropriate actions toward Taiwan or in the South China Sea, implying that the United States intends to dissuade them from undertaking a particular course of action.²²

China Perceives Challenges to Its Counter-Intervention from the United States and Its Allies

China’s leadership likely perceives intensified threats from recent enhancements to U.S. military capabilities, concepts, and alliance relationships. Since China began fielding A2/AD capabilities in the early 2000s, China’s official media as well as PLA- and government-affiliated academic journals have continuously noted U.S. military efforts to counter the PLA’s counter-intervention through its own advances and through deepening relations with allies.²³ Although it is challenging to assess China’s overall level of confidence in its current counter-intervention capabilities through disparate open source reporting, analysis of China’s past observations reveals several areas in which continued U.S. efforts could challenge PLA objectives. According to testimony by Maryanne Kivlehan-Wise, director of the China studies program at the Center for Naval Analyses, China’s media and academic journals express concern about both ongoing U.S. efforts to increase the quality and quantity of its military capabilities in the region and U.S. actions to strengthen alliances and security partnerships.²⁴ She assesses that the most concerning developments to Beijing are those that couple an improvement in an alliance relationship with changes to the U.S. military footprint in the region.²⁵

China’s government, military, and academic sources point to several trends in U.S. military development with the potential to undermine China’s counter-intervention capabilities. Evolution in U.S. strike and missile defense capabilities coupled with new operational concepts have improved the capacity of the U.S. military to strike China’s forces while making it more difficult for China to strike U.S. forces in return.²⁶ Many Chinese government and academic sources have observed increased cooperation between the United States and its Indo-Pacific allies against China’s military capabilities and portrayed such cooperation as detrimental to China’s interests.

- *Long-range strike capabilities increase U.S. reach:* China’s state media and articles from PLA- and government-affiliated academic journals show enduring concern over U.S. development of long-range strike capabilities, which can weaken China’s counter-intervention by allowing U.S. forces to attack more effectively from a distance. The 2011 analysis from the journal affiliated with the MSS notes efforts in 2010 to transform the U.S. ter-

spokesperson claimed the United States was heightening tensions in the region by “resorting to military deterrence” against North Korea, and in another they insisted the United States must “desist from acts of deterrence” against the country in order to avoid escalation. China’s Ministry of Foreign Affairs, *Foreign Ministry Spokesperson Mao Ning’s Regular Press Conference on June 3, 2024*, June 3, 2024; China’s Ministry of Foreign Affairs, *Foreign Ministry Spokesperson Wang Wenbin’s Regular Press Conference on April 3, 2024*, April 3, 2024.

ritory of Guam—which at the time was outside of China’s confirmed ballistic missile range—into a hub for long-range strikes as a key avenue for responding to China’s A2/AD capabilities.²⁷ In 2012, China’s state media suggested that Guam-based U.S. Air Force bombers paired with stealth fighters may be able to carry out long-range strikes on China.²⁸ Articles in the journal of the PLA Naval University of Engineering in 2020 discuss the continued value of Guam’s long-range bomber force as well as U.S. long-range missile capabilities which could be used for countering China.*²⁹

- *Missile defenses make striking U.S. assets more difficult:* Chinese sources have tracked the U.S. military’s development and deployment of missile defense systems as a key indicator of its capacity to counter China’s counter-intervention capabilities. In 2007, China’s state media claimed that deploying missile defense systems near key military facilities in the region was among the first recommendations U.S. military experts put forward to counter China’s emerging A2/AD capabilities.³⁰ Chinese academic journals have since noted the priority successive U.S. administrations placed on improving missile defense in Northeast Asia and the Western Pacific, especially as China’s missile capabilities have expanded to reach locations such as Guam that had previously been out of range.³¹ Some analysts assess that China’s development of hypersonic weapons is motivated by the increasing difficulty of breaking through U.S. missile defense capabilities.³² One journal article from 2022 even warns that if the United States employs directed-energy weapons technology for missile interception in the future, the resulting increase in cost-effectiveness of missile defense would represent “a qualitative leap in its deterrence by denial capability against China.”³³
- *Indo-Pacific missile deployments increase U.S. and allied strike capabilities:* China’s media, government representatives, and other experts have reacted strongly over U.S. and allied efforts to increase missile deployments in the Indo-Pacific region, including but not limited to the sale of U.S. Tomahawk cruise missiles to Japan in 2023, ongoing discussion of deploying intermediate-range ballistic missiles (IRBMs) to Japan’s Southwest Islands, and U.S. deployment of a Typhon Mid-Range Capability missile system † in the Philippines in April 2024.³⁴ The vociferous objection of China’s Ministry of National Defense spokesperson to the Philippines deployment suggests China’s leadership perceives the system as a serious security risk.‡³⁵ According to

*The journal also emphasizes the value of U.S. investments in space-based information systems as necessary support for long-range missile strikes. Shi Zhangsong, Gong Wenbin, and Wu Zhonghong, “Status and Development of Long-Range Precision Strike Operations Technology Based on Space-Based Information” (基于天基信息的海上远程精确打击技术现状及发展), *Journal of Naval University of Engineering (Comprehensive Edition)* 17:3 (September 2020): 27. Translation.

†The U.S. Army Typhon Mid-Range Capability missile system launches Tomahawk cruise missiles and standard SM-6 multi-domain missiles and is intended for targets at ranges between 500 kilometers (km) and 2,776 km (310 miles [mi] and 1725 mi). From its location in Northern Luzon, the system could reportedly cover the entire Luzon Strait, PLA bases in the South China Sea, and even China’s mainland coastline. Aaron-Matthew Lariosa, “U.S. Army Deploys New Missile Launcher to the Philippines,” *Naval News*, April 15, 2024; Ashley Roque, “Army’s New Typhon Strike Weapon Headed to Indo-Pacific in 2024,” *Breaking Defense*, November 18, 2023.

‡The Ministry of National Defense Spokesperson stated that this action had “put the entire region under U.S. fire, brought a huge risk of war to the region,” and “gravely impacted the regional

an article in the Beijing-based *Journal of International Security Studies* in 2022, the introduction of intermediate-range missiles in the first island chain not only strengthens U.S. deterrence but also complicates China's strategic calculations and could even undermine its advantages by forcing investment in expensive defense measures to protect targets within China.³⁶ China's government representatives have warned the United States that China will take "resolute countermeasures" in response to such deployments but have not specified what those measures would be.³⁷ Ms. Kivlehan-Wise notes that Chinese experts view missile deployments in the region both as significant military capacity improvements and as indicators of stronger security partnerships between the United States and its allies.³⁸

- *New operational concepts could make U.S. forces more survivable:* Chinese observers and military media have taken a strong interest in new operational concepts developed by U.S. military services, such as Expeditionary Advanced Base Operations (EABO) for the U.S. Marine Corps, Agile Combat Employment (ACE) for the U.S. Air Force, Distributed Maritime Operations (DMO) for the U.S. Navy and Marine Corps, and Multi-Domain Operations (MDO) for the U.S. Army.³⁹ Ms. Kivlehan-Wise testified that common themes in China's media coverage of these U.S. concepts include that they were developed solely to counter China's military, especially within the first island chain, and that they could improve U.S. military stealth, strike, and survivability.⁴⁰ For example, a 2023 article from China's Ministry of National Defense newspaper re-circulated by the *People's Daily* notes that these various service concepts derive from an effort to increase the U.S. military's "distributed lethality," which emphasizes the use of flexible and dispersed attack formations to avoid destruction from enemy strikes.⁴¹ China's military and state media have also taken note when U.S. forces practice these concepts in cooperation with security partners in the region.⁴² In 2022, one military analyst writing in the Ministry of National Defense newspaper even argued that the U.S. military has an overall advantage in the development of operational concepts that could provide it an edge over the PLA.⁴³ Nevertheless, Ms. Kivlehan-Wise testified that China's media has also assessed that the PLA's long-range missile capabilities still have the potential to counter these new operational concepts, making them insufficient for the task of countering China's counter-intervention capabilities.⁴⁴ Some coverage has also argued that limitations in U.S. network technology, firepower effectiveness,

security structure," requiring China to exercise "a high degree of vigilance." China's Ministry of National Defense, *Transcript of May 2024 Ministry of National Defense Regular Press Conference* (2024年5月国防部例行记者会文字实录), May 30, 2024. Translation.

³⁶The above-mentioned article from China's Ministry of National Defense newspaper, for example, describes exercises in which military forces from Australia, Canada, France, Japan, the Philippines, and other countries carried out related exercises with U.S. forces. It makes note of foreign media coverage stating that the new operational concepts and their associated tactics had been shared with U.S. allies, and it warns that "in the future, the United States will draw support from its global military alliance system to make 'distributed lethality' more covert and threatening." *China National Defense News*, "U.S. Military Steps Up New Combat Concepts in Exercises" (美军加紧新型作战概念演练), *People's Daily*, November 8, 2023. Translation.

and real-world practice of the concepts present reasons to doubt their effectiveness in practice.⁴⁵

- *Increased force and network integration could support U.S. operations:* China has also observed evolving efforts at increasing the integration of U.S. military operations. In 2014, an article in the *People's Daily* expressed alarm at the then multi-service initiative, "Air-Sea Battle," which aimed to develop cross-domain approaches for countering China's A2/AD capabilities through both inter-service cooperation and greater networked connectivity.⁴⁶ In 2016, Party media describing a separate U.S. military initiative to counter China's A2/AD capabilities—known as the "Third Offset Strategy"—pointed out the importance of building a multi-domain "global surveillance-strike network" to the success of the proposed U.S. approach.⁴⁷ In 2024, China's military academic media has explored the U.S. Department of Defense (DOD) strategic warfighting concept of Joint All-Domain Command and Control (JADC2), noting the potential advantages of this effort to leverage network technology and integrate command and control across traditional and emerging combat domains, as well as the associated technical and organizational challenges it still poses.⁴⁸
- *Greater U.S.-allied cooperation could complicate China's military environment:* China has also paid attention to the military implications of recent efforts to deepen cooperation between the United States and individual allies and partners. For example, since 2022, Chinese news media and academic journals have described complete, planned, and prospective U.S. and Japanese military deployments and exercises around Japan's southwestern islands as measures that strengthen the allies' military position vis-à-vis China because they increased the range, concentration, and resilience of U.S. offensive capabilities.⁴⁹ After the expansion of the Enhanced Defense Cooperation Agreement (EDCA) between the United States and the Philippines in 2023,[†] Chinese commentators argued that the United States intends to use the new EDCA sites to improve its position for contingencies related to Taiwan or the Spratlys and that the agreement strengthens the United States' ability to control the Bashi Channel between the Philippines and Taiwan.⁵⁰ The Trilateral Security Partnership between the United States, the UK, and Australia (AUKUS) is also a topic of great concern to Chinese observers.⁵¹ Ms. Kivlehan-Wise assesses that AUKUS

* According to testimony from Ms. Kivlehan-Wise, Chinese subject matter experts believe these changes improve the ability of the United States and Japan to track PLA air and naval vessels, deny the PLA access to the Pacific Ocean through key straits, and destroy PLA platforms and infrastructure at sea and on the Chinese Mainland. Maryanne Kivlehan-Wise, written testimony for U.S.-China Economic and Security Review Commission, *Hearing on China's Evolving Counter Intervention Capabilities and Implications for the United States and Indo-Pacific Allies and Partners*, March 21, 2024, 6.

† EDCA, originally signed in 2014 between the United States and the Philippines, allows the U.S. armed forces a rotational presence at certain military bases in the Philippines. In February 2023, the two countries announced the designation of four additional Philippine bases as EDCA sites, in addition to the five existing sites. Gregory B. Poling, "The U.S.-Philippine Alliance's Very Busy Month," *Center for Strategic and International Studies*, April 12, 2023; U.S. Department of Defense, *Philippines, U.S. Announce Locations of Four New EDCA Sites*, April 3, 2023; Karen Lema, "Philippines Reveals Locations of 4 New Strategic Sites for U.S. Military Pact," *Reuters*, April 3, 2023.

has sharply increased China's concern about U.S. Indo-Pacific alliances and security partnerships because of its surprise announcement, the substantial military benefits it grants to the members, and a perception in Beijing that Australia had chosen to side with the United States against China.*⁵² (For more on expanding cooperation between the United States and these allies and partners, see "U.S.-Allied Efforts to Address Challenges from China's Military" below.)

- *U.S. undersea warfare capabilities*: The PLA has monitored developments in U.S. submarine and other undersea capabilities because of the likelihood such capabilities will be used to thwart an invasion or disrupt a blockade of Taiwan.⁵³ China has invested in both submarine and anti-submarine warfare (ASW) capabilities to erode U.S. longstanding advantages in the undersea domain.⁵⁴ While the PLA appears to have made some progress in ASW capabilities, notably through the introduction of many airborne and seaborne ASW platforms as well an expanded hydrophone network, foreign and Chinese experts still assess that China "lags behind" the United States in its abilities to detect and destroy enemy submarines as well as to protect its own submarines from enemy detection.⁵⁵ Some Chinese sources assert that the PLA may be able to narrow this gap by integrating supercavitation technology into its torpedoes, which enables a torpedo to wrap itself in an air bubble underwater to reduce drag and increase its speed.†⁵⁶ Since 2022, some media sources have claimed that Chinese scientists are developing a hybrid anti-ship weapon that travels first through the air as a hypersonic missile before diving and maneuvering below the water as a supercavitating torpedo, allowing it to potentially challenge

* China's Ministry of Foreign Affairs has criticized the partnership as "a clear attempt at countering China" and sought to undermine its legitimacy through public statements. This represents a shift from prior years, in which Australia was viewed as more reluctant to participate actively in frameworks that could be perceived as countering China or choosing sides between China and the United States. Xia Liping, "Xia Liping: The U.S. Indo-Pacific Strategy from the Dual Perspectives of Geopolitics and Geoeconomics" (夏立平:地缘政治与地缘经济双重视角下的美国“印太战略”), *American Studies* 2 (2015). Translation; China's Ministry of Foreign Affairs, *Foreign Ministry Spokesperson Wang Wenbin's Remarks on AUKUS Nuclear Submarine Cooperation on March 17, 2023*, March 17, 2023; China's Ministry of Foreign Affairs, *Commentary VII on AUKUS: Fire Cannot Be Wrapped Up in Paper; Whoever Plays with Fire Will Perish by It*, October 6, 2022; China's Ministry of Foreign Affairs, *Reality Check: Falsehoods in US Perceptions of China*, June 19, 2022.

† Chinese state and military newspapers have observed other countries' application of supercavitation technology on torpedoes since at least 2015, noting the technology's development by the Soviet Union and its adoption by Russia, the United States, Germany, and Norway. More recent research on the technology's application to anti-submarine warfare was conducted by researchers affiliated with the state-owned defense corporation China North Industries Defense Corporation in a journal sponsored by a state-owned shipbuilding company. These sources have noted advantages of supercavitating torpedoes in speed, flexible firing orientation, large kinetic energy, and cost effectiveness. Later sources list range as an advantage, in contrast to earlier sources that claimed supercavitating torpedoes could not yet match the range of regular torpedoes. Earlier sources also noted difficulties applying guidance technologies in light of the munitions' great speed and warned that supercavitating torpedoes could be easily detected by nature of their bubble trails. Qi Xiaobin et al., "Application of Supercavitation Technology in Anti-Submarine Warfare" (超空泡技术在反潜作战中的应用设想), *Digital Ocean and Underwater Warfare* 5:2 (April 2022): 109, 112–114. Translation; Li Xiang and Huang Kang, "Supercavitating Weapons: Building Their Own Path Underwater" (超空泡兵器:自己造路水下), *China Military Online*, April 3, 2020. Translation; *Military News*, "Revealing the Secrets of Supercavitating Torpedoes: Underwater Speed as Fast as High-Speed Train and Faster than a Helicopter" (揭秘超空泡鱼雷:水下速度如高铁 比直升机机快), *Xinhua*, October 20, 2015. Translation; Norinco Group, "Northwest Institute of Mechanical & Electrical Engineering" (西北机电工程研究所). Translation. <https://web.archive.org/web/20240806145540/http://xbyd.norincogroup.com.cn/>; China National Knowledge Infrastructure, "Digital Ocean & Underwater Warfare" (数字海洋与水下攻防). Translation.

existing ship defense systems by traveling farther and faster than a traditional torpedo.⁵⁷

- *New developments in U.S. uncrewed underwater vehicles (UUVs) enhance its capabilities to identify, monitor, and track PLA submarines:* Both China and the United States are investing in developing new undersea drones that could play a decisive role in future military conflicts, with uses that include intelligence, surveillance, and reconnaissance (ISR).⁵⁸ In February and March 2024, the U.S. Defense Advanced Research Projects Agency (DARPA) conducted full-scale testing of the “Manta Ray” prototype UUV, an autonomous and payload-capable large-scale UUV that mimics the shape and motion of a manta ray and achieves the energy efficiency needed for long-duration missions.⁵⁹ China’s military, defense industry, and state-run media closely followed DARPA’s Manta Ray project, publishing reports detailing its development and capabilities.⁶⁰ China’s state-run media has highlighted the Manta Ray project’s underwater survivability and made note of its potential capability to use AI, big data, and new navigation technologies to “identify, monitor, and track submarines and seabed resources of other countries in disputed waters and key waterways” globally.⁶¹ China is also developing its own manta ray-inspired UUVs. At the China Military Smart Technology Expo held in Beijing in May 2024, the Boya Gongdao Robot Technology Company displayed its own domestically developed manta ray UUV along with other models of biomimetic autonomous submersibles.⁶² One team of researchers at China’s Northwestern Polytechnical University has already developed six models of manta ray UUVs that could reportedly conduct tasks ranging from monitoring coral reefs to carrying heavy payloads on long-duration missions with integrated reconnaissance and strike capabilities.⁶³

Chinese Commentators Observe U.S. Military Capabilities in the Middle East

Several commentaries in China’s Party-state news media view the defense by the United States, Israel, and other partners against Iranian missile strikes on Israel’s territory in April 2024 as a successful test of U.S. missile defense technology and alliance coordination. The commentators agree that the large number of attacking weapons successfully intercepted showcased the power of the multilayered missile defense system deployed by the United States and Israel.⁶⁴ They also note the important role the U.S. destroyers played in shooting down medium-range ballistic missiles, the contributions of U.S. and UK forces in intercepting drones, and the likely importance of intelligence sharing between the United States, Israel, and other Gulf states before and during the attacks.⁶⁵ (For more on China’s position on conflicts in the Middle East, see Chapter 5, “China and the Middle East.”)

