MILITARY AND SECURITY DEVELOPMENTS INVOLVING THE PEOPLE'S REPUBLIC OF CHINA 2021

ANNUAL REPORT TO CONGRESS

Office of the Secretary of Defense

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Military and Security Developments Involving the People's Republic of China

A Report to Congress

Pursuant to the National Defense Authorization Act for

Fiscal Year 2000

Section 1202 of the National Defense Authorization Act for Fiscal Year 2000, Public Law 106-65, as amended, provides that the Secretary of Defense shall submit a report "in both classified and unclassified form, on military and security developments involving the People's Republic of China. The report shall address the current and probable future course of military-technological development of the People's Liberation Army and the tenets and probable development of Chinese security strategy and military strategy, and of the military organizations and operational concepts supporting such development over the next 20 years. The report shall also address United States-China engagement and cooperation on security matters during the period covered by the report, including through United States-China military-to-military contacts, and the United States strategy for such engagement and cooperation in the future."

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PREFACE

The Department of Defense (DoD) annual report to Congress on military and security developments involving the People's Republic of China (PRC) provides a baseline assessment of the Department's pacing challenge. The PRC has long viewed the United States as a competitor and has characterized its view of strategic competition in terms of a rivalry among powerful nation states, as well as a clash of opposing systems. As expressed in the Interim National Security Strategic Guidance, the PRC is the only competitor capable of combining its economic, diplomatic, military, and technological power to mount a sustained challenge to a stable and open international system. The PRC is increasingly clear in its ambitions and intentions. Beijing seeks to reshape the international order to better align with its authoritarian system and national interests, as a vital component of its strategy to achieve the "great rejuvenation of the Chinese nation." According to this worldview, the accrual of the PRC's comprehensive national power, including military power, is necessary to set the conditions for Beijing to assert its preferences on a global scale. This year's annual report continues to chart the maturation of the People's Liberation Army (PLA) and the PRC's evolving national power as it transitions to a new stage of the PRC's national strategy.

The PRC's national strategy to achieve "the great rejuvenation of the Chinese nation" by 2049 is deeply integrated with its ambitions to strengthen the PLA. In 2017, General Secretary Xi Jinping laid out two PLA modernization goals during his speech to the 19th Party Congress: to "basically complete" PLA modernization by 2035 and to transform the PLA into a "world class" military by 2049. Throughout 2020, the PLA continued to pursue its ambitious modernization objectives, refine major organizational reforms, and improve its combat readiness in line with those goals. This includes the PLA developing the capabilities to conduct joint long-range precision strikes across domains, increasingly sophisticated space, counterspace, and cyber capabilities, and accelerating the large-scale expansion of its nuclear forces. In 2020, the Chinese Communist Party (CCP) announced a new milestone for PLA modernization in 2027 broadly understood as the modernization of the PLA's capabilities to be networked into a system of systems for "intelligentized" warfare. If realized, the PLA's 2027 modernization goals could provide Beijing with more credible military options in a Taiwan contingency.

As the PRC continues to marshal all elements of its national power toward its centenary goals in 2049, DoD's annual report strives to provide an authoritative assessment of the PRC's strategic objectives. The report highlights the comprehensive scale of the CCP's governance

system, whereby the PLA's modernization serves as a crucial component of a national system galvanized to achieve the PRC's national strategy. The PRC's strategy to achieve "national rejuvenation" is not limited to domestic efforts. This strategy entails efforts to change international conditions to suit the CCP's concept of a "community of common destiny." This report illustrates the importance of meeting the pacing challenge presented by the PRC's increasingly capable military and its global ambitions.

Report Scope: This report covers security and military developments involving the PRC until the end of 2020.

EXECUTIVE SUMMARY

UNDERSTANDING CHINA'S STRATEGY

China's National Strategy

- The PRC's strategy aims to achieve "the great rejuvenation of the Chinese nation" by 2049 to match or surpass U.S. global influence and power, displace U.S. alliances and security partnerships in the Indo-Pacific region, and revise the international order to be more advantageous to Beijing's authoritarian system and national interests. This strategy can be characterized as a determined pursuit of far-ranging efforts to expand the PRC's national power.
- Despite challenges posed by the COVID-19 pandemic, Beijing continued its efforts to advance its overall development including steadying its economic growth, strengthening its armed forces, and taking a more assertive role in global affairs. In response to both long and short-term economic trends, the CCP unveiled a new economic strategic task, or a new "development pattern," called "dual circulation (双循环)."
- The PRC has characterized China's view of strategic competition in terms of a rivalry among powerful nation states, as well as a clash of opposing ideological systems. Beijing views the United States as increasingly determined to contain the PRC, creating potential obstacles to its strategy. Additionally, the PRC's leaders are increasingly willing to confront the United States and other countries in areas where interest diverge.

Foreign Policy

- The PRC's foreign policy seeks to build a "community of common destiny" that supports its strategy to realize "the great rejuvenation of the Chinese nation." Beijing's revisionist ambition for the international order derives from the objectives of its national strategy and the Party's political and governing systems.
- In 2019, the PRC recognized that its armed forces should take a more active role in advancing its foreign policy, highlighting the increasingly global character that Beijing ascribes to its military power.

- In 2020, the COVID-19 pandemic was a driving force behind the PRC's foreign policy efforts, as Beijing sought to deflect any culpability for the virus and its initial spread, and to capitalize on its narrative of domestic success and foreign assistance.

Economic Policy

- The PRC's military modernization objectives are commensurate with, and part of, Beijing's broader national development aspirations. The PRC's economic, technological, political, social, and security development efforts are mutually reinforcing and support Beijing's strategy to shape international and regional environments that accept and facilitate Beijing's interests.
- The PRC's economic development supports its military modernization not only by providing the means for larger defense budgets, but through deliberate Party-led initiatives such as Made in China 2025 and China Standards 2035, as well as the systemic benefits of the PRC's growing national industrial and technological base.
- In the rollout of the PRC's 14th Five Year Plan (2021-2025), the Party announced a shift to a new "development pattern" of "dual circulation (双循环)." Dual circulation is focused on accelerating domestic consumption as a driver of economic growth, shifting to higher-end manufacturing, and creating "breakthroughs" in key technologies along critical high-end global supply chains, all while emphasizing "mutually reinforcing" foreign investment in these key technologies to provide the capital and technology necessary to advance domestic technological innovation in support of the PRC's security and development objectives.

Military-Civil Fusion Development Strategy

- The PRC pursues its Military-Civil Fusion (MCF; 军民融合) Development Strategy to fuse its economic, social, and security development strategies to build an integrated national strategic system and capabilities in support of the PRC's national rejuvenation goals.
- Beijing's MCF strategy includes objectives to develop and acquire advanced dual-use technology for military purposes and deepen reform of the national defense science and technology industries, and serves a broader purpose to strengthen all of the PRC's instruments of national power.
- The PRC's MCF development strategy encompasses six interrelated efforts: (1) fusing China's defense industrial base and its civilian technology and industrial base; (2) integrating and leveraging science and technology innovations across military and civilian sectors; (3) cultivating talent and blending military and civilian expertise and knowledge; (4) building military requirements into civilian infrastructure and leveraging civilian construction for military purposes; (5) leveraging civilian service

and logistics capabilities for military purposes; and, (6) expanding and deepening China's national defense mobilization system to include all relevant aspects of its society and economy for use in competition and war.

Defense Policy and Military Strategy

- The PRC has stated its defense policy aims to safeguard its sovereignty, security, and development interests. The PRC's military strategy remains based on the concept of "active defense."
- The PRC's leaders stress the imperative of strengthening the PLA into a "world-class" military by the end of 2049 as an essential element of its strategy to rejuvenate the PRC into a "great modern socialist country." In 2020, the PLA added a new milestone for modernization in 2027, to accelerate the integrated development of mechanization, informatization, and intelligentization of the PRC's armed forces, which if realized would provide Beijing with more credible military options in a Taiwan contingency.
- In November 2020, the CMC issued the "Chinese People's Liberation Army Joint Operations Outline (trial) (中国人民解放军联合作战纲要(试行)" described as the "top-level law" of the PLA's combat doctrine system in the "new era" that would strengthen the requirements and procedures for joint operations, combat support, national defense mobilization, and political work, among others.
- In 2020, the PLA remained primarily oriented toward "safeguarding" its perceived "sovereignty and security" interests in the region, while emphasizing a greater global role for itself, such as through delivering COVID-19 aid abroad and the pursuit of overseas military facilities, in accordance with the PRC's defense policy and military strategy.