PLA Anticipates U.S. Intervention

Evidence suggests the PLA plans for military action by the United States in the event of a conflict in the Indo-Pacific. In 2014, General Secretary of the Chinese Communist Party Xi Jinping directed the PLA to “make strategy planning and preparations for dealing with a powerful enemy’s military intervention,” using a term frequently applied in PLA writings to refer to the United States.⁶⁶ The 2020 edition of the strategic-level PLA textbook *Science of Military Strategy** makes repeated reference to external military intervention, emphasizing the gravity of potential military intervention carried out by powerful enemies, at a large scale, or at a high intensity.[†]⁶⁷ In one section, the text highlights external military intervention as a “strategic risk” that could result in the PLA facing two or even many enemies at one time.⁶⁸ In other sections, it variously describes military intervention as an action the PLA must deter, as an important factor in the timing for beginning and ending a war, and as a critical variable influencing war control and escalation.⁶⁹ The 2006 operational-level PLA textbook *Science of Campaigns*‡ similarly frames the “military intervention of a powerful enemy” as a key variable that PLA forces must anticipate, plan for, and—if necessary—adjust to in the course of executing any military campaign.⁷⁰ In addition to this general description, the text includes “resist[ing] the military intervention of a powerful enemy” in the list of basic missions for a conventional missile assault campaign, and it provides additional guidance on handling opposition in the context of an offensive campaign against island reefs.⁷¹

China’s Military Objectives Implicate U.S. Defense Commitments in the Indo-Pacific

Several of China’s stated military objectives threaten the interests of U.S. allies and security partners in the Indo-Pacific, including those to whom the United States has a treaty defense commitment. China’s 2019 defense white paper includes among the country’s national defense aims safeguarding “national sovereignty, unity, territorial integrity and security”; deterring and resisting “aggression”; opposing and containing “Taiwan independence”; and safeguarding China’s “maritime rights and interests.”⁷² This same document claims the Senkaku Islands in the East China Sea and all features in the South China Sea as inalienable parts of China’s territory while explicitly reserving the option to use

* *Science of Military Strategy* is a core military textbook for senior PLA officers on how wars should be planned and conducted at the strategic level. Joel Wuthnow, “What I Learned from the PLA’s Latest Strategy Textbook,” *Jamestown Foundation*, May 25, 2021.

† Although no specific countries are referenced by name, these descriptions most likely characterize the way the PLA considers intervention from the United States. In most of these instances, the text either characterizes the intervening party as a “strong” or “powerful” enemy or enemies or as a “great” or “major” power or powers, or it characterizes the intervention as “large-scale” or “high-intensity.” China Aerospace Studies Institute, *In Their Own Words: Science of Military Strategy 2020*, January 2022, 44, 46, 140, 192, 198, 257, 259.

‡ *Science of Campaigns* is a military textbook released by China’s National Defense University in 2006. According to the China Aerospace Studies Institute, it is studied by almost all PLA officers in senior academies. The textbook designs a “campaign” as “the operational activities composed of a series of battles conducted under a unified command by a large formation to achieve partial... or overall... goals of a war.” China Aerospace Studies Institute, *In Their Own Words: PLA’s Science of Campaigns*, 2006, [v], 19.

China's Military Objectives Implicate U.S. Defense Commitments in the Indo-Pacific—*Continued*

force if necessary to unify Taiwan with the Mainland.*⁷³ China maintains an interpretation of its “maritime rights” that is contrary to well-established international law and includes privileges to which it is not entitled, and it has repeatedly demonstrated a willingness to advance its claims and interests in these areas through aggressive and dangerous behavior.⁷⁴ A conflict in the Senkaku Islands or in the South China Sea could trigger defense commitments under the United States’ treaties with Japan[†] and the Philippines.[‡]⁷⁵ The United States also has a stated interest in peace across the Taiwan Strait and an expectation that issues will be resolved without the use of force.⁷⁶ Since at least the 1990s, Chinese military planners have acknowledged the need to base military planning for a war against Taiwan on the assumption of U.S. involvement, and they have worried that the PLA could be defeated if it does not rectify its various technological and manpower-related deficiencies.[§]⁷⁷

China's Military Capabilities for “Counter-Intervention”

China has developed military capabilities designed to undermine the U.S. military’s ability to become involved in a conflict between China and its neighbors.⁷⁸ China’s plan to counter U.S. military intervention requires the capacity to find U.S. forces, thwart their operations, hamper their ability to rely on satellites and other networked systems, and destroy forward-based assets as well as assets at long distances.⁷⁹ Among the most important capabilities for these

*Other governments in the Indo-Pacific hold competing sovereignty claims in the region. For instance, Japan, Taiwan, and China claim the Senkakus. China asserts sovereignty over the island of Taiwan, a claim disputed by the government in Taipei. Taiwan, the Philippines, Malaysia, Vietnam, Brunei, and Indonesia also claim territory in the South China Sea. Ben Dolven et al., “China Primer: South China Sea Disputes,” *Congressional Research Service* IF10607, August 21, 2023; Taiwan’s Ministry of Foreign Affairs, *MOFA Condemns False Claim Regarding Taiwan’s Sovereignty in Joint Statement Issued by China and Russia*, February 5, 2022; Mark E. Manyin, “The Senkakus (Diaoyu/Diaoyutai) Dispute: U.S. Treaty Obligations,” *Congressional Research Service* R42761, March 1, 2021.

†In their security treaty, the United States and Japan commit to act in response to “an armed attack on either Party in the territories under administration of Japan,” which includes the Japanese-administered Senkaku Islands. David Vergun, “Austin Says U.S. Committed to Defending Japan, Including Senkaku Islands,” *DOD News*, October 4, 2023; *Reuters*, “Obama Says Disputed Islands within Scope of US-Japan Security Treaty,” April 22, 2014; Japan’s Ministry of Foreign Affairs, *Japan-U.S. Security Treaty*, January 19, 1960, Article V.

‡In their mutual defense treaty, the United States and the Philippines commit to act to meet common dangers in the event of an armed attack against either party in the Pacific, which, as clarified in the countries’ 2023 Bilateral Defense Guidelines, includes an attack on either state’s public vessels, aircraft, or armed forces (including coast guards) anywhere in the South China Sea. U.S. Department of Defense, *FACT SHEET: U.S.-Philippines Bilateral Defense Guidelines*, May 3, 2023; U.S. Department of State, *U.S. Collective Defense Arrangements*; Avalon Project at the Yale Law School, “Mutual Defense Treaty Between the United States and the Republic of the Philippines; August 30, 1951.”

§In response to previous acts of Chinese aggression or military coercion against Taiwan during the so-called “First Taiwan Strait Crisis” (1954–1955), the “Second Taiwan Strait Crisis” (1958), and the “Third Taiwan Strait Crisis” (1995–1996), the United States successfully leveraged credible military threats to deter a Chinese invasion or to deter escalating use of force. Kristen Gunness and Phillip C. Saunders, “Averting Escalation and Avoiding War: Lessons from the 1995–1996 Taiwan Strait Crisis,” *National Defense University Press, China Strategic Perspectives* 17 (December 2022): 37; U.S.-China Economic and Security Review Commission, *2021 Annual Report to Congress*, November 2021, 391.

missions are the PLA's C4ISR* networks, EW assets, and offensive missile forces, each of which it has significantly improved over the past two decades. At the same time, however, the PLA continues to contend with issues sustaining and maintaining its warfighters in combat.

Achieving Information Dominance in Conflict Involving the United States

China views “information dominance” as a key effort to control the battlespace and gain operational advantage in warfare.⁸⁰ Information dominance is defined by the PLA as the ability to establish control of information flows in a particular space and time by collecting and managing information and employing information more precisely than the adversary.⁸¹ Chinese military strategists believe information dominance is a prerequisite to achieving air and maritime dominance and is critical to the PLA's combat success in any regional conflict.⁸² The PLA pursues information dominance by conducting informationized warfare, which utilizes information systems, data gathering and fusion, and command automation tools to enable joint operations and gain superiority in the information domain in combat.⁸³ Chinese military writings describe modern warfare as involving “systems confrontation” or “systems destruction warfare,” meaning a conflict is fought between adversarial operational systems.[†]⁸⁴ The PLA views “systems confrontation” as the means to paralyze the functions of an adversary's combat and operational systems in the air, sea, land, space, cyber, and electromagnetic domains using kinetic and non-kinetic attacks.⁸⁵ Anticipating such attacks in turn, the PLA would also prioritize the defense of its own C4ISR systems against enemy disruptions and preserve its access to battlespace data.⁸⁶

Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR)

The PLA is working to build a robust C4ISR infrastructure to quickly find U.S. military forces and achieve battlefield information dominance in the event of kinetic conflict.⁸⁷ C4ISR enables militaries to access—and to deny enemies' access to—battlespace information, including locating, tracking, and targeting enemy assets.⁸⁸ The PLA has studied the United States' reliance on C4ISR systems in

*C4ISR is an acronym that refers to a collection of individual systems. Other variations of “C4ISR” may include additional systems such as adding “cyber” or “targeting” (C5ISR-T). In China's *Science of Military Strategy 2020*, it describes the battlefield information network as a “C4ISRK” system (Command, Control, Communications, Computer, Intelligence, Surveillance, Reconnaissance, Kill) and refers to C4ISRK as a system the U.S. military relies on to synchronize combat commands at all levels. J. Michael Dahm, written testimony for U.S.-China Economic and Security Review Commission, *Hearing on China's Evolving Counter Intervention Capabilities and Implications for the United States and Indo-Pacific Allies and Partners*, March 21, 2024, 4; China Aerospace Studies Institute, *In Their Own Words: Science of Military Strategy 2020*, January 2022, 349.

†According to Jeffrey Engstrom, senior political scientist at the RAND Corporation, the PLA's theory of victory in modern warfare is no longer centered on the annihilation of enemy forces. Instead, it is now based on system destruction warfare, in which victory may be achieved by the ability to “disrupt, paralyze, or destroy the operational capability of the enemy's operational system.” Jeffrey Engstrom, “Systems Confrontation and System Destruction Warfare: How the Chinese People's Liberation Army Seeks to Wage Modern Warfare,” *RAND Corporation*, February 1, 2018, iii.

recent wars and observed how the U.S. military uses these systems to conduct reconnaissance, provide early warning, and enable the real-time synchronization of combat commands at all levels.⁸⁹ Recognizing that its own C4ISR was an area of substantial weakness, the PLA began modernizing, upgrading, and expanding its communications infrastructure in the 1990s to support future command and control capabilities.⁹⁰ According to J. Michael Dahm, senior resident fellow for aerospace and China studies at the Mitchell Institute for Aerospace Studies, decades of investment have resulted in the PLA developing a robust, redundant, and resilient C4ISR system.⁹¹ Mr. Dahm further suggests that China's C4ISR architecture could provide military advantages to the PLA by establishing localized information, air, and maritime dominance in key areas out to the second island chain and by enabling strikes on U.S. bases and deployed forces in the Indo-Pacific region.⁹² The PLA is also looking to leverage artificial intelligence (AI) capabilities to accelerate its processing of imagery, signals, and other ISR data across the land, air, sea, and space domains.⁹³ (For more on the PLA's use of AI to enhance its ISR capabilities, see Chapter 3, "U.S.-China Competition in Emerging Technologies.")

China's C4ISR consists of a suite of interconnected systems to support PLA warfighter decision-making and targeting capabilities across varied domains.⁹⁴ These include:

- *Terrestrial (ground-based) C4ISR*: China's terrestrial network is the core architecture of the PLA's broader C4ISR system.⁹⁵ The PLA's National Defense Communications Network, upgraded in the mid-1990s to high-speed fiber-optic cable, serves as the PLA's primary communication network.⁹⁶ The network connects the PLA command centers to units in the field with reliable communications.⁹⁷ According to Mr. Dahm, compared to the space-based communications capabilities, the "hard-wired" connectivity of the National Defense Communications Network could provide the PLA with more secure communications that would be difficult for an attacker to disrupt or destroy.*⁹⁸ China has also constructed sky-wave over-the-horizon (OTH) radar systems to increase the PLA's ability to locate targets such as ships and aircraft up to 1,864 miles (3000km) from China's coastline.†⁹⁹ OTH radars are reported to have been deployed along China's coast since at least 2010.¹⁰⁰ In addition, radar detected on Chinese-occupied features in the Spratlys—including Subi Reef, Fiery Cross Reef, Cuarteron Reef, and Mischief Reef—are probably over-the-horizon; they would play a crucial role in enabling the PLA to detect and track U.S. and allied forces between the first and second island chains.¹⁰¹
- *Air C4ISR*: The PLA has increased the number of special mission aircraft and uncrewed aerial vehicles (UAVs) that have ex-

*China's use of buried fiber-optic cables may be more secure from remote signals intelligence and less susceptible against electromagnetic and radiofrequency weapons and jamming. Carlo Kopp, "Advances in PLA C4ISR Capabilities," *Jamestown Foundation*, February 18, 2010.

†According to the U.S. Army Training and Doctrine Command, China's OTH radar is used to detect low-altitude penetrating bombers and has early warning ability against intercontinental ballistic missiles and other long-range platforms. U.S. Army TRADOC, *Type SLR-66 Chinese Over-The-Horizon (OTH) Radar*.

tended the PLA's line of sight and improved its airborne early warning and control (AEW&C) and signals intelligence (SIGINT) capabilities.*¹⁰² The PLA Air Force and PLA Navy together are estimated to operate 52 AEW&C aircraft, including the KJ-200, KJ-500, and Y-8J.¹⁰³ Mr. Dahm points to commercial satellite imagery revealing new special mission aircraft that have appeared at PLA airfields, including the KJ-500 AEW&C aircraft, KQ-200 anti-submarine warfare/maritime patrol aircraft, and Y-9JB signals and electronic intelligence aircraft.¹⁰⁴ These special mission aircraft provide C4ISR support to PLA Air Force and PLA Navy operations and have been flying beyond the first island chain and operating from China's artificial features in the South China Sea.¹⁰⁵ For example, in January 2024, the KJ-500 early warning aircraft likely tested the performance of its radar and sensors to support J-15 carrier-based fighter jets and J-11B land-based fighter jets to track targets and support their long-range air-to-air fires during a live-fire exercise over the South China Sea.¹⁰⁶ In March 2022, then U.S. Pacific Air Force Commander Kenneth Wilsbach reportedly noted the KJ-500's important role in supporting the PLA's fifth-generation J-20 fighter and the need for U.S. forces to interrupt the kill chain for long-range air-to-air missiles.¹⁰⁷

- *Maritime C4ISR*: The PLA has developed several platforms to conduct C4ISR in the maritime domain. These platforms include surface combatant ships that are equipped with radars, sensors, and sonars, such as the new Type 055 Renhai guided-missile destroyer.¹⁰⁸ Mr. Dahm notes that PLA Navy warships operating in areas beyond the first island chain to the South China Sea, the Gulf of Aden, and Southwest Asia conduct long-range maritime ISR that could provide indications and warning of U.S. or allied movements.¹⁰⁹ The PLA Navy also has a variety of platforms to track enemy submarines, such as the Z-20 shipborne ASW helicopter, KQ-200 ASW/maritime patrol aircraft, and surface combatant ships equipped with variable-depth sonars and towed array sonar systems.¹¹⁰
- *Space-based C4ISR*: The PLA has improved its space-based C4ISR capabilities by increasing its numbers of on-orbit satellites that provide remote sensing,[†] signals and electronic intelligence, and communications capabilities.¹¹¹ Between 2020 and 2024, the PLA doubled its ISR satellites in geostationary orbit; between 2018 and 2024, it tripled its ISR satellites in low Earth orbit.[‡]¹¹² The PLA is estimated to have 92 ISR satellites and 81 electronic intelligence/SIGINT satellites in orbit.¹¹³

*These special mission aircraft can also conduct electronic attack (jamming) capabilities. J. Michael Dahm, written testimony for U.S.-China Economic and Security Review Commission, *Hearing on China's Evolving Counter Intervention Capabilities and Implications for the United States and Indo-Pacific Allies and Partners*, March 21, 2024, 27.

† Remote-sensing capabilities of these satellites include electro-optic, hyperspectral, infrared imaging, and synthetic aperture radar. J. Michael Dahm, written testimony for U.S.-China Economic and Security Review Commission, *Hearing on China's Evolving Counter Intervention Capabilities and Implications for the United States and Indo-Pacific Allies and Partners*, March 21, 2024, 27.

‡ To illustrate China's urgency to develop this capability, 76 percent of China's 213 low Earth orbit satellites have been launched since 2021. J. Michael Dahm, written testimony for U.S.-China Economic and Security Review Commission, *Hearing on China's Evolving Counter Intervention Capabilities and Implications for the United States and Indo-Pacific Allies and Partners*, March 21, 2024, 27.

General Stephen Whiting, commander of U.S. Space Command, stated in written testimony for the U.S. Senate Armed Services Committee in February 2024 that China's advances in its space capabilities increase its ability to monitor, track, and target U.S. and allied forces both on the ground and on orbit.¹¹⁴ Mr. Dahm notes that China is reportedly one of the only countries with electro-optic imaging satellites in geostationary orbit that can provide "persistent imagery coverage across most of the Indo-Pacific to detect U.S. and allied ships," though these images are likely to be low in resolution due to the satellites' distance from the Earth and atmospheric conditions.¹¹⁵ Other Chinese satellites launched into geostationary orbit, such as the *Ludi Tance-4 01* (Land Exploration-4 01) synthetic aperture radar (SAR), can reportedly collect 20-meter-resolution images in all weather conditions, allowing China to more effectively detect and track U.S. ships at sea.¹¹⁶

The PLA's Counter-C4ISR Efforts

The PLA could use its advances in directed energy weapons, anti-satellite capabilities, and other counterspace technologies to threaten the United States' C4ISR networks and use of the space domain in peacetime or in a counter-intervention scenario.¹¹⁷ There is some public evidence that the PLA views researching and developing such counter-C4ISR capabilities as an important way to respond to the emergence of commercial satellite providers and their contracting relationships with DOD.* For example, in May 2022, PLA researchers from the Beijing Institute of Tracking and Telecommunications—affiliated with the now disbanded PLA Strategic Support Force—called for the development of anti-satellite capabilities such as microwave technology that can jam communications to disrupt the functions and operating systems of satellite constellations like SpaceX's Starlink.†¹¹⁸ Following a December 2022 announcement that SpaceX would be partnering with DOD to provide technology and launch capability—called Starshield—to support national security efforts, PLA researchers assessed that Starshield satellites could make it difficult for PLA military operations to elude U.S. monitoring.¹¹⁹ According to a Reuters review of almost 100 articles in more than 20 Chi-

*Examples of counter-C4ISR capabilities include the use of camouflage, denial, attack, or deception activities that could negatively impact the United States and allied forces' ability to sense and target PLA forces. For instance, actions may also include electronic warfare, cyber attacks, and other physical or nonphysical destruction or disruption of adversary networks, ISR platforms, and command nodes. One article published in the *PLA Daily* by the Political Work Department of the PLA's Northern Theater Command likened adversary ships, naval platforms, and combat aircraft whose access to C4ISR networks had been disrupted to "headless flies." J. Michael Dahm, written testimony for U.S.-China Economic and Security Review Commission, *Hearing on China's Evolving Counter Intervention Capabilities and Implications for the United States and Indo-Pacific Allies and Partners*, March 21, 2024, 4, 17; Wang Ning, "Seizing Information Control Is Key to Taking the Initiative on the Battlefield" (夺取制信息权是掌握战场主动权的关键), *China Military Online*, November 2, 2016. Translation.

†The PLA has also been paying close attention to the effective use of constellation satellite networks in warfare, such as Starlink, which have been used to secure the communications of Ukraine's military amid attacks by Russia. PLA researchers have reportedly noted how Starlink services could support U.S. military operations and provide ISR capabilities around Taiwan. *Kyodo News*, "China Wary of SpaceX's Starlink Service during Taiwan Contingency," *ABS-CBN News*, May 26, 2024; Eduardo Baptista and Greg Torode, "Insight: Studying Ukraine War, China's Military Minds Fret over U.S. Missiles, Starlink," *Reuters*, March 7, 2023.

The PLA's Counter-C4ISR Efforts—Continued

nese defense journals, in one of the articles PLA researchers expressed urgency for China to develop its own similar satellite network while developing other capabilities to shoot down or disable Starlink satellite systems.¹²⁰ This concern has accelerated China's development of its own constellation satellite network as well as capabilities to attack or deny U.S. space programs.¹²¹ In a counter-intervention scenario, the PLA would likely engage in "counter-C4ISR" to attack critical nodes of the United States' own C4ISR systems, such as satellites, in order to thwart a potential U.S. and allied military advance.¹²²

Electronic Warfare

The PLA has developed substantial EW capabilities to detect, target, and disrupt U.S., allied, and partner forces operating in the Indo-Pacific.¹²³ In the event of a Taiwan contingency, the PLA could expect the United States to field unmanned submarines, unmanned surface ships, aerial drones, next-generation aircraft and ships equipped with advanced sensors, radars, and precision-guided munitions to target China's invasion force.¹²⁴ In preparation for such a contingency, experts assess that China's developed EW capabilities would present a significant challenge to U.S. forces by disrupting the data links and communications U.S. and allied forces need to operate during conflict.¹²⁵ In October 2023, a senior U.S. defense official indicated the PLA anticipates needing to be better prepared to operate in a complex electromagnetic environment and continues to try to improve its EW capabilities.¹²⁶ In his testimony to the Commission, Mr. Dahm argued that the PLA has invested in EW capabilities that exceed those of the Russian military and even potentially those of the U.S. military.¹²⁷

The PLA's EW capabilities include offensive and defensive capabilities that disrupt an enemy's equipment or protect PLA weapons systems from enemy attack.¹²⁸ In addition, the PLA considers how EW can be employed as a deception strategy by concealing real signals and injecting false information to mislead adversary operators and decision-makers.¹²⁹

- ***Electronic attack (EA) capabilities:*** The PLA uses electromagnetic or directed energy to disrupt an adversary's electronic information systems, or it uses anti-radiation missiles, high-energy lasers, and electromagnetic pulse weapons to directly damage their equipment.¹³⁰ These EA capabilities mostly correspond to ground-based and road-mobile electronic countermeasures brigades.*¹³¹ The PLA Air Force, PLA Navy, and PLA Rocket Force each operate electronic countermeasures brigades that provide both electronic support (e.g., intelligence) and EA capabilities

*An example of ground-based jamming equipment was reported in April 2018, when China installed the equipment on Mischief Reef in the Spratlys. Michael R. Gordon and Jeremy Page, "China Installed Military Jamming Equipment on Spratly Islands, U.S. Says," *Wall Street Journal*, April 9, 2018.

to the theater commands.*¹³² Other capabilities include PLA Air Force EA aircraft such as the new Y-9G that conducts communications jamming. The PLA Air Force currently fields three Y-9G variants and two Y-9XZ variants.†¹³³ The PLA Air Force also fields at least 12 J-16D PLA radar-jamming EW aircraft with sensors that can determine the position of radar-transmitting devices used to both jam and target adversary radars.¹³⁴ In January 2022, two J-16D aircraft were spotted, reportedly for the first time, conducting an exercise alongside 11 other PLA aircraft that entered Taiwan's Air Defense Identification Zone, demonstrating the PLA's intent to conduct EW in a Taiwan contingency.¹³⁵ The PLA has also developed anti-radiation weapons designed to destroy radar or communications targets, such as the PLA Air Force YJ-91 anti-radiation missile (ARM) or several new ARMs like the TL-30 (known as the AKF088C) that can reportedly fly and loiter in search for targeted enemy electronic signals.¹³⁶ China has sought to improve its ARMs by producing a seeker on the missile that could cover multiple frequency bands and could prioritize targets that are uploaded to the on-board computer from the ground or by pilots while in flight.¹³⁷ The PLA has also developed counterspace EA capabilities, such as experimental on-orbit jamming systems and road-mobile satellite jamming facilities and brigades that can potentially conduct non-kinetic attacks on U.S. and allied satellites as a first move in a counter-intervention operation.¹³⁸

- *Electronic protection (EP) capabilities:* China anticipates reciprocal electronic jamming attacks as well as kinetic attacks against its own C4ISR, and it has taken measures to protect its systems. The PLA conducts trainings and exercises to prepare units, such as radar brigades, for an attack or to protect against enemy satellites conducting reconnaissance.¹³⁹ EP activities can also involve strategies like “frequency hopping,” where a radar or communications system jumps across a preset array of frequencies to make it difficult for enemies to detect and jam.‡¹⁴⁰ The PLA has also built redundancy into its systems, protecting against adversarial actions by developing a joint datalink system that covers a broad range of the frequency spectrum.¹⁴¹ Mr. Dahm notes that these datalink systems§ are likely resistant to adversarial intercepts and jamming.¹⁴² In effect, the PLA's

*The previous PLA Strategic Support Force operated ground-based electronic countermeasure brigades that likely focused on the air defense of Beijing. In April 2024, China disbanded the Strategic Support Force and created three new military forces: the Military Aerospace Force, the Cyberspace Force, and the Information Support Force. J. Michael Dahm, written testimony for U.S.-China Economic and Security Review Commission, *Hearing on China's Evolving Counter Intervention Capabilities and Implications for the United States and Indo-Pacific Allies and Partners*, March 21, 2024, 33. For more on the PLA Strategic Support Force reorganization, see Chapter 2, “U.S.-China Security and Foreign Affairs (Year in Review).”

†It is estimated that the PLA Air Force has four electronic warfare regiments, which consist of about 31 electronic warfare aircrafts including the J-16D Flanker, Y-8CB, Y-8DZ, Y-8G, Y-8XZ, Y-9G, and Y-9XZ. International Institute for Strategic Studies, “Military Balance 2024, Chapter Five: Asia,” February 12, 2024, 260.

‡Other operational forms of electronic protection to avoid detection include turning off radars and not operating radars in view of enemy satellite collection. J. Michael Dahm, Senior Resident Fellow, *Mitchell Institute for Aerospace Studies*, interview with Commission staff, May 28, 2024.

§The PLA's Joint Information Distribution System is similar to the U.S. Link-16 or Joint Tactical Information Distribution System data link. The system is developed as a frequency-hopping datalink and described by Chinese sources as being capable of connecting army, navy, air force, and satellite communication networks and integrating these service-level tactical data links into

broad range of coverage over the frequency spectrum* increases the challenge for an adversary to jam or destroy enough of the PLA's electronic systems to significantly disrupt its ability to access battlespace-related information.¹⁴³ The PLA has also looked to utilize emerging technologies to enhance its electronic protection capabilities to counter U.S. electronic attacks.¹⁴⁴ For instance, as reported in the *South China Morning Post*, a Chinese academic journal titled *Radar and Electronic Counter Measure* examines how AI could help the PLA Navy's radar counter the U.S. Navy's EA-18G Growler's electromagnetic jamming.¹⁴⁵

The PLA's investments in a diversity of EW capabilities has likely improved its ability to operate in a complex electromagnetic environment.¹⁴⁶ It continues to emphasize combat training in such an environment; in January 2024, a naval brigade of the Southern Theater Command simulated targeting and countering enemy aircraft anti-jamming methods.¹⁴⁷ Mr. Dahm notes it is unclear based on open source research how the PLA's EA capabilities may fare against advanced and hardened U.S. military systems equipped with electronic protection capabilities.¹⁴⁸ Comparing the United States' and China's EW systems, it is likely that the U.S. Navy EW aircraft, the EA-18G Growler, is qualitatively better than any jammer, such as the Y-9G, in the PLA inventory.¹⁴⁹ That said, Mr. Dahm assesses that the diversity found in PLA air-to-air weapons, naval radars, surface-to-air missile radars, and early warning radars poses significant challenges for the U.S. military to effectively disrupt all of the PLA systems.¹⁵⁰

China's Offensive Missile Capabilities

China's continued expansion of its missile force is a critical component of its A2/AD capabilities that could threaten U.S. and allied bases, logistics and port facilities, and other key infrastructure in the Indo-Pacific.¹⁵¹ Over time, China has increased the number, range, precision, and types of missiles in its arsenal, particularly for medium- and long-range missiles.¹⁵² In 2015, at the start of China's major military modernization reforms, DOD estimated that the PLA had fielded 200–300 medium-range ballistic missiles (with a range of approximately 1,500 kilometers (km) (930 miles [mi])) with 100–125 launchers; as of 2023, the PLA had reportedly deployed 1,000 medium-range ballistic missiles and 300 launchers.¹⁵³ Similarly, in 2018, DOD published for the first time its estimate that the PLA had deployed 16–30 intermediate-range ballistic missile (IRBMs), with a range of approximately 3,000–4,000 km (1,900–2,500 mi) with 16–30 launchers; as of 2023, DOD assessed that the PLA had 500 IRBMs and 250 launchers.¹⁵⁴ The large quantity of longer-range IRBMs also enables the PLA to extend the distance and frequency

a single joint network. J. Michel Dahm, "Inter-Island Communications," *Johns Hopkins Applied Physics Laboratory*, July, 2020, 10–11.

*The PLA's coverage over the frequency spectrum includes ground-based radars employed for ISR ranging from high-frequency (HF) skywave OTH to very-high-frequency (VHF); ultra-high frequency (UHF); and L-, S-, C-, and X-band radars. J. Michael Dahm, written testimony for U.S.-China Economic and Security Review Commission, *Hearing on China's Evolving Counter Intervention Capabilities and Implications for the United States and Indo-Pacific Allies and Partners*, March 21, 2024, 34; J. Michael Dahm, "South China Sea Military Capability Series: Air and Surface Radar," *Johns Hopkins Applied Physics Laboratory*, 2020, 2–21.

of its strikes out to the Philippine Sea and beyond, increasing the risks to U.S. and allied forces operating within the second island chain.¹⁵⁵ The PLA has also improved the precision of its missiles, as illustrated in recent exercises targeting moving maritime assets and ground-based assets.*¹⁵⁶ In addition, the PLA has diversified the types of missiles in its arsenal and now has a variety of ballistic and cruise missiles that can strike land-, air-, and sea-based targets.†¹⁵⁷ The PLA has also invested in the development of hypersonic technology and is known to have outfitted the medium-range DF-17 with a hypersonic glide vehicle.¹⁵⁸ The maneuverability of the hypersonic glide vehicle could allow the missile to evade U.S. air and missile defenses.¹⁵⁹ Thomas Shugart, adjunct senior fellow at the Center for a New American Security, also assesses that the PLA's greater quantity of anti-ship ballistic missiles will enable it to strike not only high-value targets like large and medium-size ships (such as U.S. aircraft carriers) but also smaller groups or warships (such as logistics ships).¹⁶⁰

Competency of China's missile forces is difficult to determine. Some Chinese military analysts project confidence that its missile force is formidable enough to counter changes in the U.S. force posture in the region. Ms. Kivlehan-Wise highlights writings by a retired PLA officer that claim China's long-range missiles and warfighting capabilities in the air domain would render any U.S. attempts to create an "outpost on the first island chain... impossible."¹⁶¹ Even so, recent corruption charges and the rare admission of shortcomings in the political oversight‡ of training conducted by the PLA's Rocket Force units—reported in 2023—suggests a potential deficiency in the force's combat readiness.¹⁶² (For more on corruption investigation within the PLA Rocket Force and the Equipment Development Department, see Chapter 2, "U.S.-China Security and Foreign Affairs (Year in Review).")