MISSIONS AND TASKS OF CHINA'S ARMED FORCES IN THE "NEW ERA"

- With a force that totals approximately two million personnel in the regular forces, the PLA has sought to modernize its capabilities and improve its proficiencies across all warfare domains so that as a joint force it can conduct the range of land, air, and maritime operations as well as space, counterspace, electronic warfare (EW), and cyber operations.
- The PLA's evolving capabilities and concepts continue to strengthen the PRC's ability to "fight and win wars" against a "strong enemy (强敌)" [a likely euphemism for the United States], coerce Taiwan and rival claimants in territorial disputes, counter an intervention by a third party in a conflict along the PRC's periphery, and project power globally.

- In 2020, the PLA continued to make progress implementing major structural reforms, fielding modern indigenous systems, building readiness, and strengthening its competency to conduct joint operations.

Developments in the PLA's Modernization and Reform

- In November 2020, a PRC Defense Ministry spokesperson stated that the PLA accomplished its modernization milestone to "generally achieve mechanization" in 2020 that was previously set by CCP leadership. The goal of mechanization can be broadly understood as the PLA seeking to modernize its weapons and equipment so they can be networked into "systems of systems" and utilize more advanced technologies suitable for "informatized" and "intelligentized" warfare.
- **The People's Liberation Army Army (PLAA)** has approximately 975,000 active-duty personnel in combat units. Despite the COVID-19 pandemic, border clashes with India, and other significant events in 2020, the PLAA accelerated its training and fielding of equipment from the already fast pace of recent years. The PLAA also strove to increase the realism of its training and the effectiveness of Opposition Force (OPFOR) units.
- **The People's Liberation Army Navy (PLAN)** has numerically the largest navy in the world with an overall battle force of approximately 355 ships and submarines, including approximately more than 145 major surface combatants. As of 2020, the PLAN is largely composed of modern multi-role platforms. In the near-term, the PLAN will have the capability to conduct long-range precision strikes against land targets from its submarine and surface combatants using land-attack cruise missiles, notably enhancing the PRC's global power projection capabilities. The PRC is enhancing its anti-submarine warfare (ASW) capabilities and competencies to protect the PLAN's aircraft carriers and ballistic missile submarines.
- **The People's Liberation Army Air Force (PLAAF) and PLAN Aviation** together constitute the largest aviation force in the region and the third largest in the world, with over 2,800 total aircraft (not including trainer variants or UAVs) of which approximately 2,250 are combat aircraft (including fighters, strategic bombers, tactical bombers, multi-mission tactical, and attack aircraft). In October 2019, the PRC signaled the return of the airborne leg of its nuclear triad after the PLAAF publicly revealed the H-6N as its first nuclear-capable air-to-air refuelable bomber.
- **The People's Liberation Army Rocket Force (PLARF)** organizes, mans, trains, and equips the PRC's strategic land-based nuclear and conventional missile forces as well as associated support forces and missile bases. In 2020, the PLARF advanced its long-term modernization plans to enhance its "strategic deterrence" capabilities.

- The PRC is developing new intercontinental ballistic missiles (ICBMs) that will significantly improve its nuclear-capable missile forces and will require increased nuclear warhead production, partially due to the incorporation of multiple independently targetable reentry vehicle (MIRV) capabilities. The PRC has commenced building at least three solid-fueled ICBM silo fields, which will cumulatively contain hundreds of new ICBM silos.

- The PLARF continues to grow its inventory of road-mobile DF-26 intermediate-range ballistic missiles (IRBMs), which are capable of conducting both conventional and nuclear precision strikes against ground targets as well as conventional strikes against naval targets.

- In 2020, the PLARF began to field its first operational hypersonic weapons system, the DF-17 hypersonic glide vehicle (HGV) capable medium-range ballistic missile (MRBM).

- **The PLA Strategic Support Force (SSF)** is a theater command-level organization established to centralize the PLA's strategic space, cyber, electronic, information, communications, and psychological warfare missions and capabilities. The SSF oversees two deputy theater command-level departments: the Space Systems Department responsible for military space operations, and the Network Systems Department responsible for information operations (IO), which includes technical reconnaissance, EW, cyber warfare, and psychological operations.

  - PRC continues to develop counterspace capabilities—including direct ascent, co-orbital, electronic warfare, and directed energy capabilities—that can contest or deny an adversary's access to and operations in the space domain during a crisis or conflict.

  - **The PRC's space enterprise** continues to mature rapidly and Beijing has devoted significant resources to growing all aspects of its space program, from military space applications to civil applications such as profit-generating launches, scientific endeavors, and space exploration. The PRC is employing more sophisticated satellite operations and is probably testing dual-use technologies in space that could be applied to counterspace missions.

- **Military Readiness:** The CMC's focus is on improving the PLA's combat readiness and the guidance issued by senior leaders is increasingly evident in the PLA's training and exercises. The PLA is training to "fight and win" through increasingly realistic combat training that uses dedicated "blue force" opponents and other elements to improve realism. Despite initial delays and cancellations in military training, exercises, research, and recruitment in the early months of the COVID-19 pandemic, impact to the overall readiness of the PLA remains minimal.

Capabilities for Counter Intervention and Power Projection

- The PLA has fielded, and is further developing, capabilities to provide options for the PRC to attempt to dissuade, deter, or, if ordered, defeat third-party intervention during a large-scale, theater campaign such as a Taiwan contingency. U.S. defense planners often refer to these collective capabilities as anti-access/area-denial (A2/AD) capabilities.
- The PLA's A2/AD capabilities are to date the most robust within the First Island Chain, although the PRC is beginning to field significant capabilities capable of conducting operations out to the Second Island Chain and seeks to strengthen its capabilities to reach farther into the Pacific Ocean and throughout the globe.
- In addition to strike, air and missile defense, anti-surface and anti-submarine capabilities improvements, the PRC is focusing on information, cyber, and space and counterspace operations. The PLA's focus on an integrated approach to the cyber domain using advanced technologies likely will lead to the PLA improving its ability to conduct cyber operations over the next several years.

Nuclear Capabilities

- Over the next decade, the PRC aims to modernize, diversify, and expand its nuclear forces.
- The PRC is investing in, and expanding, the number of its land-, sea-, and air-based nuclear delivery platforms and constructing the infrastructure necessary to support this major expansion of its nuclear forces.
- The PRC is also supporting this expansion by increasing its capacity to produce and separate plutonium by constructing fast breeder reactors and reprocessing facilities.
- The accelerating pace of the PRC's nuclear expansion may enable the PRC to have up to 700 deliverable nuclear warheads by 2027. The PRC likely intends to have at least 1,000 warheads by 2030, exceeding the pace and size the DoD projected in 2020.
- The PRC has possibly already established a nascent "nuclear triad" with the development of a nuclear capable air-launched ballistic missile (ALBM) and improvement of its ground and sea-based nuclear capabilities.
- New developments in 2020 further suggest that the PRC intends to increase the peacetime readiness of its nuclear forces by moving to a launch-on-warning (LOW) posture with an expanded silo-based force.

Chemical and Biological Research

- The PRC has engaged in biological activities with potential dual-use applications, which raise concerns regarding its compliance with the Biological and Toxins Weapons Convention (BWC) and the Chemical Weapons Convention (CWC).
- Studies conducted at PRC military medical institutions discussed identifying, testing, and characterizing diverse families of potent toxins with dual-use applications.
- Based on available information, the United States cannot certify that the PRC has met its obligations under the Chemical Weapons Convention (CWC) due to concerns regarding the PRC's research of pharmaceutical-based agents (PBAs) and toxins with potential dual-use applications.