*For example, in May 2023, the PLA conducted a joint exercise about 740 km northwest of Guam involving the PLA Rocket Force and the PLA Navy's Shandong aircraft carrier group that reportedly illustrated its capacity to target moving surface ships and naval bases beyond the first island chain. In 2020, the PLA also conducted a live-fire exercise where it launched DF-21 and DF-26 ballistic missiles and successfully hit a moving ship in the South China Sea. International Institute for Strategic Studies, "Military Balance 2024, Chapter Five: Asia," February 12, 2024, 220; U.S. Department of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2023*, October 19, 2023, 67; Minnie Chan, "China Says PLA Rocket Force Joined Shandong Carrier Group in Drills near US Base in Western Pacific," *South China Morning Post*, May 10, 2023; Kristin Huang, "China's 'Aircraft-Carrier Killer' Missiles Successfully Hit Target Ship in South China Sea, PLA Insider Reveals," *South China Morning Post*, November 14, 2020.

†China has developed robust anti-ship ballistic missiles (ASBMs) with an estimate of over 140 DF-26s and approximately 30 DF-21Ds. It has also developed air-launched land attack cruise missiles (LACMs) such as the CJ-20, air-launched antiship cruise missiles (ASCMs) such as the YJ-12 and the YJ-18, and sea-launched land attack cruise missiles and sea-launched antiship cruise missiles that can target U.S. and allied military forces on fixed bases in the Indo-Pacific as well as on moving air and maritime assets operating within the region. International Institute for Strategic Studies, "Military Balance 2024, Chapter Five: Asia" February 12, 2024, 254; U.S. Department of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2023*, October 19, 2023, 66–67; Jordan Wilson, "China's Expanding Ability to Conduct Conventional Missile Strikes on Guam," *U.S.-China Economic and Security Review Commission*, May 10, 2016, 8–11.

‡A September 2023 *PLA Daily* article details the importance of bolstering unit-level political commissar work to oversee the implementation of reforms and training by PLA Rocket Force units. *Reuters*, "China's Military Rocket Force Uncovers 'Shortcomings,' PLA Daily Reports," September 15, 2023; Yang Shaotong and Yang Lun, "The Party Committee of a Certain Rocket Force Conducted an In-Depth Investigation and Study to Solve Problems in the Development of the Army" (火箭军某部党委深入调查研究解决部队发展难题), *PLA Daily*, September 15, 2023. Translation.

China's Logistics and Maintenance Sustainment Capabilities Improve, but Challenges Remain

The PLA views logistics support functions as a key requirement for winning wars and has sought to transform its decentralized logistics system to a more centralized hub-and-spoke system that better enables joint operations.¹⁶³ In order to sustain the PLA's offensive campaigns in a Taiwan scenario (such as blockades, joint firepower strike, and island landing operations), the PLA would require extensive logistics support to transport material and oil supplies, conduct infrastructure protection, and enable the maintenance of war material reserves.¹⁶⁴ The PLA has spent more than two decades adjusting its approach to logistics to respond to contingencies more quickly and efficiently and with greater capacity.¹⁶⁵ These measures include the following:

- Under the 2016 military reforms initiated by General Secretary Xi, the PLA created the Joint Logistics Support Force with the intent to improve the management of its logistics and equipment support system across the theater commands.¹⁶⁶
- The PLA has continued to conduct exercises and training focused on improving its joint logistics capability across theater commands.*¹⁶⁷ These exercises and training appear to focus on preparing for situations in which PLA logistics are targeted in a conflict.¹⁶⁸ For instance, in August 2023, the Eastern Theater Command Air Force conducted runway repair drills and training to improve its ability to recover following enemy strikes.¹⁶⁹
- The PLA has conducted airfield renovations, expanded taxiways, developed new shelters for aircraft, and updated fuel and munitions storage.[†]¹⁷⁰
- For the PLA Navy, the service has been developing replenishment platforms such as auxiliary replenishment oilers and has been practicing the transfer of missile systems while underway at sea.¹⁷¹ For example, the PLA Navy's Zhanlan far seas training exercise in 2020 focused on combat support to sustain limited offensive strikes at sea and featured the first known case of the PLA Navy training on transferring ordnance while underway outside the first island chain, including replenishment of torpedoes using a helicopter.¹⁷²
- The PLA is also investing in new technologies such as AI, autonomous vehicles, big data, cloud computing, data mining technology, Internet of Things, 5G mobile communications, and

*Kevin McCauley, an independent analyst, assessed in 2022 that extensive logistics exercises and training to ensure the PLA's successful execution of complex and difficult logistics support plans for a large-scale joint landing operation had not appeared to have taken place thus far. Kevin McCauley, "Logistics Support for a Cross-Strait Invasion," *U.S. Naval War College, China Maritime Studies Institute, China Maritime Report No. 22*, July 2022, 1.

†According to Eli Tirk, research analyst at the China Aerospace Studies Institute, these updates of hardened storage facilities and the expansion of munition storage occurred at airfields within the Eastern Theater Command that could improve the PLA's combat abilities in a Taiwan contingency. Mr. Tirk also assesses that in a contingency involving a large-scale PLA air combat operation conducting a blockade of Taiwan, the airfields within and around 600 miles of Taiwan in the Eastern Theater Command and Southern Theater Command would allow the PLA to operate over and around Taiwan for longer periods of time while enabling aircraft on longer-range sorties conducting counter-intervention operations to refuel and rearm. Eli Tirk, "PLA Capability to Sustain Air Combat Operations," *U.S. Army War College*, February 2023, 147.

other automatic identification technologies to enhance precision logistics that could improve decision-making for PLA commanders.¹⁷³

Despite efforts to improve its logistics capabilities, however, the PLA continues to face a range of challenges that could limit its effectiveness in combat.

- The continuous reorganization of the PLA's logistics forces has led to internal frictions, complex coordination issues, and difficult command issues that hold implications for response time and efficiency of wartime logistics support.¹⁷⁴
- The PLA may lack sufficient logistics capabilities required to successfully support a large-scale amphibious landing on Taiwan, and countering a foreign military response would add additional strain on the PLA's logistics assets.¹⁷⁵ According to Kevin McCauley, an independent analyst, the PLA's All Army Logistics Academic Research Center's writings reflect concerns that a U.S. military response could disrupt the PLA's logistics operations through missile strikes or information attacks.¹⁷⁶
- The PLA also faces maintenance challenges. In written testimony to the Commission, Cristina Garafola, policy researcher at the RAND Corporation, argued that shortcomings in the PLA's maintenance management system* could present key challenges to China's logistics performance during high-end combat.¹⁷⁷ Ms. Garafola similarly noted that the PLA's rapid force modernization combined with its lack of recent combat experience means its maintenance systems could struggle to conduct battlefield repair of high-technology weapons and equipment.[†]¹⁷⁸ For example, she identified maintenance challenges that could result in degraded performance for advanced platforms such as the J-20 fighter jet and the maritime and naval assets on features in the South China Sea.¹⁷⁹ A second element is insufficient training for the personnel within the PLA's logistics system who are tasked with maintaining important weapons platforms and other equipment.¹⁸⁰ Ms. Garafola also identified low morale and ad hoc practices across the services as key vulnerabilities that could compromise the PLA's ability to maintain its growing suite of weapons systems under battlefield conditions.[‡]¹⁸¹ In a high-intensity conflict, any limitations in PLA maintainers' ability to service increasingly advanced maritime and air assets could have operational effects on PLA war-fighting performance,

*The PLA's maintenance management system is a component of the logistics and sustainment activities but separate from the Joint Logistics Support Force command structure. Cristina Garafola, written testimony for U.S.-China Economic and Security Review Commission, *Hearing on China's Evolving Counter Intervention Capabilities and Implications for the United States and Indo-Pacific Allies and Partners*, March 21, 2024, 1, 9.

†The 2020 *Science of Military Strategy* highlights that the task of equipment maintenance has become more "onerous" and cites the potential for higher failure rates in new weapons and equipment not tested under combat conditions. China Aerospace Studies Institute, *In Their Own Words: Science of Military Strategy 2020*, January 2022, 443.

‡For example, a *PLA Daily* article reveals the lack of an institutionalized approach for highly skilled maintainers to pass on their knowledge to the unit prior to retirement. Cristina Garafola, written testimony for U.S.-China Economic and Security Review Commission, *Hearing on China's Evolving Counter-Intervention Capabilities and Implications for the United States and Indo-Pacific Allies and Partners*, March 21, 2024, 7; Jia Baohua, Yang Lei, and Xiang Shuangxi, "Compiling an 'Encyclopedia' for Equipment Maintenance" (为装备维修编制'百科全书'), *PLA Daily*, April 5, 2018. Translation.

such as low platform availability rates, reduced sortie generation, or degraded platform performance.¹⁸²

- The PLA may also face shortages of supplies close to the location of a potential conflict. PLA experts assess that its war material reserves, including the stockpiling of oil, equipment parts, and munitions, need to be strengthened along its frontline tactical areas, such as China's coastline across from Taiwan.¹⁸³ Compounding this potential shortage of supplies near the vicinity of the conflict are uncertainties about the PLA's capability to respond quickly and move large quantities of supplies throughout the country.* (For more on China's stockpiling efforts, see Chapter 7, "China's New Measures for Control, Mobilization, and Resilience.")

U.S.-Allied Efforts to Address Challenges from China's Military

U.S. alliances represent a critical part of the United States' approach to pursuing security and advancing stability in the Indo-Pacific region, including responding to threats from China's counter-intervention capabilities. Christopher Johnstone, senior adviser and Japan Chair at the Center for Strategic and International Studies, argued in his testimony before the Commission that U.S. alliances in the Indo-Pacific represent a "foundational strength for the United States" both for the access they provide and for the capabilities they bring to the table.¹⁸⁴ Allies' provision of basing, rotational, or other access enables a routine U.S. military presence and ensures that the United States is able to respond quickly to a crisis.¹⁸⁵ Alliances can potentially reinforce deterrence by complicating Beijing's decision-making, since they increase the likelihood that a conflict will involve more military actors than the United States.¹⁸⁶

There are prospects for increased allied cooperation in the face of China's counter-intervention capabilities. In addition to the common values and strategic interests underlying these alliance commitments, the United States and its Indo-Pacific allies increasingly share similar concerns about the implications of China's military capabilities and objectives.¹⁸⁷ There nevertheless remain differences in the specific activities each country might be willing to participate in or to support, driven by differences in political will and the capabilities of their militaries.

U.S. Defense Industrial Base Challenges

A robust and resilient U.S. defense industrial base is crucial for the sustainment of U.S. strategic competition in peacetime and surge capacity in wartime. The U.S. defense industrial base faces acute challenges brought by an evolving strategic environ-

*There have been few recent events by which to judge the PLA's current capacity for rapid mobilization. However, some observers pointed to this as an area of challenge during the 2008 Sichuan earthquake and the PLA's response to the outbreak of COVID-19 in 2022. Elsa Kania and Ian Burns McCaslin, "People's Warfare against COVID-19: Testing China's Military Medical and Defense Mobilization Capabilities," *Institute for the Study of War*, December 2020, 25; Joel Wuthnow, "Responding to the Epidemic in Wuhan: Insights into Chinese Military Logistics," *Jamestown Foundation*, April 13, 2020; Jake Hooker, "Quake Revealed Deficiencies of China's Military," *New York Times*, July 2, 2008.

U.S. Defense Industrial Base Challenges—*Continued*

ment that has placed strain on U.S. policies and investments, a limited workforce, and inadequate domestic production.¹⁸⁸ Some problems currently facing the defense industrial base include a high reliance on a small number of contractors for critical defense capabilities; supply chain difficulties; challenges identifying, recruiting, and retaining talent; and complex and protracted procurement procedures.¹⁸⁹ These issues within the U.S. defense industrial base contribute to challenges and delays in supplying not only the U.S. military but also U.S. allies and partners.¹⁹⁰ One area of particular concern is the U.S. capacity to keep up with surging demand for munitions in a conflict scenario.¹⁹¹ For instance, high consumption rates and dwindling stockpiles would compound existing limitations on production capacity caused by previous low demand signals for munitions.¹⁹² In April 2023, the *Wall Street Journal* reported that plans to increase production of key munitions, such as mortar shells, artillery rounds, and Tomahawk missiles, have been marred by a shortage of chips, machinery, and skilled workers.¹⁹³ U.S. experts have also found that the U.S. military is not buying enough munitions, threatening the ability to meet the requirements of future conflicts and making it more difficult to sustain production lines.¹⁹⁴ Mackenzie Eaglen, senior fellow at the American Enterprise Institute, assessed that the U.S. Navy likely has an inadequate supply of Tomahawk Land Attack Missiles, as lackluster procurement does not offset current expenditure rates.*¹⁹⁵ In testimony before the Commission, witnesses suggested that increased cooperation with allies such as Japan and Australia may offer one pathway for ameliorating capacity shortfalls in shipbuilding and maintenance or munitions production; however, operationalizing such cooperation would still require substantial investment in joint capabilities.¹⁹⁶ In a step to enhance cooperation with allies in addressing defense industrial base vulnerabilities, the United States announced that it is launching the Partnership for Indo-Pacific Industrial Resilience with 12 of its allies and partners in the Indo-Pacific and Europe, including Taiwan, in order to fast-track production of weapons systems.¹⁹⁷ (For more on U.S.-Taiwan defense cooperation, see Chapter 9, “Taiwan.”)

Indo-Pacific Allies’ Geography Is a Major Asset for the U.S. Military

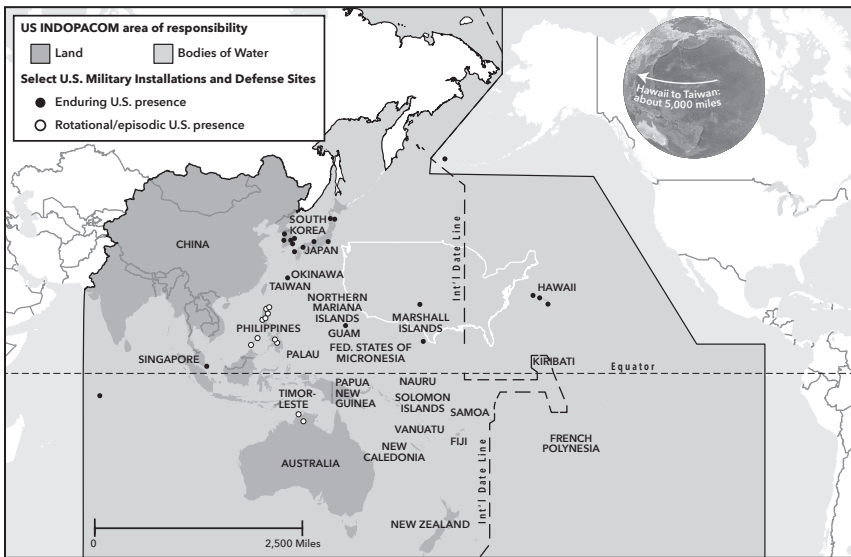
Geographic access from Indo-Pacific alliances is an important element of U.S. military posture† in the Indo-Pacific region. According

*As an example, the U.S. Navy stated it expended more than 80 Tomahawks on the opening day alone to strike targets within Yemen. Ms. Eaglen points out that in 2023, the entire Tomahawk purchase of 55 missiles accounted for 68 percent of the precision munitions fired at the Houthis in one day, a rate of expenditure that is unsustainable. Mackenzie Eaglen, “Why Is the U.S. Navy Running Out of Tomahawk Cruise Missiles?” *American Enterprise Institute*, February 13, 2024.

†Military posture refers to the positioning and organization of military forces and facilities and may also refer to international military agreements. Luke A. Nicastro and Ilana Krill, “FY2024 NDAA: U.S. Military Posture in the Indo-Pacific,” *Congressional Research Service* IN12273, October 30, 2023, 1.

to DOD's 2022 National Defense Strategy,* a focus for U.S. military force posture is “the access and warfighting requirements that enable [U.S.] efforts to deter PRC [People’s Republic of China] and Russian aggression, and to prevail in conflict if deterrence fails.”¹⁹⁸ According to then Commander of U.S. Indo-Pacific Command Admiral John C. Aquilino in April 2023, implementing the objectives of the 2022 National Defense Strategy requires the U.S. military to maintain a “persistent, lethal, and integrated” joint force west of the International Date Line.¹⁹⁹ The majority of U.S. defense sites west of the International Date Line are located in host countries, including some that are operated by DOD (such as in Japan and South Korea), and others that are used by DOD but owned and operated by the host country (such as in the Philippines, Australia, and Singapore) (see Figure 1).²⁰⁰ U.S. Army, Navy, Marine Corps, and Air Force installations at these sites support a range of actions and capabilities, including missile detection and defense, logistics support, training, and exercises.²⁰¹

Figure 1: Select U.S. Military Installations and Defense Sites in the Indo-Pacific



Source: Adapted from Caitlin Campbell, Cameron M. Keys, and Luke A. Nicaastro, “U.S. Indo-Pacific Command (INDOPACOM),” *U.S. Congressional Research Service CRS IF 12604*, March 5, 2024, 2.