THE PLA'S GROWING GLOBAL PRESENCE

- CCP leaders believe that the PRC's global activities, including the PLA's growing global presence, are necessary to create an international environment conducive to China's national rejuvenation.
- The CCP has tasked the PLA to develop the capability to project power outside China's borders and immediate periphery to secure the PRC's growing overseas interests and advance its foreign policy goals.

China's Global Military Activities

- The PRC has increasingly determined that its armed forces should take a more active role in advancing its foreign policy goals. In 2020, a revision to the National Defense Law tasked the PLA with defending "overseas development interests," further cementing the PLA's involvement in the PRC's global economic and diplomatic activities.
- As the PRC's overseas interests have grown over the past two decades, the Party's leaders have increasingly pushed the PLA to think about how it will develop the capabilities to operate beyond China's borders and its immediate periphery to advance and defend these interests. This has led to the PRC's greater willingness to use military coercion—and inducements—to advance its global security and development interests.
- In 2020, the PLA continued to normalize its presence overseas and build closer ties to foreign militaries, primarily through COVID-19 related aid.

PLA's Overseas Basing and Access

- The PRC is seeking to establish a more robust overseas logistics and basing infrastructure to allow the PLA to project and sustain military power at greater distances.
- Beyond its base in Djibouti, the PRC is pursuing additional military facilities to support naval, air, ground, cyber, and space power projection. The PRC has likely considered a number of countries, including Cambodia, Myanmar, Thailand, Singapore, Indonesia, Pakistan, Sri Lanka, United Arab Emirates, Kenya, Seychelles, Tanzania, Angola, and Tajikistan, as locations for PLA facilities.
- A global PLA military logistics network and PLA military facilities could both interfere with U.S. military operations and support offensive operations against the United States as the PRC's global military objectives evolve.

The PRC's Influence Operations

- The PRC conducts influence operations, which target cultural institutions, media organizations, business, academic, and policy communities in the United States, other countries, and international institutions, to achieve outcomes favorable to its strategic objectives.
- The CCP seeks to condition domestic, foreign, and multilateral political establishments and public opinion to accept Beijing's narratives and remove obstacles preventing attainment of goals.
- CCP leaders probably consider open democracies, including the United States, as more susceptible to influence operations than other types of governments.
- The PLA has emphasized the development of its "Three Warfares" concept—comprised of psychological warfare, public opinion warfare, and legal warfare—in its operational planning since at least 2003. The PLA will likely continue to develop its digital influence capabilities by incorporating advancements in artificial intelligence (AI) to improve the quality and deniability of its messaging.

RESOURCES AND TECHNOLOGY FOR FORCE MODERNIZATION

- The PRC's long-term goal is to create an entirely self-reliant defense-industrial sector—fused with a strong civilian industrial and technology sector—that can meet the PLA's needs for modern military capabilities.
- The PRC has mobilized vast resources in support of its defense modernization, including the implementation of its Military-Civil Fusion (MCF) Development

Strategy, as well as espionage activities to acquire sensitive, dual-use, and military-grade equipment. The PRC has substantially reorganized its defense-industrial sector to improve weapon system research, development, acquisition, testing, evaluation, and production.

- In 2021, the PRC announced its annual military budget would increase by 6.8 percent, continuing more than 20 years of annual defense spending increases and sustaining its position as the second-largest military spender in the world. The PRC's published military budget omits several major categories of expenditures and its actual military-related spending is higher than what it states in its official budget.

Science and Technology Goals Supporting Military Modernization

- The PRC has continued its aggressive, top-level push to master advanced technologies and become a global innovation superpower. The PRC seeks to dominate technologies associated with the Fourth Industrial Revolution; this push directly supports the PLA's ambitious modernization efforts and its goal of becoming a "world-class" military capable of "intelligentized" warfare.
- The PRC continues its pursuit of leadership in key technologies with significant military potential, such as AI, autonomous systems, advanced computing, quantum information sciences, biotechnology, and advanced materials and manufacturing. As evidenced by the country's recent accomplishments in space exploration and other fields, China stands at, or near, the frontier of numerous advanced technologies.
- The 14th Five-Year Plan maintains the PRC's focus on technological independence and indigenous innovation in fields associated with the Fourth Industrial Revolution.
- As of 2020, the PLA has funded multiple AI projects that focus on applications including machine learning for strategic and tactical recommendations, AI-enabled wargaming for training, and social media analysis.

Foreign Technology Acquisition

- The PRC uses imports, foreign investments, commercial joint ventures, mergers and acquisitions, and industrial and technical espionage to help achieve its military modernization goals.
- The PRC is investing in and seeking to acquire technologies that will be foundational for future commercial and military innovations including AI, robotics, autonomous vehicles, quantum information sciences, augmented and virtual reality, financial technology, and biotechnology. These technologies blur the line demarcating commercial versus military use.

U.S.-PRC DEFENSE CONTACTS AND EXCHANGES IN 2020

- DoD's defense contacts and exchanges with the PRC in 2020 prioritized crisis prevention and management, risk reduction, and limited cooperation in areas where national interests aligned.
- In 2020, U.S.-PRC defense relations focused on building a framework with the PLA to advance DoD's objective to build a constructive, stable, and results-oriented defense relationship with the PLA. The Policy Dialogue System framework sought greater stability by prioritizing policy dialogue channels and strengthening mechanisms to prevent and manage crisis and reduce operational risk.

CHAPTER ONE: UNDERSTANDING CHINA'S STRATEGY

Understanding the tenets of the People's Republic of China's (PRC) national strategy is essential to understanding the future course of China's security and military strategy. This in turn offers insights on the current and future course of the People's Liberation Army's (PLA) reform and modernization in terms of its strength, technological advances, organization, and operational concepts.

CHINA'S NATIONAL STRATEGY

Key Takeaways

- The PRC's strategy aims to achieve "the great rejuvenation of the Chinese nation" by 2049 to match or surpass U.S. global influence and power, displace U.S. alliances and security partnerships in the Indo-Pacific region, and revise the international order to be more advantageous to Beijing's authoritarian system and national interests. This strategy can be characterized as a determined pursuit of far-ranging efforts to expand the PRC's national power.
- Despite challenges posed by the COVID-19 pandemic, Beijing continued its efforts to advance its overall development including steadying its economic growth, strengthening its armed forces, and taking a more assertive role in global affairs. In response to both long and short-term economic trends, the CCP unveiled a new economic strategic task, or a new "development pattern," called "dual circulation (双循环)."
- The PRC has characterized China's view of strategic competition in terms of a rivalry among powerful nation states, as well as a clash of opposing ideological systems. Beijing views the United States as increasingly determined to contain the PRC, creating potential obstacles to its strategy. Additionally, the PRC's leaders are increasingly willing to confront the United States and other countries in areas where interest diverge.

The PRC's strategy aims to realize "the great rejuvenation of the Chinese nation." This objective, which General Secretary Xi Jinping (also referred to as Chairman or President, given the context of his responsibilities) calls "the Chinese Dream," is a national aspiration to restore the PRC to a position of strength, prosperity, and leadership on the world stage.

PRC leaders characterize their strategy to achieve political, social, and economic modernity—as defined by the Chinese Communist Party (CCP)—as a grand national endeavor that is sweeping in scope and far-reaching in how it will transform the PRC and, in turn, the world. The Party defines national rejuvenation as a state in which China is "prosperous, strong, democratic, culturally advanced, and harmonious." Beijing's strategy entails deliberate and determined efforts to amass, improve, and harness the internal and external elements of national power that will place the PRC in a "leading position." CCP leaders frequently refer to building the PRC's "comprehensive" national power in this manner. The PRC's strategy entails a long-term planning process to attain national rejuvenation that sets objectives, priorities, and milestones across virtually every aspect of governance and policy including economics, political affairs, the rule of law, public order, national security, diplomacy, defense, social affairs, education, science and technology, culture, the environment, and other matters.

The PRC pursues its efforts to generate greater national power from the basis of defending and advancing its sovereignty, security, and development interests. Consequently, Beijing's national ambitions and statecraft rest on the foundation of the CCP-dominated political system underpinned by the Party's theory of "Socialism with Chinese Characteristics." The objective of this Party-led strategy is perhaps best stated in what the Party calls its "basic line," a single sentence in the CCP's constitution that serves as the mission of the Party and as the cornerstone for its policymaking. Last amended at the 19th Party Congress in 2017, it states:

> *"The basic line of the Communist Party of China in the primary stage of socialism is to lead all the people of China together in a self-reliant and pioneering effort, making economic development the central task, upholding the Four Cardinal Principles, and remaining committed to reform and opening up, so as to see China becomes a great modern socialist country that is prosperous, strong, democratic, culturally advanced, harmonious, and beautiful."*

The 19th Party Congress also adopted "Xi Jinping Thought on Socialism with Chinese Characteristics for New Era" into the CCP's constitution. Unanimously agreed by Party delegates, "Xi Jinping Thought" was hailed as a "guide to action for the entire Party and all the Chinese people to strive for the great rejuvenation of the Chinese nation," placing General Secretary Xi Jinping as the driver of the CCP's policy objectives to come.

External Ambitions. Among the external elements of the PRC's national strategy are its deliberate efforts to create a "favorable" international environment that is conducive to the PRC's continued rise and eventual national rejuvenation, according to State Councilor Yang Jiechi, a member of the Politburo and a leading Party official on foreign policy. The PRC's ambition to be seen as a responsible major power was hindered in 2020 as it encountered increased distrust from other states, partially due to the PRC's early mishandling of the COVID-19 pandemic and PRC diplomats embracing an aggressive style of "wolf warrior"

diplomacy. Despite these frustrations, PRC leaders continue to believe that global trends, especially perceived U.S. decline, are generally conducive to their long-term interests.

As PRC leadership view a divided China as a weak China, they argue that "full reunification"— completing Hong Kong and Macau's integration by the end of 2049—is a fundamental condition of national rejuvenation. Beijing views as an imperative that China field a "world-class" military that can "fight and win" and "resolutely safeguard" the country's sovereignty, security, and development interests. In support of this goal, on December 26, 2020, the National People's Congress passed revisions to the PRC's National Defense Law which broadened the legal justification for PLA mobilization to include defense of China's economic "development interests." The codification of this language in PRC law is intended to add legitimacy to the use of military force to defend the PRC's economic interests abroad.

China's leaders claim national rejuvenation requires the PRC to "take an active part in leading the reform of the global governance system" as many rules and norms were established, in Beijing's view, without the PRC's consultation and input. The Party views aspects of the prevailing rules-based order as constraining the PRC's strategic ambitions and incompatible with its sovereignty, security, and development interests. To the PRC's leaders, revisions are necessary to accommodate the PRC's development and should reflect the CCP's preferred transformation in the distribution of power to forge an external environment more favorable to the PRC's authoritarian system and national interests.

Key Objectives & Milestones. For decades, the PRC's leaders have framed their pursuit of modernity and power as advancing China along a specific trajectory, with the PRC's centenary in 2049 serving as the target for achieving national rejuvenation and becoming a "great modern socialist country." From Beijing's perspective, the PRC is a developing nation that must transition into a "fully developed and highly advanced" socialist society, and this trajectory involves the Party leadership shepherding the PRC through different stages of gradual but systematic modernization and development. The Party demarcates the stages of the PRC's strategy with milestones accompanied by objectives and priorities determined by the Party's long-term planning processes.

Reflecting on the PRC's progress at the 19th Party Congress, General Secretary Xi Jinping declared that China had assumed "…a leading position in terms of economic and technological strength, defense capabilities, and comprehensive national strength" and therefore "crossed the threshold into a new era." Xi's declaration that the PRC had entered a "New Era" was not a change in strategic objectives, but an important signal of confidence that the PRC's progress was sufficient to tackle the next set of challenges in its development. For the PRC's strategy in the "New Era," Xi laid out a broad plan to achieve national rejuvenation with a timeline linked to two symbolically important centenary milestones reached in 2021 (the CCP's centenary) and 2049 (the PRC's centenary). To bridge the lengthy gap between the two anniversaries, Xi added interim objectives for 2035 and laid out a broad two-stage

modernization plan to reach 2049. Further demonstrating the Party's confidence in the PRC's progress, Xi's objectives for 2035 moved up certain mid-century targets set by the Party going back to 1987.

Beijing aimed to complete building a "moderately prosperous society in all respects" by the CCP centenary in 2021. Beyond 2021, the PRC will use the "moderately prosperous society" as the basis for Xi's "two-stage" plan to achieve national rejuvenation by the PRC's centenary in 2049. In the first stage from 2021 to 2035, the Party aims for the PRC to "basically" meet its initial thresholds for becoming a "great modern socialist country." In this stage, the PRC will likely continue to prioritize economic development as "the central task," but rather than rapid economic growth, it will seek to address its uneven economic development and inequalities that Beijing recognized as the new "principal contradiction" in PRC society in the "New Era." By 2035, the PRC will also seek to increase its economic and technological strength to become a "global leader in innovation" and aim to "basically" complete its military modernization. The PRC will also seek to significantly strengthen its cultural "soft power" and improve its domestic rule of law and governance systems.

In the second stage from 2035 to 2049, the PRC aims to complete its development and attain national rejuvenation, realizing an international status that Xi describes as a "global leader in terms of comprehensive national strength and international influence." A renewed PRC will have attained—among the Party's many goals—its objectives to field a "world-class" military and assume a leading position within an international order revised in line with Beijing's overall foreign policy goal to establish what it refers to as a "community of common destiny (人类命运共同体)," or the PRC's preferred official English translation "community with a shared future for mankind."

Historic Continuity. Understanding the origins of the PRC's national rejuvenation is crucial to understanding how the PRC will likely shape and pursue this strategic objective. China's leaders have consistently framed their efforts as seeking to "restore" China to a preeminent place in the world after enduring what the Party characterizes as China's "century of humiliation" beginning in the 19th century as the Qing Dynasty began to disintegrate and lasting until the founding of the PRC in 1949. While the Party's exact articulation of this goal as "the great rejuvenation of the Chinese nation" first emerged in the late 1980s, the Party has championed the cause of rebuilding China since the 1920s. General Secretary Xi Jinping frequently points to the CCP's steadfastness to the cause of national rejuvenation and describes it as the Party's "original aspiration."

The Party's narrative of national rejuvenation speaks to the deep impressions left on the PRC's political landscape over an era defined by the disintegration of China's polity, repeated violations of China's sovereignty by foreign powers, and the prolonged absence of physical and economic security for many Chinese people. For a culture with a history stretching back thousands of years—much of it spent as one of the most powerful and advanced civilizations in the world—nationalist appeals to restore China's greatness are deeply rooted. National

renewal can be traced to China's reformers and nationalist revolutionary leaders in the late Qing Dynasty and emerged as a common nationalist theme in the fractured politics of China's Republican era. This resonance is crucial to understanding why the CCP portrays the PRC's rejuvenation as a nationalist project that the Party "shoulders" for the country.

The PRC's Strategy & the CCP. The Party's leaders frame "Socialism with Chinese Characteristics" and the CCP as indispensable to the PRC overcoming its historical circumstances and attaining national rejuvenation. As General Secretary Xi Jinping stated in a speech to the CCP Central Committee in 2013, "Which ideological system a country implements depends on one crucial issue: can this ideology resolve the historical problems facing the country?" From the Party's perspective, its leadership and systems are uniquely able to restore the PRC's strength, prosperity, and prestige—underscored with the implicit warning that any deviation from socialism's path would result in "chaos" and China falling behind on its "historic mission." As Xi stated, "…only socialism can save China—and only Socialism with Chinese Characteristics can develop China."