Japan’s geography and permanent basing of U.S. forces make it an extremely important ally for a China contingency. Its strategic location on the first island chain means that one of the PLA’s shortest passages into the Pacific brings it between Japan’s Southwest Islands and Taiwan.²⁰² Japan plays a critical role in U.S. force posture

*The 2022 National Defense Strategy lays out how the U.S. military plans to address threats to vital U.S. national security interests. It directs DOD to “act urgently to sustain and strengthen U.S. deterrence” with China as the pacing challenge. U.S. Department of Defense, *2022 National Defense Strategy of the United States of America*, 2022, 111.

through the permanent basing of U.S. military personnel.* More U.S. service members are permanently stationed in Japan than in any other foreign country,† with this forward deployment serving the strategic goal of protecting regional security and increasing deterrence against China.²⁰³ In his testimony before the Commission, Mr. Johnstone described the alliance with Japan as “the foundation of [U.S.] power projection in the region” because of the critical U.S. military capabilities stationed there.²⁰⁴ The country hosts U.S. Army, Navy, Marine Corps, and Air Force installations, with installations on the Japanese island Okinawa (in the southwest) providing close access to Taiwan and the South China Sea.²⁰⁵ Japan is also the location of the forward-deployed Ronald Reagan carrier strike group.²⁰⁶

The Philippines’ geography and rotational hosting of U.S. forces grants potential access to both the South China Sea and the Taiwan Strait. Gregory Poling, senior fellow and director of the Southeast Asia program and Asia Maritime Transparency Initiative at the Center for Strategic and International Studies, argued in 2023 that “there is no contingency in the South China Sea that does not require access to the Philippines.”‡²⁰⁷ Its position in the first island chain also means that one of the PLA’s shortest passages into the Pacific is through the Luzon Strait, which lies between Taiwan and the Philippines.²⁰⁸ U.S. armed forces have a rotational presence at nine bases in the Philippines, governed by the Visiting Forces Agreement (VFA) of 1999§ and the EDCA agreement.²⁰⁹ EDCA allows the United States to fund infrastructure upgrades, preposition military equipment, and rotate forces through select Philippine military bases for the benefit of both countries.²¹⁰ The 2023 EDCA expansion included one new site near the Spratlys that could facilitate U.S. assistance to the Philippines in the South China Sea and three facing north toward Taiwan that could facilitate U.S. military operations in the event of a Taiwan contingency.¶²¹¹ Edcel Ibarra, assistant professor at the University of the Philippines Diliman, stated in his testimony for the Commission that if allowed by the Philippine gov-

*The *Status of Forces Agreement (1960)* delineates the legal status of U.S. service personnel in Japan and the facilities and areas granted to the United States to use. U.S. Department of State, Bureau of Political-Military Affairs, *U.S. Security Cooperation with Japan*, January 20, 2021.

†As of 2024, there were 85 U.S. military facilities, and as of 2023, there were approximately 62,802 U.S. military personnel. As of 2021, thousands of DOD civilians and family members lived in Japan. Lindsay Maizland and Nathanael Cheng, “The U.S.-Japan Security Alliance,” *Council on Foreign Relations*, May 3, 2024; U.S. Department of State, Bureau of Political-Military Affairs, *U.S. Security Cooperation with Japan*, January 20, 2021.

‡Mr. Poling also assesses that U.S. military access from the Philippines and rotational access of key U.S. capabilities at EDCA sites could offer one of very few feasible avenues for contending with China’s military bases in the South China Sea. Gregory Poling, “The Conventional Wisdom on China’s Island Bases Is Dangerously Wrong,” *War on the Rocks*, January 10, 2020.

§The Visiting Forces Agreement (VFA) (1999) establishes the legal basis for the presence of U.S. Armed Forces personnel visiting the Philippines. In February 2020, then Philippine President Rodrigo Duterte announced the cancellation of the VFA, but after several subsequent announcements suspending this cancellation and a meeting between President Duterte and U.S. Secretary of Defense Lloyd Austin, the agreement was fully restored in July 2021. Andrea Chloe-Wong, “Duterte’s Back-Down on US Forces in Philippines,” *Interpreter*, August 24, 2021; U.S. Department of Defense, *Philippines President Restores Visiting Forces Agreement with U.S.*, July 30, 2021; Idrees Ali and Karen Lema, “Philippines’ Duterte Fully Restores Key U.S. Troop Pact,” *Reuters*, July 20, 2021.

¶Original EDCA sites included Antonio Bautista Air Base in Palawan, Basa Air Base in Pangasinan, Fort Magsaysay in Nueva Ecija, Benito Ebuena Air Base in Cebu, and Lumbia Air Base in Mindanao. The new sites identified in 2023 are Naval Base Camilo Osias in Sta Ana and Lal-lo Airport, both in Cagayan Province; Camp Melchor Dela Cruz in Gamu, Isabela Province; and the island of Balabac off of Palawan. Gregory B. Poling, “The U.S.-Philippine Alliance’s Very Busy Month,” *Center for Strategic and International Studies*, April 12, 2023; Karen Lema, “Philippines Reveals Locations of 4 New Strategic Sites for U.S. Military Pact,” *Reuters*, April 3, 2023.

ernment or if mutual defense obligations are triggered, the alliance provides a strategic location for forward deployment of U.S. military forces and for military logistics.²¹²

Australia's geography and rotational hosting of U.S. forces provide additional benefits for the U.S. military in countering the PLA in the Indo-Pacific.* Its location provides military access to both the Pacific and Indian Oceans, close enough to China to influence the military environment in places like the South China Sea but outside the first and second island chains, where China's counter-intervention capabilities are strongest.²¹³ Bec Shrimpton, director of defense strategy and national security at the Australian Strategic Policy Institute, argued in her testimony for the Commission that Australia's large size and distance from China make it less vulnerable as a potential forward location for U.S. forces than positions in other allied states or Guam.²¹⁴ She also assessed that "in a crisis or early stages of a conflict, Australia would be seen as sensible location to disperse/repair/sustain [U.S.] forward-deployed forces, and as an obvious hub from which to flow in supplies, reinforcements and long-range strike assets."²¹⁵ Australian bases host U.S. military forces on a rotational basis, including navy, air force, and marine corps elements for training and exercises.²¹⁶

U.S. Security Partnerships with the Freely Associated States

The United States has strong security partnerships with Palau, the Marshall Islands, and the Federated States of Micronesia that confer benefits in terms of geography and military access. These three Pacific Island countries, collectively known as the Freely Associated States (FAS), maintain a close relationship with the United States through Compacts of Free Association (COFA) agreements.²¹⁷ The FAS are located in a strategic region of the Pacific near U.S. territories of Guam and the Northern Mariana Islands and close to other important security partners such as Australia and Papua New Guinea.²¹⁸ The agreements these states have established with the United States include defense-related provisions that grant the U.S. military unilateral defense access to an area of the Pacific Ocean broader than the continental United States.²¹⁹ The agreements also allow the United States to deny military access to third countries such as China.²²⁰ Experts assess that the access afforded by these agreements forms a critical part of the current U.S. defense posture in the Pacific.²²¹ According to Kathryn Paik, senior fellow and Australia chair at the Center for Strategic and International Studies and a previous director for Southeast Asia and the Pacific on the National Security Council, "Every contingency you can imagine

*The Agreement Concerning the Status of United States Forces in Australia (SOFA) (1963) lays out the legal status of U.S. Armed Forces personnel in Australia. Australian bases host U.S. military forces on a rotational basis, including rotational navy, air force, and marine corps elements for training and exercises, U.S. Air Force bombers, and the rotational U.S. Marine Air Ground Task Force Marine Rotational Force-Darwin. Bec Shrimpton, written testimony for U.S.-China Economic and Security Review Commission, *Hearing on China's Evolving Counter Intervention Capabilities and Implications for the United States and Indo-Pacific Allies and Partners*, March 21, 2024, 7-8; U.S. Department of State, Bureau of Political-Military Affairs, *U.S. Security Cooperation with Australia*, September 14, 2021.

U.S. Security Partnerships with the Freely Associated States—*Continued*

in the Pacific—Korea, Taiwan—everything, depends on [those] assumptions of defense access.”²²² These countries also host some U.S. Army installations used for missile defense activities.²²³

Chinese sources recognize the strategic value of these security partnerships for the United States. Some Chinese state media reporting on the renewal of the COFA agreements has emphasized the strategic and military significance of these agreements for the United States, and China’s Ministry of National Defense spokesperson criticized the renewal as the United States trying to turn the region into a “boxing ring.”²²⁴ A 2023 article describes these Pacific Island states as “marine and aerial channels for the [United States] to deploy troops” in the Western Pacific, makes note of U.S. military deployments on their territories, highlights their potential service as “logistics replenishment bases,” and speculates that they will function as alternatives to the U.S. base in Guam.²²⁵ Another article claims the United States seeks to “build these three countries into its forward bases against China.”²²⁶ These articles ignore the agency and sovereign choices of the FAS in continuing their relationships with the United States, grossly mischaracterizing the United States as “binding” them into its service and using “coercion” to “tie them to its anti-China chariot.”²²⁷

Japan’s Perspectives on Addressing Threats from China’s Military

China’s aggressive military actions in the region, coupled with the rapid buildup of the PLA’s offensive military capability, present a growing security threat to Japan.²²⁸ In Japan’s 2022 National Security Strategy, China is described as the “greatest strategic challenge” to peace and security, a departure from its 2013 National Security Strategy that referred to China’s “external stance and military activities” as an “issue of concern.”²²⁹ Tokyo’s concern of advances in missile-related technologies in its surroundings has motivated recent efforts to upgrade its defense capabilities, especially its counterstrike capabilities, and to deepen defense cooperation with the United States and other partners.²³⁰ Japan is likely to determine that supporting U.S. efforts in a conflict is in its interests, although the degree and type of support are not yet determined.

Japan Perceives Imminent Threats from China’s Military, Including over Taiwan

Japan’s policymakers are highly concerned that China’s security objectives vis-à-vis Taiwan present a threat to their country, according to official reports and research conducted during the Commission’s June 2024 fact-finding trip to Tokyo.²³¹ Due to its proximity to China, Japan would be at the forefront of any military conflict within the first island chain, particularly a war over Taiwan.²³² Three high-level policy documents from Japan’s Ministry of Defense in 2021 and 2022 highlight China’s “intensifying” military activities

in the sea and air around Taiwan among Tokyo's chief security concerns in the Indo-Pacific, with one of the 2022 documents describing stability around Taiwan as something "critical for Japan's security [which] must be closely monitored with a sense of urgency."²³³ Ministry of Defense policy documents and nongovernment experts have also frequently referenced China's military response to then U.S. Speaker of the House Nancy Pelosi's visit to Taiwan in August 2022—during which the PLA conducted live-fire exercises and five ballistic missiles fell into Japan's exclusive economic zone (EEZ)—as a particularly salient indicator of this threat.²³⁴ In his written testimony to the Commission, Tetsuo Kotani, professor at Meikai University and senior fellow at the Japan Institute of International Affairs, argued that China's bellicose military response to then Speaker Pelosi's visit demonstrated a "real possibility that Japan would be directly involved in a Taiwan contingency."²³⁵

Tokyo is similarly concerned about China's aggressive military presence elsewhere in the region. In 2019, a Ministry of Defense-produced white paper, "Defense of Japan," noted that the PLA Navy and Air Force had "expanded and intensified their activities in the surrounding sea areas and airspace of Japan," seeking to desensitize its neighbors to increased PLA presence in the region.²³⁶ Furthermore, its 2022 National Defense Strategy notes China "intensifying its activities across the entire region surrounding Japan," including the East China Sea, Sea of Japan, western Pacific Ocean, South China Sea, and into the second island chain.²³⁷ The Ministry also released detailed documentation highlighting the PLA's expanding activities in the maritime and air domains in the Sea of Japan, around its main island, its southwestern islands, and the Japanese-administered Senkaku Islands.²³⁸ Japan's Self-Defense Force has also frequently referenced its need to contend with an increase in joint Chinese and Russian military activities operating near its territory.*²³⁹

Finally, Japan perceives China's ongoing military modernization as a threat because it enables China's aggressive military posture. Tokyo's 2022 National Defense Strategy highlighted advancements in China's military modernization that have improved China's A2/AD military capabilities in the surrounding area, directly threatening Japan.²⁴⁰ For example, the Strategy pointed out that China now possesses larger numbers of modern naval and air assets and has built a large arsenal of intermediate- and medium-range missiles, anti-ship ballistic missiles, long-range land-attack cruise missiles, and hypersonic glide vehicles, all of which could strike Japan.†²⁴¹

*Japan has witnessed the PLA and Russian Navy conduct joint exercises circumnavigating its archipelago and operating near its territory. Japan has also scrambled its Air Self-Defense Force fighters in response to China and Russia's joint bomber flights that have occurred seven times since July 2019 over the Sea of Japan and the East China Sea. Japan's Ministry of Defense, *China's Activities in East China Sea, Pacific Ocean, and Sea of Japan*, March 2024, 2; Tetsuo Kotani, written testimony for U.S.-China Economic and Security Review Commission, *Hearing on China's Evolving Counter Intervention Capabilities and Implications for the United States and Indo-Pacific Allies and Partners*, March 21, 2024, 2; Dzirhan Mahadzir, "Joint Russia-China Military Flights Prompt Japanese, South Korea Fighter Scrambles," *USNI News*, December 14, 2023; Tsuruta Jun, "Chinese and Russian Warships Step Up Activity in Straits around Japan," *Diplomat*, August 15, 2023; Brad Lendon, "Why Russian and Chinese Warships Teaming Up to Circle Japan Is a Big Deal," *CNN*, October 25, 2021.

†The PLA has conducted training exercises demonstrating the capability to target Japanese and U.S. military bases, aircrafts, and ports in a conflict. For example, commercial satellite images dating back to 2013 appear to show the PLA Rocket Force using ship targets similar in

In 2023, the “Defense of Japan” white paper pointed with particular concern to China’s growing number of nuclear warheads, construction of a second indigenous aircraft carrier, and development of a wide variety of UAVs.²⁴² When referencing expanding PLA capabilities, the Ministry of Defenses’ policy documents clearly articulate that this military buildup provides the backing for the aggressive activities threatening Japan.²⁴³ Regarding nuclear weapons specifically, a salient concern in Tokyo is that China’s rapid and nontransparent nuclear modernization could undermine the U.S. ability to protect Japan under its nuclear umbrella.*²⁴⁴

Japan Seeks to Defend against China’s Military Threats

Japan has updated its defense policy to upgrade its defense capabilities, develop counterstrike capacity, and integrate its capabilities across domains.²⁴⁵ In December 2023, Tokyo raised its defense budget to a record-high \$56 billion (7.9 trillion yen), with a plan to increase its defense budget to 2 percent of its gross domestic product (GDP) by 2027.²⁴⁶ However, the weakening of the Japanese yen may undermine Japan’s plans to invest in its military buildup.†²⁴⁷ Mr. Kotani’s testimony to the Commission pointed to Russia’s invasion of Ukraine and China’s intensifying military activities as factors that drove popular support for dramatic changes to Japan’s defense policy.²⁴⁸ Tokyo’s higher defense budget would enable the upgrade of its indigenous standoff missiles as a denial capability; secure sufficient munitions and fuel; and accelerate the procurement of additional Type-12 cruise missiles and Tomahawks,‡ as well as the development of hypersonic guided missiles.²⁴⁹ According to the 2022 National Security Strategy, developing counterstrike capabilities means that in the event of a missile attack by an opponent, Japan would have the capability to mount an effective counterstrike to prevent further attacks.§²⁵⁰

size to the U.S. Arleigh Burke-class destroyer and a mock port that closely resembled the U.S. naval base in Yokosuka, Japan. Tetsuo Kotani, written testimony for U.S.-China Economic and Security Review Commission, *Hearing on China’s Evolving Counter Intervention Capabilities and Implications for the United States and Indo-Pacific Allies and Partners*, March 21, 2024, 4; *Nikkei Asia*, “Satellite Photos Suggest China Training to Attack Japan’s Aircraft,” May 20, 2022; Thomas Shugart, “Has China Been Practicing Preemptive Missile Strikes against U.S. Bases?” *War on the Rocks*, February 6, 2017.