CCP leaders flatly reject the notion that the Party has abandoned its socialist ideology in recent decades with the introduction of market features into the PRC's economy or drifted towards a non-ideological form of governance. The Party asserts that the PRC remains on the path of "socialist modernization" but it seeks to advance the country gradually— a lesson painfully learned from the Mao-era catastrophes that aimed for rapid progress. Accordingly, the Party claims that to perform its decisive role in guiding the PRC's development into a "great modern socialist country," it must ensure that the country advances in line with "the Four Cardinal Principles (四项基本原则)." First stated by Deng Xiaoping and later written into the CCP Constitution, these principles mandate the Party "to keep to the path of socialism, to uphold the people's democratic dictatorship, to uphold the leadership of the CCP, and to uphold Marxism-Leninism and Mao Zedong Thought." The Four Cardinal Principles are the basis for political and governance reforms pursued by the Party and the outer boundaries of its efforts to "reform" and "open up" the country.

As General Secretary Xi Jinping told Party cadres in 2014, "promoting the modernization of the national governance system and capacity is definitely not Westernization or capitalism." In addition to cultivating ideological discipline and fighting corruption within the Party, Xi has sought to advance the PRC's strategy by strengthening the Party's primacy across China's governance systems and making the Party more effective at managing China's political, economic and social problems. Xi's emphasis on building the CCP's institutional capacity and promoting internal unity—which he views as the means for the Party to perform its strategic role—has become a prominent feature of his tenure.

Risks and Opportunities. The PRC's leadership has long viewed China as embroiled in a major international strategic competition with other states. Throughout the post-Mao reform era and particularly after the end of the Cold War, the Party's leaders recognized their socialist system was—and would remain over the long-term—an underlying source of tension with the

West. Given the Party's ambitions to "restore" the PRC's place in the world and their assessment of the PRC's relative weakness via-a-vis rival states, CCP leaders recognized that the PRC's growing strength could threaten to flare tensions with others without careful management. Deng Xiaoping's reputed approach to this dilemma, as attributed by other Party leaders, was for China to, "hide our capacities and bide our time, be good at maintaining a low profile; and never claim leadership." While China's leaders have consistently pursued national rejuvenation as their goal, they have demonstrated a degree of strategic adaptability in execution to seize opportunities and manage threats to their strategy.

Over time, the PRC has characterized China's view of strategic competition in terms of a rivalry among powerful nation states, most importantly the United States, as well as a clash of opposing ideological systems. The PRC's leaders have indicated they view competition as entailing aspects of cooperation and conflict and that the Party would need to be adaptable, flexible, and above all patient. The PRC's leaders have also offered a view of competition based on relative levels of economic, technological, and military power. Speaking to the CCP Central Committee in 2013, General Secretary Xi Jinping remarked that the Party needed to "appreciate" that "developed Western nations" would continue to possess "real, long-term advantages" over China in the economic, technological, and military domains. Xi argued that China would need to "prepare for a long period of cooperation and of conflict between these two social systems in each of these domains." Lastly, Xi alluded to the core elements of "national rejuvenation" as the PRC's approach to this competition. Xi stated, "Most importantly, we must concentrate our efforts on bettering our own affairs, continually broadening our comprehensive national power, improving the lives of our people, building a socialism that is superior to capitalism, and laying the foundation for a future where we will win the initiative and have the dominant position."

In 2020, General Secretary Xi presented his thoughts on the PRC's strategic environment on numerous occasions. Early in 2020, Xi asserted, "The theme of the era of peace and development has not changed," and stated that China was still in a "period of strategic opportunity" for continued development, and concluded, "There are still many favorable conditions for economic and social development." As 2020 progressed, CCP leaders, including Xi himself, convened several meetings on "growing risks" and, in the communique following the 5th Plenum in October 2020, stressed that the PRC is on the brink of "changes unseen in a century," but also that China would benefit from a "profound adjustment in the international balance of power."

Since just prior to the dissolution of the Soviet Union, PRC leaders have consistently characterized China's security environment as undergoing intense changes and viewed the international order as shifting towards a multipolar system more commensurate with the PRC's development. The Party views a shift toward a multipolar system as consistent with its perception of global power trends. This shift is vital for the PRC to advance its strategy, perceiving U.S. power as a constraint that impedes the PRC's goals to achieve the

"rejuvenation of the Chinese nation." The PRC's leaders have eagerly embraced narratives of the West's relative decline and the inevitability of China's rise as largely consistent with their strategy and evidence of China's progress.

The Party views core aspects of the current international system, such as the collective security architecture, as incompatible with its vision for a revised order premised on its "community of common destiny." The PRC's leaders view U.S. security alliances and partnerships, especially those in the Indo-Pacific, as destabilizing and irreconcilable with the PRC's sovereignty, security, and development interests. In 2014, Xi stated, "To beef up military alliances targeted at a third party is not conducive to maintaining common security in the region." Regionally, the PRC's 2019 defense white paper claims that "Asia-Pacific" countries are "increasingly aware that they are members" of the PRC's "community with a shared future for mankind" and that managing disputes through dialogue is its "preferred policy option."

Beijing has also expressed concerns over growing global instability and a mounting sense of insecurity that it views are instigated by the United States. The PRC's 2019 defense white paper criticized the United States as the "principal instigator" of global instability and driver of "international strategic competition." China's leadership sees U.S. policy towards the PRC as a critical factor affecting the PRC's national objectives and increasingly views the United States as more willing to confront Beijing where U.S. and PRC interests are inimical. China's leaders' perceptions of intensifying strategic competition driven by structural changes in the international system and an increasingly confrontational United States is consistent with the Party's long-held opinion—based on its view of competition between systems—that the United States seeks to prevent China's rejuvenation. Given this belief, the accrual of the PRC's comprehensive national power sets conditions for the PRC's greater willingness to confront the United States.

In the second half of 2020, the PRC perceived a significant threat that the United States would seek to provoke a military crisis or conflict in the near-term. These erroneous concerns were accompanied or fueled by widespread speculation in PRC media that the United States would deliberately instigate a conflict with the PRC in the South China Sea. This speculation accompanied intensified warning messaging in PRC state media, large-scale military drills, heightened readiness, and additional deployments. At the direction of then-U.S. Secretary of Defense Mark Esper, on October 20 and October 30, 2020, respectively, the Deputy Assistant Secretary of Defense for China and the Chairman of the Joint Chiefs of Staff addressed these concerns with PLA counterparts through official channels and conveyed DoD's continued interest in building a constructive, stable, and results-oriented relationship with the PLA. On October 29, 2020, a PRC Ministry of National Defense spokesman stated that then-U.S. Secretary of Defense Mark Esper had "specifically clarified…through military and diplomatic channels" that the relevant reports "did not match facts" and that the United States "had no intention of instigating a military crisis against China." These events highlighted the potential

for misunderstanding and miscalculation, and underscored the importance of effective and timely communication between DoD and the PLA.

As China's leaders seek to translate the PRC's growing economic and military means into influence to advance their international aspirations, they must also carefully balance the PRC's expanding interests across their priorities and resources. For example, China's One Belt, One Road (OBOR) initiative, also known as the Belt and Road Initiative (BRI), expands the PRC's overseas development and security interests; Beijing has signaled this will drive the PRC towards expanding its overseas military footprint to protect those interests. China's leaders also seem to have recognized that OBOR and other initiatives have sparked concerns about the PRC's intentions, leading it to use less inflammatory and more tailored rhetoric without altering the programs' fundamental goals. Similar tensions can be found in the PRC's efforts to advance General Secretary Xi's foreign policy goals such as building a "community of common destiny;" pressing revisions to the international order; and establishing diplomatic relationships in accordance with what the PRC calls "strategic partnerships." The PRC seeks to secure and advance its overseas interests without entirely compromising the relationships and stability crucial to its continued development. This tension underscores the increasingly complex decisions and risks China's leaders must weigh in implementing their strategy.

The PRC's National Security Concept & Management

In recent years, the PRC has articulated its view of national security as a broad concept that spans the confluence of internal and external threats to the PRC's interests. Party leaders have identified national security as encompassing traditional and non-traditional domestic and foreign threats; the intersection of external influences on internal stability; and economic, cultural, societal and environmental threats. Additionally, Beijing has taken steps to define a concept for national security; improve the CCP's ability to develop and coordinate national security policy across party, military, and state organs; and raise domestic awareness of national security concerns. These efforts seek to address longstanding concerns of China's leadership that the country's legacy system of stove-piped party-state organizations was ill equipped to meet the growing national security challenges that the PRC faces.

National Security Concept: The CCP's "Overall National Security Concept" (总体国家安全观) provides the framework for the PRC's national security system, the mission of the Central National Security Commission (CNSC), and the basis of the PRC's national security strategy. First proposed by General Secretary Xi Jinping in 2014. According to the Party, the premise of the concept is that "The people's security is the purpose of national security, political security is the root of national security, and priority in national interests is the norm of national security." China's leaders consider people's security, political security, and national interests as mutually reinforcing aspects of national security. Party outlets describe people's security as the purpose because national security fundamentally must serve the PRC people and the PRC nation. Similarly, the Party's view of political security as the foundation of national security is described in terms of the maintenance and "ruling status" of the Party and the system of "Socialism with Chinese Characteristics." This reflects the Party's certainty that its leadership and systems are indispensable to the PRC's national rejuvenation. Party leaders assess the supremacy of national interests as the criterion or standard by which the Party expects its stewardship of the PRC's national security will be judged: its ability to "resolutely safeguard" the PRC's sovereignty, security, and development interests. The PRC's

concept also views development and security as mutually supporting aspects of national security in which "Security guarantees development, and development is the goal of security."

Central National Security Commission (CNSC): To improve coordination on national security matters, the CCP created the Central National Security Commission (CNSC) in 2013. The CNSC advises the Politburo, oversees the coordination of national security issues across the government, and manages crises, according to academics. Embracing the Party's expansive concept of national security, the CNSC's purview covers internal and external national security matters. The CNSC's mission, codification in law, sprawling definition of national security, and powerful leadership suggest the CNSC may continue to grow as an important party-state organ by the end of Xi's second term in 2022.

Membership. The PRC's top three leaders lead the CNSC: Xi who serves as the CNSC Chairman; Li Keqiang (Premier of the State Council); and probably Li Zhanshu (Chairman of the Standing Committee of the National People's Congress). CNSC membership may include Politburo members, senior government leaders, and senior PLA leaders (including the two Vice Chairman of the CMC). The CNSC General Office is responsible for the commission's daily work and is run by senior CCP officials serving in dual-hatted roles in other positions. The current Director of the CNSC General Office is likely Ding Xuexiang, a longtime political aide to Xi. Ding also serves as the Director of the General Office of the Central Committee and is a member of the Politburo. Since May 2018, Chen Wenqing has served as Deputy Director of the CNSC. Chen is also the Minister of State Security.

National Security Strategy. By 2015, the CCP adopted the PRC's first national security strategy outline following the CNSC's establishment. Official media noted the strategy intends to unify efforts by various departments under the central leadership's guidance. Over the years, the PRC's leaders and media have indicated various national security sub-strategies that cover a variety of issues including political security, homeland security, military security, economic security, cultural security, societal security, technology security, network security, nuclear safety, ecological security, resource security, and biosecurity.

National Security Law. With the establishment of the CNSC and the Party's adoption of the national security strategy, in 2015 the National People's Congress (NPC) passed the *National Security Law*. This law encapsulated the Party's overall national security concept and swept a broad range of issues beneath a new legal framework of "national security," while strengthening the formal role of central authorities. In recent years, the NPC has also passed a series of laws intended to address more specific national security concerns including counterespionage (2014), counterterrorism (2015), cybersecurity (2016), foreign non-governmental organizations in China (2016), intelligence (2017), and cryptography (2019). While these laws address more specific national security concerns, they remain sweeping in scope and authorities.

In an effort to raise public awareness of the Party's national security concepts and emphasize national security as a civic responsibility, the 2015 *National Security Law* designated April 15 of each year as National Security Education Day. Indicating the reach and depth the Party desires its national security concepts to penetrate into the party-state, the 2015 *National Security Law* also made provincial, autonomous regions and municipalities responsible for national security work within their administrative areas. This has led to the creation of national security committees in the Party's provincial-level organizations, each headed by the province's party chief.

FOREIGN POLICY

Key Takeaways

- The PRC's foreign policy seeks to build a "community of common destiny" that supports its strategy to realize "the great rejuvenation of the Chinese nation." Beijing's revisionist ambition for the international order derives from the objectives of its national strategy and the Party's political and governing systems.
- In 2019, the PRC recognized that its armed forces should take a more active role in advancing its foreign policy, highlighting the increasingly global character that Beijing ascribes to its military power.
- In 2020, the COVID-19 pandemic was a driving force behind the PRC's foreign policy efforts, as Beijing sought to deflect any culpability for the virus and its initial spread, and to capitalize on its narrative of domestic success and foreign assistance.

The PRC's diplomatic activities continued seeking to carve a more prominent role for Beijing in international affairs. China has embraced a new diplomatic framework that it terms "Major Power Diplomacy with Chinese Characteristics," which is guided by the foreign policy direction determined by the CCP Central Committee and set forth in General Secretary Xi Jinping's report at the 19th Party Congress. This framework seeks to advance the PRC's strategy of national rejuvenation by achieving the CCP's two centenary goals, improving the coordination of China's major domestic and international policies, reforming aspects of the international order, adhering to the CCP Central Committee's direction, and defending the PRC's major interests.

The CCP's theory of "Socialism with Chinese Characteristics" underpins the conduct of the PRC's foreign affairs. Since President Xi Jinping assumed power at the 18th Party Congress in 2012, the CCP Central Committee has placed greater emphasis on the PRC's foreign policy advancing "the cause of Socialism with Chinese Characteristics." Yang Jiechi, a top Party official for the PRC's foreign policy, has claimed that adherence to Socialism with Chinese Characteristics is "showing extremely bright prospects" and "reached a new historical starting point." Importantly, the CCP's theory shapes the particular contexts and caveats that the PRC applies to its diplomatic concepts and principles.

According to Party officials, the overall goal of the PRC's foreign policy is to build a "community of common destiny" that seeks to shift the international system towards an architecture based on the CCP's principles for how nations should interact. This goal is essential to how the PRC's foreign policy supports its broader strategy to achieve national rejuvenation. From Beijing's perspective, establishing this "community" is necessary to set the external security and economic conditions for the PRCs national rejuvenation by "safeguarding world peace" and "promoting common development" according to the Party's principles. The PRC recognizes it cannot achieve its goals in isolation and seeks "all

countries" to adopt its diplomatic framework in order to "build a community with a shared future for mankind" and "actively control the new direction of China and the world." Lastly, PRC officials acknowledge that aspects of the international order are inconsistent with its objectives. The PRC's diplomatic framework seeks to remedy this by promoting changes in a more "just and reasonable direction."

The PRC's revisionist ambition to the international order derives from the objectives of its national strategy and the Party's political and governing systems. The PRC does not frame its revisionist efforts as simply opportunistic challenges to the status quo or a significant deviation from the past. Rather, Beijing is acting upon its longstanding desire to redesign the architecture of the international order to support the PRC's national rejuvenation, efforts that are married with growing resources and opportunities to do so. The PRC's foreign policy seeks to revise aspects of the international order on the Party's terms and in accordance with ideas and principles it views as essential to forging an external environment supportive of the PRC's national rejuvenation.

The PRC's foreign policy framework includes efforts to promote and accelerate the transformation in the distribution of power, revise the principles of interstate relations, and reform global governance structures. Within the context of "Major Power Diplomacy with Chinese Characteristics," PRC officials have described how the PRC differentiates its goals and relations according to the power relationships among four categories of actors: major powers, peripheral nations, developing nations, and international organizations. Among the major powers, Beijing contends that a new framework for relations is necessary to construct a "stable and balanced development" between the powers—in essence a multipolar system. Yang Jiechi contends that, due to the COVID-19 pandemic, major power relations are undergoing a "first round of interactive adjustment." With peripheral nations, the PRC seeks to strengthen its relationships to create a more favorable environment along its maritime and land borders in accordance with Beijing's view of justice and interests. For developing countries, the PRC emphasizes solidarity and cooperation as well as "actively" carrying out multilateral diplomatic work, to include continued "high-quality development" under its One Belt, One Road (OBOR) initiative. This likely refers to the importance that the PRC places on attaining support from developing countries within international organizations.