*Specifically, as Mr. Kotani explained in his testimony, Japan fears that if China’s rapid nuclear buildup results in China reaching nuclear parity with the United States, China may become emboldened to initiate a conventional war against its neighbors without fearing a nuclear war with the United States. Tetsuo Kotani, oral testimony for U.S.-China Economic and Security Review Commission, *Hearing on China’s Evolving Counter Intervention Capabilities and Implications for the United States and Indo-Pacific Allies and Partners*, March 21, 2024, 194; Tetsuo Kotani, written testimony for U.S.-China Economic and Security Review Commission, *Hearing on China’s Evolving Counter Intervention Capabilities and Implications for the United States and Indo-Pacific Allies and Partners*, March 21, 2024, 2.

†The weakened yen has eroded Japan’s government’s purchasing power, which, according to Satoshi Morimoto, a former Japanese defense minister, could result in the value of the defense budget being reduced by 30 percent over the next five years. In analysis published by the *New York Times*, due to the weak yen to the dollar, the cost of equipment has increased, including for the U.S.-made Tomahawk missile, helicopters, submarines, and tanks. River Akira Davis and Hisako Ueno, “The Yen Is Plunging. So Is Japan’s Defense Budget,” *New York Times*, July 8, 2024.

‡Tomahawk cruise missiles on ships in 2025 would be the first time Japan would possess long-range strike capabilities. Christopher B. Johnstone, written testimony for U.S.-China Economic and Security Review Commission, *Hearing on China’s Evolving Counter Intervention Capabilities and Implications for the United States and Indo-Pacific Allies and Partners*, March 21, 2024, 2.

§As Mr. Johnstone noted in his testimony, once Japan brings online its counter-strike capabilities, “Beijing will confront for the first time the prospect of a Japan that can shoot back, on its own and at long range,” which would raise China’s risk calculus and bolster deterrence against aggression. Christopher B. Johnstone, written testimony for U.S.-China Economic and Security

Japan has also made efforts to bolster its defense capabilities by expanding its military bases along its southwestern islands, as close as 68 miles from Taiwan.²⁵¹ Masafumi Iida, a leading China analyst at the National Institute of Defense Studies in Tokyo, argues that Japan must enhance the presence and capabilities of the Self-Defense Forces in the southwest islands to deal with “possible contingencies involving Taiwan and other areas.”²⁵² Japan has opened bases that can accommodate land-to-ship and land-to-air missile units on Miyako in 2019 and Ishigaki in 2023, and in March 2024 it deployed a Ground Self-Defense Force unit based on Yonaguni that conducts EW, including intercepting adversary communications and jamming radar.²⁵³ The expanded bases on its southwestern islands could complicate Chinese decision-making in the event of a conflict over Taiwan, potentially offering U.S. forces access to operate from these bases.²⁵⁴ In addition, Japan is reportedly upgrading civilian air hubs and seaports for dual-use capability across the southwest islands, as well as ports in the north, to address concerns of a shortage of facilities that could be used in possible contingencies.²⁵⁵

A key element of Japan’s evolving defense policies is deepening defense cooperation with the United States and other like-minded countries in the Indo-Pacific. The United States and Japan have agreed to expand U.S. presence, improve interoperability, cooperate on enhancing missile defense capabilities, explore opportunities to conduct maintenance and repair of U.S. naval ships at commercial shipyards in Japan,* and deepen defense science and technology cooperation.²⁵⁶ In 2024, the two countries’ announced new efforts to increase coordination on military command and control, which will enhance interoperability between the two militaries both in peacetime and in a crisis.²⁵⁷ On July 28, 2024, both sides convened the Security Consultative Committee (also known as the 2+2) and announced that the United States intends to reconstitute U.S. Forces Japan (USFJ) as a joint force headquarters reporting to the commander of U.S. Indo-Pacific Command and serve as the counterpart to the Japan Self-Defense Forces Joint Operations Command (JJOC).²⁵⁸ In a phased approach, the USFJ will assume primary responsibility for coordinating security activities in and around Ja-

Review Commission, *Hearing on China’s Evolving Counter Intervention Capabilities and Implications for the United States and Indo-Pacific Allies and Partners*, March 21, 2024, 2.

*The U.S. Navy seeks to improve ship construction and repair yards and place major shipbuilding programs back on schedule by looking to partners and allies in the Indo-Pacific. U.S. Ambassador to Japan Ralph Emmanuël said that U.S. shipyards are “on average 4,000 days behind on repair and maintenance.” Currently, in the case of multiyear repairs, the Japan-based U.S. naval ships are redeployed to a home port to the United States and a replacement vessel is subsequently forward deployed to Japan. Forward-deployed U.S. naval ships are currently serviced on site at U.S. naval bases in Yokosuka and Sasebo using contract Japanese workers. As of August 9, 2024, the Senate and House versions for the fiscal year (FY) 2025 National Defense Authorization Act (NDAA) both included provisions related to the overhaul, repair, and maintenance of deployed U.S. naval vessels in shipyards outside of the United States or Guam. The Senate FY 2025 NDAA includes a provision for the secretary of the navy to conduct a pilot program to perform maintenance and repair on forward-deployed naval force ships in foreign shipyards during scheduled maintenance and repair exercises. United States Senate Committee on Armed Services, *National Defense Authorization Act for Fiscal Year 2025 Report*, July 2024, 170; Servicemember Quality of Life Improvement and National Defense Authorization Act for Fiscal Year 2025, H.R. 8070, introduced June 13, 2024, 722; Alex Wilson, “US, Japan Plan Joint Ship and Aircraft Repair, Missile Production and Logistics,” *Stars and Stripes*, June 11, 2024; Megan Eckstein, “US Navy Secretary Points to Foreign Shipyards’ Practices to Fix Delays,” *Defense News*, April 9, 2024; Justin Katz, “SECNAV Says 45-Day Shipbuilding Review Will Be Followed by Another Review,” *Breaking Defense*, April 9, 2024; Ken Moriyasu, “U.S. Turns to Private Japan Shipyards for Faster Warships Repairs,” *Nikkei Asia*, May 24, 2023.

pan in accordance with the U.S.-Japan Treaty of Mutual Cooperation and Security.²⁵⁹ The United States increased its presence in Japan by establishing the Marine Littoral Regiment in Okinawa in 2022 with ISR and missile capabilities to cooperate with Japan's anti-ship and air defense units in Japan's southwestern islands.²⁶⁰ The two countries' have also agreed to jointly develop a hypersonic missile interceptor, further enhancing allied missile defense capabilities.²⁶¹ In addition to strengthening bilateral defense ties with the United States, Japan has expanded cooperation with Australia, the Philippines, the UK, and the Republic of Korea.*²⁶² Finally, it has increased trilateral cooperation with the United States and the Philippines† and with the United States and Australia.‡²⁶³

Japan Likely to Support U.S. Military Action in a Conflict

In light of Japan's high level of perceived threat from the PLA and close defense cooperation with the United States, its policymakers would likely determine some level of cooperation with the United States to be in the country's interest in a conflict—including a conflict over Taiwan. As detailed above, Tokyo's defense policy documents clearly show that PLA aggression against Taiwan threatens Japan's immediate security.§²⁶⁴

Nevertheless, Japan is not guaranteed to grant the degree of access to its military facilities that the United States might prefer, and it may decide not to involve its own military forces at all. Under the Japan-U.S. Security Treaty, Article 6 provides U.S. forces the use of "facilities and areas in Japan" for the "maintenance of international peace and security in the Far East," which some analysts assess could be interpreted to include a conflict over Taiwan.²⁶⁵ However, the United States' use of facilities and areas in Japan as bases for military combat—other than that conducted in response to an armed attack—would require "prior consultation"¶ before access

* Japan has signed reciprocal access agreements with both Australia and the UK in 2023. On July 8, 2024, Japan and the Philippines signed a reciprocal access agreement with the Philippines that would be used to support future bilateral and multilateral military exercises and training, including humanitarian assistance and disaster relief operations. Japan's Ministry of Foreign Affairs, *Signing of the Japan-Philippines Reciprocal Access Agreement*, July 8, 2024; Sebastian Strangio, "Philippines, Japan Sign Reciprocal Access Agreement Amid China Tensions," *Diplomat*, July 9, 2024; Takahashi Kosuke, "Japan, Philippines Agree to Intensify Defense Cooperation," *Diplomat*, November 3, 2023; Mari Yamaguchi, "Japan and Australia Agree to Further Step Up Defense Cooperation under 2-Month-Old Security Pact," *AP News*, October 19, 2023; Jim Garamone, "Japan, South Korea, U.S. Strengthen Trilateral Cooperation," *DOD News*, August 18, 2023; Japan's Ministry of Foreign Affairs, *Signing of Japan-UK Reciprocal Access Agreement*, January 11, 2023.

† Japan, the Philippines, and the United States have also agreed to strengthen trilateral cooperation by conducting joint exercises between their respective coast guards and expanding maritime training activity. White House, *Joint Vision Statement from the Leaders of Japan, the Philippines, and the United States*, April 11, 2024.

‡ In February 2024, the United States and Japan invited Australia to join their historically bilateral Exercise Keen Edge for the first time to test the combined readiness of all three countries and demonstrate interoperability in response to security challenges in the region. Australia's Ministry of Defense, *Australia Joins Japan-United States Exercise for First Time*, February 2, 2024.

§ In recent years, even Japan's joint statements with international counterparts have also grown more vocal about the importance of stability in the Taiwan Strait, suggesting a desire to leverage international partnerships against the growing risk. U.S. Mission Japan, *Joint Statement of the Security Consultative Committee (2+2)*, January 11, 2023; David Sacks, "Reconsidering Japan's Role in the Taiwan Strait," *Georgetown Journal of International Affairs*, February 7, 2022; U.S. Department of Defense, *Joint Statement of the U.S.-Japan Security Consultative Committee ("2+2")*, January 6, 2022.

¶ The United States and Japan clarified the implementation of the Treaty of Mutual Cooperation and Security between Japan and the United States in the 1960 Exchanges of Notes that under Article 6, any "major changes in the deployment into Japan of United States armed forces,

is approved, allowing opportunity to voice concerns about risks.²⁶⁶ In observing Tokyo's policy shift since 2010, Mr. Johnstone testified he is no longer concerned about "first-order questions" such as whether the U.S. military would be permitted to operate from its military bases in Japan in a conflict scenario.²⁶⁷ Uncertainties nevertheless remain about whether public opinion would support further U.S. military access to all of Japan's military bases or civilian ports and airports.²⁶⁸ Mr. Johnstone also cautioned that he remains uncertain on "second-order question[s]" such as the degree of military support Tokyo would provide.²⁶⁹ Any use of force, whether in self-defense in response to a direct attack on Japanese territory or in collective self-defense in response to an attack on a third party, must be approved by the Diet.²⁷⁰ The Japanese Diet was divided on the 2015 security legislation establishing Japan's right to collective self-defense, and a more recent opinion poll from 2022 suggests approving the use of military force even in noncombat roles could be a politically unpopular decision.*²⁷¹

If China were to strike Japanese territory, including U.S. bases, experts assess this would increase the likelihood of Tokyo granting the U.S. military permission to conduct combat operations from its bases.²⁷² Such strikes would also constitute what the Japanese government terms an "armed attack situation," which provides justification for the potential use of military force by Japan.²⁷³ At an event in 2021, Japan's then Deputy Prime Minister Taro Aso commented that "if a major problem took place in Taiwan, it would not be too much to say that it could relate to a survival-threatening situation," invoking a term for a situation that could justify use of military force in defense of a third party, although Japan's government did not confirm the comment reflected official policy.²⁷⁴

The Philippines' Perspectives on Addressing Threats from China's Military

The current government of the Philippines views China's aggressive military activities in the South China Sea as a serious threat to its military and economic security, and it is concerned about the impact a conflict between China and the United States would have on regional stability. The Philippines seeks to improve its own capacity to defend its maritime interests against China's aggression through military modernization and deepening security partnerships throughout the region.

The Philippines Views China's Military as a Present and Potential Future Threat

A chief concern for the current government of the Philippines under President Ferdinand Marcos Jr. is China's aggressive military

major changes in their equipment, and the use of facilities and areas in Japan as bases for military combat operations to be undertaken from Japan other than those conducted under Article V of the said Treaty, shall be the subjects of prior consultation with the Government of Japan." Japan's Ministry of Foreign Affairs, *Treaty of Mutual Cooperation and Security Between Japan and the United States of America*, 1960.

*One public opinion poll from 2022 found that only 22.5 percent of Japanese respondents supported Japan's forces fighting with the United States against the PLA in a Taiwan conflict, while 74.2 percent opposed it. Further, only 44.8 percent supported Japan's forces performing noncombat supportive roles, with 51.1 percent opposing such action. Zhuoran Li, "No, Japan Will Not Defend Taiwan," *Diplomat*, March 18, 2024.

presence and activities in the South China Sea.* The 2023 Philippine National Security Policy notes that other South China Sea claimants' "methods of asserting their positions" pose a "strategic challenge."²⁷⁵ As Mr. Ibarra emphasized in his testimony for the Commission, the Philippines faces acute threats from China in this area.²⁷⁶ One element of this threat is the presence of PLA military installations on South China Sea features in the Philippines' immediate vicinity, with the closest located only about 140 miles from its fifth-largest island, Palawan.²⁷⁷ Mr. Ibarra assesses that these installations could "give China [an] early advantage against the Philippines in the event of war."²⁷⁸ A second element of the threat is aggressive "gray zone" activities from China's military and paramilitary forces in the South China Sea, which have included blocking, swarming, ramming, and even sinking Philippine vessels as well as targeting them with water cannons, laser weapons, and naval gun rangefinders.²⁷⁹ These aggressive actions present both a physical threat to Philippine forces and assets and a severe challenge to economic security, preventing the country from exploring or exploiting many of the natural resources within its own EEZ.²⁸⁰ (For more on China's aggressive actions in the South China Sea against the Philippines, see Chapter 2, "U.S.-China Security and Foreign Affairs (Year in Review).")

In addition, the Philippine government and public are concerned about the implications of a military conflict involving China for its own security interests and the lives of its citizens. Its National Security Policy voices concern over "heightened rivalries among the major powers," noting that the resulting tense geopolitical landscape means regional flashpoints could potentially serve as "tinderboxes for conflict."²⁸¹ Philippine policymakers are also concerned about conflict in the Taiwan Strait, especially the severe impact on economic stability, threat to the welfare of Filipinos in Taiwan, and potential influx of refugees to the country that would result.²⁸² Poll-

*The degree of importance that the Philippines' previous president Rodrigo Duterte placed on asserting Philippine rights vis-à-vis China in the South China Sea was not consistent over the course of his time in office. Overall, then President Duterte pursued a relatively conciliatory approach to China in hopes of benefiting from China's promises of economic cooperation. His administration is described as having downplayed China's aggressive behavior in the South China Sea and at first largely ignoring the decisive tribunal ruling in 2016 that struck down many of China's maritime claims in favor of the Philippines. China's embassy and some media sources have even alleged that the Duterte Administration brokered an informal deal or "gentleman's agreement" with China to avoid confrontation over Second Thomas Shoal—a low-tide feature within the Philippines EEZ that China seeks to control. (For more on Second Thomas Shoal and China's recent aggression in this area, see Chapter 2, "U.S.-China Security and Foreign Affairs (Year in Review).") Descriptions of the alleged deal suggest China may have offered the Philippines limited fishing rights and potentially other economic benefits in exchange for agreeing to restrict deliveries of supplies to the grounded Philippine warship on the shoal. Other analysts and observers note, however, that continued escalation of China's aggression in the South China Sea led then President Duterte to harden his stance in 2020 and to begin insisting that the 2016 tribunal ruling be respected. In his final state of the nation speech in July 2021, he changed his stance and again downplayed the significance of the ruling. Christopher Bodeen, "China Publicizes for the First Time What It Claims Is a 2016 Agreement with Philippines," *AP News*, May 3, 2024; Mong Palatino, "Ex-Philippine President Rodrigo Duterte's 'Gentleman's Agreement' with China under Scrutiny," *Diplomat*, April 5, 2024; Edecel Ibarra, written testimony for U.S.-China Economic and Security Review Commission, *Hearing on China's Evolving Counter Intervention Capabilities and Implications for the United States and Indo-Pacific Allies and Partners*, March 21, 2024, 7; Derek Grossman, "Duterte's Dalliance with China Is Over," *Foreign Policy*, November 2, 2021; Yuichi Shiga and Kenji Kawase, "Duterte Stresses Soft Approach Toward China in Last Policy Speech," *Nikkei Asia*, July 27, 2021; Joshua Kurlantziak, "Duterte's Ingratiating Approach to China Has Been a Bust," *Council on Foreign Relations*, June 16, 2021; Sabastian Strangio, "In UN Speech, Duterte Stiffens Philippines' Stance on the South China Sea," *Diplomat*, September 23, 2020.