Another tenet of "Major Power Diplomacy with Chinese Characteristics" is Beijing's ambition to construct "new types" of "omnidirectional" relations and bilateral partnerships among states. The PRC desires for its concepts of mutual respect, cooperation and mutual benefit to provide the basis for these "new types" of relations. Yang Jiechi describes China's "new type" relationships as strategic partnerships that follow a new path of "major power relations." Although distinct from alliance relationships, the PRC's notion of strategic partnerships is indicative of a relationship that meets Beijing's criteria and is worthy of a higher level of bilateral cooperation. To improve its diplomatic support further, the PRC also seeks to create what it calls a "comprehensive global partnership network" of its strategic

partners in order to form a global "circle of friends." Despite its encompassing rhetoric, the PRC uses nomenclature to implicitly rank its level of "partnership." Under this framework, the PRC ranks Pakistan as its only "all-weather strategic partner," Russia as its only "comprehensive strategic partner with coordination relations," and other countries such as Brazil and various states in South and Southeast Asia holding "all-round strategic partnership relations."

The PRC also promotes reforms to the "global governance system" as part of its diplomatic framework in order to reflect the "profound evolution" of the international order. According to Yang Jiechi, "the global governance system is at an important stage of profound evolution, and global governance has increasingly become the frontier and key issue of China's foreign work." To "seize opportunities" for reform, the PRC actively participates in the construction of a new, balanced global governance system based upon the Party's principles. This may be achieved through the creation of new multinational organizations and forums to uphold the authority of the CCP and the PRC's national sovereignty, security, and development interests. Yang also asserted that all nations are considering the state of international affairs following the pandemic, and that as a result, "changes in the international order are accelerating." For example, the PRC promotes OBOR as an "important practical platform for the concept of the community of common destiny." OBOR also serves to strengthen Beijing's strategic partnerships, enlarge its network of strategic partners, and advance reforms to the international order to support the PRC's strategy.

Throughout 2020, the COVID-19 pandemic was a driving force behind the PRC's foreign policy efforts. Beijing seized the opportunity to use COVID-19 as a propaganda tool against the West, sought to deflect any culpability for the global pandemic, and attempted to capitalize on its domestic success in containing the virus and providing foreign assistance. Yang Jiechi stated that the PRC "took the lead in controlling the pandemic, [has] shown initiative in returning to work and production, and expectations of and reliance on China [have] increased." PRC officials also asserted the superiority of the PRC's political model in enabling its success against the virus, despite the notable performance of Asian democracies, particularly, Taiwan.

- On June 7, 2020, the PRC's State Council Information Office issued a white paper entitled *Fighting COVID-19: China in Action* to demonstrate China's "resolute battle" succeeded in "cutting all channels for the transmission of the virus." The white paper also aimed to rebut "attempts to smear China's viral battle." However, the white paper lacks substantive information on the government's responses during the first critical weeks following the initial confirmed cases. A broad-based worldwide public opinion survey project indicated most people believe the PRC failed to be transparent about the virus at the outset of the pandemic.

- PRC state media and PRC officials also engaged in an effort to push disinformation on the origins of COVID-19, denigrate democratic countries' responses to COVID, and at times displayed a hardened political response to criticism.

In addition to the narrative of domestic success, Beijing has also worked to establish a reputation as a key supporter of nations around the world fighting the pandemic. PRC leaders cited the need to promote its "community of common destiny" to strengthen international disease prevention and response efforts. For example, the subject of the COVID-19 white paper's final chapter was "Building a Global Community of Health for All." The PRC provided COVID-19 aid, such as personal protective equipment (PPE) and medical teams, to countries around the world, in some cases using military transport assets and personnel. The PRC leveraged its COVID-19 aid and vaccinations, either purchased or as a donation, for strategic political purposes. Beijing also refreshed its "Health Silk Road" concept to characterize the PRC's global anti-COVID efforts, particularly for countries that are already OBOR participants. Further, President Xi has repeatedly pledged to make Chinese COVID-19 vaccines "a global public good," however the lack of sufficient data and transparency raised questions concerning the effectiveness of the PRC's vaccines amidst reports of low protection rates, later confirmed by the Director of the PRC Center for Disease Control in April 2021.

In 2020, the PRC's COVID-19 related aid was criticized for including political conditions. Reported issues include the PRC providing poor quality or defective PPE and test kits, disputes over whether the PRC's assistance was donated or purchased by recipient countries, and Beijing's demands to aid recipients to make public expressions of gratitude. Aid recipients and outside observers noted that Beijing often linked provision of assistance and promises of vaccine doses to specific PRC policy objectives, such as exclusion of Taiwan from the World Health Assembly and other international organizations or participation in OBOR. Though unsuccessful, in the case of Paraguay's need for vaccines, the PRC sought to extract concessions regarding Paraguay's diplomatic relations with Taiwan in exchange for aid in early 2021.

In 2020, PRC diplomats expanded use of a more aggressive and confrontational approach to pursuing PRC aims and responding to criticism, often called "Wolf Warrior" diplomacy. PRC diplomats frequently engaged in "Wolf Warrior" diplomacy with foreign audiences through traditional mediums and social media platforms—many of which are banned in the PRC.

- Following a ministerial-level Five Eyes joint statement criticizing Beijing's expulsion of pro-democracy legislators in Hong Kong's Legislative Council, an MFA spokesman rebuked the group, warning that countries interfering in China's affairs "… should be careful or their eyes will be plucked out … no matter if they have five eyes or ten eyes …"

- In November 2020, an MFA spokesman posted on social media a doctored image falsely depicting a smiling Australian soldier covering a young Afghan goatherd's face with an Australian flag while slitting the child's throat; Beijing refused to either remove the offensive post or apologize for it.

Despite criticism of this shift in tone—some coming from the PRC's domestic academic and media communities—this style of diplomatic interaction has appeared to increase throughout 2020. An MFA vice minister has complained that the very use of the term "Wolf Warrior" is a "discourse trap" designed to prevent China from fighting back, and asserted that the aggressive diplomacy is not creating enemies. At the same time, the most followed PRC diplomatic social media accounts are often the most antagonistic.

In 2020, the PRC's leaders continued to push diplomatic efforts to strengthen the PRC's economic connectivity across the Indo-Pacific region, particularly as China's economy recovered from the worst effects of the COVID-19 pandemic. As a result of the PRC's efforts, numerous countries and international organizations have agreed to expand their OBOR-related cooperation, despite increasing concerns regarding indebtedness, corruption, sustainability, and transparency. Similarly, the Asian Infrastructure Investment Bank (AIIB), a multilateral development bank whose establishment President Xi spearheaded, increased its membership to 100 countries globally. On November 15, 2020, the PRC and 14 other regional states, including several U.S. allies and partners, signed the Regional Comprehensive Economic Partnership (RCEP), a significant trade agreement designed to open up trade in goods, services, and investments among its members. The PRC will likely wield significant influence within the RCEP pact given the PRC's economic weight and India's withdrawal from RCEP negotiations in late 2019.

While the PRC's military diplomacy was greatly reduced in 2020 due to the pandemic, the PLA maintains close contact with the military leadership of neighboring countries and typically engages in more than 40 reciprocal military visits at and above the service commander-level every year. The PRC has set up defense and security consultations as well as working meeting mechanisms with 17 neighboring countries to keep exchange channels open. Similarly, the PRC seeks to develop its military relationships in Europe and strengthen military exchanges with countries in Africa, Latin America, the Caribbean, and the South Pacific.

The PRC's willingness to engage in military diplomacy with other countries can vary considerably based on its perception of a country's adherence to Beijing's diplomatic framework. The PRC has demonstrated a willingness to engage in higher levels of military cooperation with countries that it has established a strategic partnership with in accordance with the PRC's proprietary criteria. For example, the PRC's "comprehensive strategic partnership of coordination" with Russia entails a relatively high degree of military cooperation. Sino-Russian military cooperation occurs in practical forms through exchanges of training, equipment, technology, high-level visits, and other coordination mechanisms. For

other strategic partnership countries, the PRC seeks to leverage those relationships to reinforce the PRC's systemic preferences and maintain stability in Beijing's favor. For countries with whom the PRC has not established strategic partnerships, such as the United States, the PRC shapes its military cooperation along more minimalist principles of conflict avoidance that emphasize "non-conflict" and "mutual respect." From Beijing's perspective, these curtailed relationships at least serve its foreign policy objective by ensuring stable relations with major powers.