ing by the Eurasia Group Foundation released in 2023 reports that a majority of Filipinos fear geopolitical confrontation between the United States and China could lead to a deterioration of Philippine national security.²⁸³

The Philippines Invests in Security Partnerships and Its Own Capabilities

Although the previous Duterte government temporarily sought to downgrade the Philippines' security cooperation with the United States as part of its conciliatory policy toward China,* the current government is deepening its security partnership with the United States as a key avenue for addressing the challenges from China's military. The 2023 expansion of EDCA, which allows the U.S. military a rotational presence at certain Philippine bases, represents a continued commitment to defense cooperation with the United States relating to Manila's security interests.²⁸⁴ The two countries also continue efforts to upgrade infrastructure† at EDCA locations, some of which play an important role in facilitating joint action in the South China Sea.²⁸⁵ The allies also conduct an annual military exercise, Balikatan, which aims to increase interoperability and has increased in complexity over the past several years.‡²⁸⁶ Balikatan 2023 was the largest iteration of the exercise to date, with more than 17,600 members of the two countries' militaries participating, almost double the number from 2022.²⁸⁷ The exercise focused on improving capabilities in the areas of maritime security, amphibious operations, live-fire training, aviation operations, and cyber defense, among others.²⁸⁸ The 2024 exercise took place in areas facing Taiwan and the South China Sea, and it was the first to occur outside the Philippines' territorial waters in its EEZ.²⁸⁹ The exercise included activities on maritime security, sensing, and targeting; air and missile defense; dynamic missile strikes; cyber defense; and information operations.²⁹⁰ The United States and the Philippines have conducted joint patrols in the waters near Taiwan in the South China Sea.²⁹¹ They have also increased the cooperation between their

*In February 2020, then President Duterte announced the cancellation of the U.S.-Philippines Visiting Forces Agreement (VFA), which in 1999 established the legal basis for the presence of U.S. Armed Forces personnel visiting the Philippines. After several subsequent announcements suspending this cancellation and a meeting between then President Duterte and U.S. Secretary of Defense Lloyd Austin, the agreement was fully restored in July 2021. Andrea Chloe-Wong, "Duterte's Back-Down on US Forces in Philippines," *Interpreter*, August 24, 2021; U.S. Department of Defense, *Philippines President Restores Visiting Forces Agreement with U.S.*, July 30, 2021; Idrees Ali and Karen Lema, "Philippines' Duterte Fully Restores Key U.S. Troop Pact," *Reuters*, July 20, 2021.

†The EDCA agreement allows the United States to fund modernization and upgrades of the military infrastructure at these bases, including improvements to runways and airfields, new or improved storage facilities for fuel and ammunition, additional aircraft hangars and staging areas, new command and control infrastructure, and new training facilities. Jen Judson, "US Troops Put New Philippine Military Sites to Test in Balikatan Drill," *Defense News*, May 12, 2024; Asia Maritime Transparency Initiative, "More than Meets the Eye: Philippine Upgrades at EDCA Sites," *Center for Strategic and International Studies*, October 12, 2023; David Vergun, "New EDCA Sites Named in the Philippines," *DOD News*, April 3, 2023.

‡Although primarily a U.S.-Philippines exercise, Balikatan has also included certain other states as participants and observers. In 2024, the exercise included participants from Australia and France alongside the United States and the Philippines and observers from Brunei, Canada, France, Germany, India, Indonesia, Japan, Malaysia, New Zealand, Singapore, South Korea, Thailand, the UK, and Vietnam. In 2023, Australia participated while Brunei, Canada, France, India, Indonesia, Japan, Malaysia, Singapore, South Korea, Thailand, the UK, and Vietnam observed. Maria T. Reyes, "Balikatan 2024 Builds Philippine-U.S. Interoperability, Multilateral Partnerships," *Indo-Pacific Defense Forum*, May 5, 2024; Philippines Department of National Defense, *Biggest Balikatan Exercises End; Galvez, Aquilino Meet*, May 3, 2023.

coast guards through training and conducted the first-ever trilateral at-sea coast guard exercise with Japan.²⁹² Finally, the United States and the Philippines are working to facilitate military intelligence sharing, although efforts to conclude the requisite agreement remain in progress.*²⁹³

The Philippines continues to pursue investments in its own military capabilities, especially in the maritime and air domains. In addition to enhanced cooperation with the United States, Mr. Ibarra testified that although its planned modernization efforts cannot build up the Philippine military forces to a degree that it could counter threats from China alone, they do represent significant efforts toward a “minimum credible defense posture.”†²⁹⁴ In February 2024, Philippines President Marcos approved a defense spending plan of approximately \$35 billion over the next decade, representing the third stage of a three-stage military modernization effort begun under former President Benigno Aquino III in late 2012 after China seized Scarborough Shoal.‡²⁹⁵ This third stage, known as Horizon 3, is aimed especially at bolstering the Philippine military’s naval, aerial, and surveillance capabilities, including intended purchases of fighter aircraft, warships, submarines, and missiles.²⁹⁶ In March 2024, the Marcos Administration adopted a new Comprehensive Archipelagic Defense Concept as a conceptual guide for military modernization efforts.§²⁹⁷ The concept places particular emphasis on land, maritime, and air capabilities and seeks to solidify a shift toward prioritizing improvements in the military’s capacity to defend itself from external threats, a departure from the previous, more narrow focus on internal security challenges.²⁹⁸

*The United States and the Philippines are working toward the conclusion of a General Security of Military Information Agreement (GSOMIA), which would facilitate military intelligence sharing by ensuring the protection of classified information in both countries. The agreement, which the two parties currently hope to conclude by the end of 2024, has been under discussion since at least 2021. U.S. Embassy in the Philippines, *Joint Statement on the Philippines-United States Bilateral Strategic Dialogue*, April 25, 2024; U.S. Department of Defense, *FACT SHEET: U.S.-Philippines 2+2 Ministerial Dialogue*, April 11, 2023; U.S. Department of State, *Joint Vision for a 21st Century United States-Philippines Partnership*, November 16, 2021.

†The Philippine Department of National Defense defines a “credible defense posture”—the goal of Philippine military modernization—as the “establishment of an effective presence inside the Philippines and its exclusive economic zone or EEZ with exhibited competence to defend the country and protect its national interests if and when the need arises.” According to the Office of the President of the Philippines in 2023, “A minimum credible defense posture means attaining a particular degree of military capability or enough defense capacity to make any aggressor think twice before engaging in hostile action.” Some government sources have identified the “minimum credible defense posture” as an intermediary step toward the Philippines’ ultimate defense goals. Office of the President of the Philippines, *AFP Cites Importance of PH’s Strong Naval Capability amid Current WPS Situation*, September 9, 2023; Senate of the Philippines, *Photo Release*, August 30, 2023. https://legacy.senate.gov.ph/photo_release/2023/0830_20.asp; Philippines Department of National Defense, *Defense Chronicle*, 6:1 (2022): 6–7.

‡The first stage—known as Horizon 1 (2013–2017), under former President Aquino III—divided funding among the army, navy, air force, and joint staff, acquiring assets including helicopters and training, transporter, and fighter aircraft. The second stage—Horizon 2 (2018–2023), under former President Duterte—tripled funding for the navy and increased funding for the air force six-fold. Assets acquired in this time period included anti-submarine helicopters, warships, cruise missiles, and amphibious armored vehicles. Edcel Ibarra, written testimony for U.S.-China Economic and Security Review Commission, *Hearing on China’s Evolving Counter Intervention Capabilities and Implications for the United States and Indo-Pacific Allies and Partners*, March 21, 2024, 7.

§In 2021, the Philippine Marine Corps released a new operating concept called Archipelagic Coastal Defense (ACD), which aims to enhance sea control capabilities as a means of safeguarding the nation’s territorial integrity. Some observers have noted similarities between this service-level concept and the newly announced national-level Comprehensive Archipelagic Defense Concept, suggesting that the former may have played a role in influencing the latter. Rej Cortez Torrecampo, “A Paradigm Shift in the Philippines’ Defense Strategy,” *Diplomat*, April 3, 2024; Rej Cortez Torrecampo, “Philippine Marines’ New Operating Concept Highlights Their Growing National Security Role,” *Diplomat*, May 6, 2021.

The Philippines has prioritized forging and deepening security partnerships with other countries. These efforts have potential second-order benefits for U.S. security interests by strengthening the Manila's baseline capabilities and increasing its interoperability with other allies.²⁹⁹ For example, the Philippines and Australia have taken recent steps to build on the foundation of their Visiting Forces Agreement* with the signing of a new Mutual Logistics Support Arrangement in 2022 and the initiation of joint patrols† in the South China Sea in 2023.³⁰⁰ In 2023, Japan and the Philippines agreed to begin negotiations on a Reciprocal Access Agreement that would facilitate the deployment of forces and equipment in each other's territories for defense cooperation, ultimately concluding the agreement in July 2024 amid China's heightened aggression in the South China Sea.‡³⁰¹ The Philippines has pursued expanded defense cooperation with a host of other partners inside and outside the region, including Canada, the EU, France, Germany, India, and the UK, covering a range of efforts related to military modernization, information sharing, joint exercises and training, and—in the case of Canada and France—exploring the possibility of future visiting forces agreements.³⁰²

Details of Philippine Policy in a Conflict with China Remain Undetermined

Compared to the Japanese government, decisions by the Philippine government to involve its own forces or facilitate the operations of U.S. forces in a conflict with China are even more uncertain and will depend on a number of factors. The differing stances taken by Philippine governments in the past on security cooperation with the United States provide one reason for caution. Mr. Johnstone additionally warns that even if the Philippine government were to ultimately allow the U.S. military to use bases on its territory, this decision may not be made on a timeline that facilitates U.S. action in a crisis.³⁰³ Potential factors in the Philippine leadership's decision of whether or how to become militarily involved or grant U.S. military access to its bases during a conflict with China would likely include the following:

- *China's actions:* One set of potential factors has to do with the Philippine government's assessment of China's actions during or after the conflict. For example, many experts agree that if China were to directly attack Philippine territory, the Philippines would be more likely to support the United States military thereafter, including potentially providing base access.³⁰⁴

*Australia is currently the only country other than the United States to maintain a Visiting Forces Agreement with the Philippines. Aaron-Matthew Lariosa, "Australia, Philippines Commit to Strategic Partnership, Pledge Joint Patrols," *USNI News*, September 11, 2023; Australian Embassy in the Philippines, *Australia-Philippines Defense Cooperation*.

†Australia is also only the second state, aside from the United States, to conduct joint patrols with the Philippines. *Australian Associated Press*, "Australia and Philippines Begin Joint Patrols in South China Sea as Regional Tensions Rise," *Guardian*, November 25, 2023; Aaron-Matthew Lariosa, "Australia, Philippines Commit to Strategic Partnership, Pledge Joint Patrols," *USNI News*, September 11, 2023.

‡Japan has also provided significant security assistance to the Philippines in the form of a contract for an air surveillance system and an approximately \$4 million (600 million yen) grant for securing coastal radars, strengthening the Philippines' maritime domain awareness and improving its capacity to respond to China's aggressive actions in the South China Sea. Mikhail Flores and Karen Lema, "Japan, Philippines Agree to Hold Talks on Reciprocal Troops Pact," *Reuters*, November 3, 2023.

However, absent a direct attack by China, Philippine leaders' perception that involvement or association with U.S. military activities could cause China to strike Philippine territory could decrease the likelihood and scope of the Philippine government's support for U.S. efforts.*³⁰⁵ The Philippine government may also consider the risk of potential economic retaliation by China.³⁰⁶

- *U.S. actions and requests:* A second set of potential factors has to do with U.S. actions and the Philippine government's assessment of U.S. actions or likely actions during the conflict. A detailed 2023 RAND Corporation study on factors likely to influence host nation decisions about whether to grant the United States military access during conflict emphasizes that an important factor would likely be Philippine leaders' assessment of whether the United States will defend Philippine territory in a conflict.³⁰⁷ Mr. Johnstone argues that "continuing to demonstrate U.S. commitment in areas that are vital to Philippines security," especially the South China Sea, will likely be key to obtaining the access the United States desires at EDCA sites.³⁰⁸ Separately, the RAND Corporation study assesses that the type of access the United States requested could also play a role, with the Philippine government being more likely to approve requests for "nonkinetic or lower-end capabilities, such as ISR, overflight, and logistics" compared to "higher-end kinetic capabilities," such as long-range strikes or direct combat operations from Philippine soil.³⁰⁹
- *Public opinion:* Like the governments of other democratic allies, the Philippine government would need to consider public opinion as part of a decision on military actions in a conflict with China.³¹⁰ Elements of public opinion that could work in the United States' favor include a continued hardening of public sentiment against China as a result of the country's relentless pressure in the South China Sea; support from many Filipinos for closer relations with the United States; and a widespread desire to see the Philippine government defend the country's maritime rights more seriously.³¹¹ Nevertheless, the leverage the United States has to push for additional benefits under the EDCA agreement, for example, are likely limited. Mr. Ibarra warns that EDCA is already viewed domestically as a serious concession to the United States due to its similarities to a basing agreement and because of perceptions that the recent expansions in the north are more focused on U.S. security concerns than those of the Philippines.³¹² Additionally, EDCA is an executive action that likely does not enjoy universal political support among the Philippine legislature,[†] making it potentially vulnerable to reconsideration

*A 2023 RAND study indicated that this judgment could be informed in part by whether China has attacked other U.S. allies granting access. Bryan Frederick et al., "Improving Conflict-Phase Access: Identifying U.S. Policy Levers," *RAND Corporation*, 2023, 82.

†The EDCA agreement was challenged in the Philippine Supreme Court, with the opposition arguing that the agreement constituted a treaty subject to the approval of the Philippine Senate. In 2016, the Supreme Court upheld the constitutionality of EDCA as an executive action not requiring Senate approval. *PressOnePH*, "FACT-CHECK: EDCA Is Not Unconstitutional," April 24, 2024; Renato Cruz de Castro, "Philippine Supreme Court Approves EDCA: Unlocking the Door for the Return of U.S. Strategic Footprint in Southeast Asia," *Center for Strategic and International*

by future administrations.³¹³ Other potential limits to public support for further security cooperation could come from local governments and business leaders who believe angering China runs counter to their economic interests.³¹⁴

Regarding a conflict over Taiwan, the Philippine government is open to cooperation in principle but has likely not determined in advance what course of action would most serve its interests. The 2023 Philippines National Security Policy states that “any military conflict in the Taiwan Strait would inevitably affect the Philippines” in light of its geographic proximity and the presence of over 150,000 Filipinos in Taiwan; however, it does not lay out any particular indicators of how the government would respond in a conflict scenario.³¹⁵ In a 2023 interview, President Marcos stated that “when we look at the situation in the area, especially the tensions in the Taiwan Strait, we can see that just by our geographical location, should there in fact be a conflict in that area... it’s very hard to imagine a scenario where the Philippines will not somehow get involved.”³¹⁶ As to whether that involvement would involve a military response, he replied that this would depend on the circumstances and what was best for the Philippines.³¹⁷ Similarly, Philippine Ambassador to the United States Jose Manuel G. Romualdez has reportedly stated that Manila would allow the U.S. military to use its bases in the event of a Taiwan conflict only “if it is important for us, for our security.”³¹⁸ Some experts have assessed that for a country like the Philippines with a significant number of its citizens in Taiwan, a large-scale attack such as an amphibious invasion directly threatening those citizens may be more likely to incentivize supporting actions than a more limited attack such as military action against one of Taiwan’s offshore islands.³¹⁹

Australia’s Perspectives on Addressing Threats from China’s Military

Australia is increasingly focused on countering threats from China’s military, especially the PLA’s A2/AD capabilities, due to their perceived potential to restrict its forces’ activity in their immediate region while pushing U.S. forces out of the region. Australian policy-makers are pursuing military reforms alongside deepening defense cooperation with the United States, the UK, and other partners. Australia’s government would likely view providing some kind of support to the United States in the event of a conflict with China as being in line with its interests; however, this support may not include direct military participation.

Australia Views China’s Military Capabilities as a Threat

Expert assessments and defense policy documents from Australia evince serious concern about China’s A2/AD capabilities. For example, the Australian government’s 2023 Defense Strategic Review noted an increasing need to defend not only against the remote possibility of invasion but also against the more immediate threats from regional countries’ ability to project power across greater ranges and threaten it without an invasion.³²⁰ One element of this per-

Studies Asia Maritime Transparency Initiative, February 1, 2016; Rappler, “SC Rules: PH-US Military Deal Constitutional,” January 12, 2016.

ceived threat is the PLA's ability to hit Australia's northern base infrastructure with missile attacks from air-launched, sea-launched, and ground-launched land-attack cruise missiles and IRBMs.³²¹ A second element is that these capabilities restrict the Australian military's ability to defend the country's sea lines of communication.³²² A third element is a concern that China's A2/AD capabilities and gray zone efforts are designed to push the United States out of the region, cutting Australia off from its most important defense partner and ally.³²³

Australian defense officials and analysts view the possibility of a Chinese forward base in the South Pacific as a development that would increase the risks from China's forces. Concern about a potential Chinese military presence in the Pacific Island states surfaced clearly among Australia's think tank community and from political leaders in 2018 amid reports of Chinese military cooperation with Vanuatu and investments in Papua New Guinea; it has continued as China's engagements in the region have grown and escalated with the conclusion of a security deal between China and the Solomon Islands in 2022.³²⁴ Australia's Deputy Prime Minister and Minister for Defense Richard Marles stated in an interview with the Center for Strategic and International Studies in 2022 that a Chinese base in the Pacific would "completely change the national security landscape for Australia."³²⁵ In her testimony, Ms. Shrimpton explained that a PLA presence in the southwest Pacific would dramatically enhance the range of China's A2/AD capabilities and thus "fundamentally challenge and change Australia's requirements for [its military] force."³²⁶ Specifically, a PLA presence in the second island chain could require Australia to dedicate more resources to defending its east coast from air and missile threats, "tying down Australian forces" to the potential detriment of operations within the first island chain.³²⁷

Australia Reorients Its Military and Supports Deepening Alliance Cooperation

Australia is in the midst of a major effort to jumpstart and reorient its domestic defense apparatus to be better suited to address threats from China's military. Significant progress has been made in a short time at articulating a new approach, although the degree of follow-through on resourcing and implementation remains to be seen. In 2020, the Australian Department of Defence released a Defence Strategic Update that emphasized Australia's need for "more potent capabilities to hold adversary forces and infrastructure at risk further from Australia," among other items.*³²⁸ In 2023, the department released a Defense Strategic Review arguing that Australia needed to replace its traditional defense concept focused on low-intensity regional conflicts with an integrated national defense concept focused on great power conflict.³²⁹ To match this conceptual shift, the document advocated for the transformation of Australia's military from a "balanced force" designed to perform in a wide range of low-level,

*Other priorities identified included strengthened regional partnerships, a more durable supply chain, and improved capacity to respond to gray zone and cyber threats. Australian Government Department of Defence, *2020 Defence Strategic Update*, 2020, 33.

regional, and global missions into a “focused force” designed to prioritize meeting Canberra’s most significant military risk: great power conflict.³³⁰ The review additionally recommended that Australia adopt a strategy of deterrence by denial and build up its own capacity to threaten adversarial forces.³³¹ Finally, it called for Australia’s joint force to become more integrated across the five domains of maritime, land, air, space, and cyber.³³² In 2024, the Australian government codified this set of recommendations into its first National Defense Strategy.³³³ The National Defense Strategy also reinforces the review’s attention to six specific areas, highlighted as immediate priorities in both documents: (1) advancing Australia’s conventionally armed, nuclear-powered submarine capability; (2) enhancing Australia’s long-range strike capabilities and production of munitions; (3) strengthening Australia’s northern bases; (4) improving growth and retention of a highly skilled workforce; (5) boosting innovation; and (6) prioritizing partnerships in the Indo-Pacific.³³⁴ The strategy was accompanied by a substantial funding boost* as well as an overall implementation plan called the 2024 Integrated Investment Program allocating funding toward various efforts in the maritime, land, air, space, and cyber domains.³³⁵

Australia is deepening cooperation with the United States in the framework of the alliance.† The U.S. and Australian militaries work to improve interoperability and demonstrate the strength of the alliance to third parties through cooperative efforts known as Force Posture Initiatives, which have recently expanded.‡³³⁶ Expanded force posture cooperation aims to increase Australia’s role in hosting forward-deployed U.S. forces and to further prepare Australian forces to support “high-end” military operations in the

*The National Security Strategy announces additional defense funding of about \$3.8 billion (5.7 billion Australian dollars [AUD]) in the four years between 2024 and 2028 and about \$33.5 billion (50.3 billion AUD) over the decade between 2024 and 2034 over and above the previous trajectory for the period. This yields a total amount of about \$219.9 billion (AUD 330 billion) over that period. Australian Government Department of Defence, *National Defense Strategy*, 2024, 8; Australian Government Department of Defence, *National Defense Strategy Overview*, 2024.

†Australia and Japan have also recently signed a set of consequential security agreements that can facilitate deepening defense cooperation between them in the future. In 2022, Australia and Japan signed an update to their 2007 Joint Declaration on Security, with the new version more clearly alluding to China’s challenges to regional security and containing language that closely echoes that of the ANZUS security treaty between Australia, New Zealand, and the United States, although it remains nonbinding. August 2023 saw the entry into force of the Japan-Australia 2022 Reciprocal Access Agreement, which will likely result in increased joint training and exercises between the two countries. The agreement strengthens the legal framework and establishes regular procedures for cooperative military activities, including relaxing immigration control for military personnel and simplifying procedures for transporting weapons and ammunition. The first application of the agreement later in 2023 saw Japan deploy two F-35 aircraft to Australia—the first-ever overseas deployment of F-35s by Japan—in an exercise that is likely to pave the way for greater interoperability in the future. Shingo Nagata, “Security Cooperation Steps Up with Japanese F-35 Access to Australia,” *Australian Strategic Policy Institute*, March 6, 2024; Prime Minister’s Office of Japan, *Japan-Australia Joint Declaration on Security Cooperation*, October 22, 2023; Ryo Nakamura and Rurika Imahash, “U.S. Cements ‘Game Changing’ Defense Ties with Australia, Japan,” *Nikkei Asia*, August 16, 2023; Australian Government, *Australia and Japan Deepen Defense Ties*, August 14, 2023; David Walton and Daisuke Akimoto, “What’s New in Australia and Japan’s Updated Joint Declaration of Security Cooperation?” *Diplomat*, October 25, 2022; Japan’s Ministry of Foreign Affairs, *Japan-Australia Reciprocal Access Agreement*, January 6, 2022; Australian Government Department of Foreign Affairs and Trade, *Australia-Japan Joint Declaration of Security Cooperation*.

‡Preexisting force posture initiatives included the U.S. Marine Rotational Force Darwin; Enhanced Air, Land, and Maritime Cooperation initiatives; Combined Logistics Sustainment and Maintenance Enterprise; and Enhanced Space Cooperation initiative. Australian Government, Defense, *United States Force Posture Initiatives*.

Indo-Pacific region.³³⁷ In 2022, the United States and Australia committed to expanding force posture activities by “identifying priority locations in Australia to support enhanced U.S. force posture and exploring enabling logistics such as prepositioning of stores, munitions, and fuel.”³³⁸ Upgrades to key Australian bases Darwin and Tindal are also underway, with the two countries collaborating on infrastructure improvements to support bomber aircraft.³³⁹ Another avenue for cooperation is Exercise Talisman Sabre,* a biennial, joint military exercise designed to improve operability and combat readiness and to train military forces from the two countries to plan and conduct combined task force operations.³⁴⁰ The exercise has recently included a considerable emphasis on complex joint logistics.³⁴¹

If fully implemented, the trilateral AUKUS partnership between Australia, the UK, and the United States has the potential to improve Australia’s ability to counter China’s A2/AD capabilities. The AUKUS framework comprises two main lines of effort: Pillar One, which supports Australia’s acquisition of nuclear-powered submarines,† and Pillar Two, which involves enhancing joint capabilities and interoperability with a focus on cyber capabilities, AI, quantum technologies, and undersea capabilities.³⁴² Australia’s government argues that the Pillar One acquisition of conventionally armed nuclear-powered submarines will enhance Australia’s capacity to both deter coercion and project its own military power.³⁴³ Regarding power projection, Australia is particularly focused on defending its maritime approaches and protecting its sea lines of communication, both of which it has identified as being under threat.³⁴⁴ Key advantages of the nuclear-powered submarine in these areas include its superior stealth, speed, and range, which Australia assesses would both strengthen deterrence and improve its ISR capabilities.³⁴⁵ On Pillar Two, the AUKUS partnership represents potential new avenues for the three countries to counter challenges from China through defense technology sharing.³⁴⁶ In her testimony for the Commission, Ms. Shrimpton described AUKUS as the most important defense policy choice Australia has made in decades, emphasizing that the two pillars are mutually reinforcing.³⁴⁷ In contrast, Mr. Johnstone describes the partnership as symbolically useful but too narrow in scope to have a meaningful contribution to near-term deterrence.³⁴⁸

*The name of the exercise is spelled “Talisman Sabre” in years when Australia leads and “Talisman Saber” in years when the United States leads. Joseph Clark, “Talisman Sabre 23 Reflects U.S., Allies’ Commitment to Indo-Pacific,” *DOD News*, July 31, 2023.

†Australia’s pathway to a conventionally armed nuclear submarine capability under AUKUS is planned as a phased approach. The three countries will work together to jointly produce the AUKUS submarines for delivery to the UK by the late 2030s and to Australia by the early 2040s. In the interim, while the new submarines are in development, the partners plan to work together to bolster deterrence and to develop Australia’s capacity to operate the coming vessels safely. Planned steps identified in 2023 included: embedding Australian personnel within the U.S. and UK navies beginning in 2023, increasing the frequency of visits by U.S. and UK nuclear-powered submarines to Australia in 2023 and 2026, respectively, establishing a rotational presence of U.S. and UK nuclear-powered submarines in Australia as early as 2027, and allowing Australia to procure several Virginia-class nuclear-powered submarines from the United States beginning in the early 2030s before Australia’s diesel-electric submarines are set to begin retiring. Commonwealth of Australia, *The AUKUS Nuclear-Powered Submarine Pathway: A Partnership for the Future*, 2023, 4, 7–8, 19–20, 28.

Australia Committed to Close Cooperation, Participation Parameters in a Conflict Remain Uncertain

Australia's government would likely view providing some kind of support to the United States in the event of a conflict with China as being in line with its interests. The Australian Department of Defence describes the country's alliance with the United States as "central to Australia's strategic and security arrangements," and Australia's new National Defense Strategy calls it "fundamental to Australia's national security."³⁴⁹ Australia has decided to support the U.S. military in every major conflict over the past century, which Ms. Shrimpton assessed in her testimony is due in part to the centrality of the alliance relationship to Australian security and military planning.³⁵⁰ Although it does not commit in advance to any policy position related to a conflict with China, Australia's 2020 Defense Strategic Update describes a U.S.-China conflict in very similar terms to the conditions that may sufficiently impact Australia's interests to call for the engagement of the Australian military.³⁵¹ The document emphasizes that "high-intensity military conflict... including high-intensity military conflict between the United States and China" is "less remote" than in the past; recognizes that "state-on-state conflict... could engage the Australian Defense Force (ADF) where Australia's interests are threatened"; and states that "the ADF must be better prepared for [high-intensity] conflict if deterrence measures fail, or to support the United States and other partners where Australia's national interests are engaged."³⁵²

Australian policymakers have publicly committed to acting in a conflict over Taiwan and may be supported in doing so by the Australian public, but this action may not include direct military participation. In 2021 and 2023, successive Australian defense ministers publicly stated that it is "inconceivable" that Australia would not support the United States in any conflict with China over Taiwan and that the consequences of a U.S.-China conflict over Taiwan "are so grave that we cannot be passive bystanders."³⁵³ Joint official statements at the head of state and ministerial levels in 2023 also emphasized shared opposition to unilateral changes of the status quo in the Taiwan Strait.³⁵⁴ Nevertheless, some experts caution that Australia does not consider a Taiwan conflict as direct a threat to its own security as Japan does by virtue of its geography, raising questions about what shape this support might take.³⁵⁵ Ms. Shrimpton further noted in her testimony for the Commission that although there is a broad consensus in Australia about the importance of maintaining freedom of navigation in the South China Sea and Taiwan Strait, "there is yet to be a serious national debate on Australia's potential response to a Chinese invasion of Taiwan."³⁵⁶ A public opinion survey in 2023 revealed similarly varied views among the Australian public. The poll suggests that approximately 64 percent of Australians view a military conflict between the United States and China over Taiwan as a "critical threat" to Australia's vital interests, double the proportion from two years earlier, while an additional 32 percent rank it an "important" threat.³⁵⁷ A majority of respondents to the poll also support Australia taking certain actions to assist in the event of such a conflict, up to and including provision of arms and military support and the involvement of the Austra-

lian Navy in countering a blockade; however, there is no majority support for sending Australian personnel to Taiwan itself.*³⁵⁸ Ryan Neelam, director of public opinion at the Lowy Institute, the foreign policy think tank conducting the poll, summarizes the takeaway as, “When it comes to a specific scenario where Taiwan is under military threat and the U.S. is engaged, Australians feel quite forward leaning about taking action to support Taiwan... but that doesn’t extend as far as putting boots on the ground.”³⁵⁹

Implications for the United States

The U.S. interests at stake in a regional conflict scenario—including the defense of treaty allies and potentially other Indo-Pacific partners—justify dedicated attention to assessing the PLA’s counter-intervention capabilities and ensuring sufficient U.S. and allied preparedness to counter them. PLA aggression against one of its neighbors in the Indo-Pacific region could have serious consequences for the security of the individual parties involved, for freedom of navigation through regional waters and airspace, for broader regional stability and prosperity, and potentially for the United States’ reputation as a reliable security partner and ally. Ensuring that the United States has the military capability it needs to defend its allies, its access, and the rules-based international order in a potential conflict with the PLA—should circumstances demand it—is part of the overall task of deterring such aggression in the first place. Expanding access, basing, and overflight (ABO) agreements with U.S. allies and partners in the region will also play an important role in this effort.

China seeks to overcome the challenges posed by U.S. and allied evolving capabilities and operational concepts to counter its counter-intervention. The PLA continues to build up its already large stockpile of offensive missiles to target U.S. and allied forces, and it has placed greater emphasis on improving the PLA’s C4ISR and EW capabilities. In addition, the PLA is developing kinetic and non-kinetic counter-C4ISR capabilities to attack, degrade, and paralyze the United States’ own C4ISR capabilities, which are vital to the United States’ ability to project power. These activities could complicate and threaten current U.S. and allied capabilities to effectively counter China’s military aggression in conflict.

Publicly available evidence suggests that while China is paying close attention to U.S. and allied efforts to strengthen their military capabilities, it is also paying attention to any challenges regarding implementation.³⁶⁰ Chinese observers are aware of the inherent difficulties in reorienting U.S. force posture in the region, deepening alliance cooperation, and strengthening the capabilities of the U.S. defense industrial base.³⁶¹ Stagnation, delay, or reversal of existing

* Regarding potential response to a military conflict between the United States and China over Taiwan, 76 percent of survey respondents support imposing sanctions, 64 percent support sending arms and military supplies to Taiwan, and 61 percent support participation by the Australian Navy to counter a blockade of the island, but only 42 percent support sending “Australian military personnel to Taiwan to help defend it from China.” These numbers collected by the Lowy Institute in Australia are comparable to those reported in the United States in 2022 by the Chicago Council on Global Affairs regarding the U.S. public’s willingness to take the same actions. Kristy Needham, “Australians Say They Would Support Taiwan if China Attacked, with Limits, Poll Shows,” *Reuters*, June 20, 2023; Lowy Institute, “Poll 2023: Potential Conflict over Taiwan.”; Chicago Council on Global Affairs, “Defending Taiwan.”

efforts in these areas risks harming deterrence against China by encouraging doubts about U.S. and allied capacity to follow through on defense objectives in the region. Addressing these challenges, meanwhile, will require sustained and focused attention as well as a commitment to balancing competing priorities.

Finally, although the PLA's substantial strengths in a counter-intervention scenario merit focused attention, they should not be considered without reference to accompanying weaknesses or viewed in isolation. Understanding potential limitations to PLA performance in a counter-intervention scenario, whether from underdeveloped logistics and maintenance systems or from other areas, can be as important for informing U.S. approaches as understanding the PLA's strengths. The PLA's growing ability to challenge U.S. military freedom of operation within the first or second island chains also does not imply a similar level of PLA capability in other domains and scenarios, such as global power projection, indicating that there are still areas of competition where the U.S. military maintains a greater advantage over the PLA.³⁶² Being prepared to counter PLA threats to U.S. interests across a wide range of domains and scenarios may involve tradeoffs, and weighing those competing priorities will require U.S. policymakers to have an in-depth understanding of the requirements in each case.

ENDNOTES FOR CHAPTER 8

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