CHINA'S TERRITORIAL DISPUTES IN CONTEXT

The PRC's use of force in territorial disputes has varied widely since 1949. Some disputes led to war, as in border conflicts with India in 1962 and Vietnam in 1979. The PRC's contested border with the Soviet Union during the 1960s raised the possibility of nuclear war. In recent cases involving land border disputes, the PRC has sometimes been willing to compromise with and even offer concessions to its neighbors. Since 1998, the PRC has settled 11 land-based territorial disputes with six of its neighbors. In recent years, Beijing has employed a more coercive approach to deal with several disputes over maritime features and ownership of potentially rich offshore oil and gas deposits.

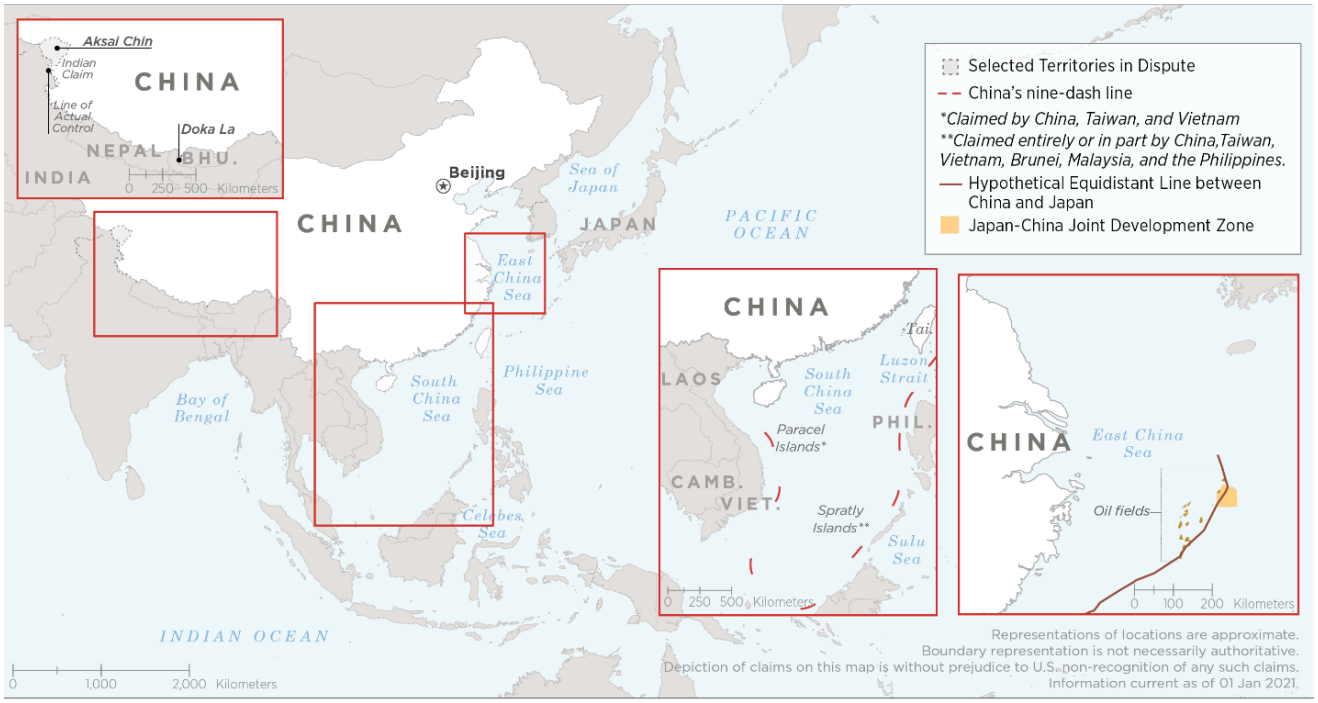
The PRC and Japan have overlapping claims to both the continental shelves and the exclusive economic zones (EEZs) in the ***East China Sea***. The East China Sea contains natural gas and oil, though hydrocarbon reserves are difficult to estimate. Japan maintains that an equidistant line from each country involved should separate the EEZs, while the PRC claims an extended continental shelf beyond the equidistant line to the Okinawa Trench. Beijing continues to assert sovereignty over the Japan-administered Senkaku Islands and reiterate the importance of abiding by the four-point consensus signed in 2014, which states both sides will acknowledge divergent positions over the East China Sea dispute but will prevent escalation through dialogue, consultation, and crisis management mechanisms. Japan expressed serious concern over the PRC's Coast Guard Law due to its vague language on use of force and jurisdiction. Japan remains concerned with the persistent presence of PRC coast guard ships and fishing vessels in disputed East China Sea waters and rejects the PRC's claim of sovereignty.

The ***South China Sea*** plays an important role in security considerations across East Asia. The PRC claims sovereignty over the Spratly and Paracel Islands and other land features within its ambiguous self-proclaimed "nine-dash line" – claims disputed in whole or part by Brunei, the Philippines, Malaysia, and Vietnam. Taiwan, which occupies Itu Aba Island in the Spratly Islands, makes the same territorial assertions as the PRC. Attempting to further assert its sovereignty claims, in April 2020, the PRC created two new administrative districts to cover the Paracels and Spratlys and named 80 geographical features it claims in the region. The PRC continued to employ the PLA Navy, China Coast Guard, and maritime militia to patrol the region and continued harassment of oil and gas exploration operations by rival claimants

throughout 2020. In response to the PRC's continued assertive actions and belligerence against foreign fishing vessels, Indonesia, Malaysia, the Philippines and Vietnam publicly rejected Beijing's nine-dash line claims and invoked international law in support of their maritime sovereign rights.

Tensions with ***India*** along the Line of Actual Control (LAC) sparked an ongoing standoff between PRC and Indian troops in mid-May 2020, which lasted through the winter. The standoff escalated on June 15 2020 after a skirmish ensued in the Galwan Valley between Indian Army and PLA troops that resulted in casualties on both sides, which led to the deaths of 20 Indian soldiers. In February 2021, the PRC asserted through its state-owned outlets that four PLA soldiers had also died during the June 2020 skirmish. Despite agreements to disengage in the spring of 2021, both sides maintain troops along the LAC as Corps Commander-level negotiations progress slowly.

Selected Territorial Claims



ECONOMIC POLICY

Key Takeaways

- The PRC's military modernization objectives are commensurate with, and part of, Beijing's broader national development aspirations. The PRC's economic, technological, political, social, and security development efforts are mutually

reinforcing and support Beijing's strategy to shape international and regional environments that accept and facilitate Beijing's interests.

- The PRC's economic development supports its military modernization not only by providing the means for larger defense budgets, but through deliberate Party-led initiatives such as Made in China 2025 and China Standards 2035, as well as the systemic benefits of the PRC's growing national industrial and technological base.
- In the rollout of the PRC's 14th Five Year Plan (2021-2025), the Party announced a shift to a new "development pattern" of "dual circulation (双循环)." Dual circulation is focused on accelerating domestic consumption as a driver of economic growth, shifting to higher-end manufacturing, and creating "breakthroughs" in key technologies along critical high-end global supply chains, all while emphasizing "mutually reinforcing" foreign investment in these key technologies to provide the capital and technology necessary to advance domestic technological innovation in support of the PRC's security and development objectives.

The PRC's military modernization objectives are commensurate with and part of the PRC's broader national development aspirations and work in coordination with Beijing's economic policies and systems. Beijing gives priority to the PRC's economic development as the "central task" and frames its economic system as the means of advancing the nation's overall political and social modernity. In particular, the PRC's economic statecraft focuses intensely on advancing what the Party calls the country's "productive forces" (e.g., industry, technology, infrastructure, and human capital) which it views as the means to achieve the country's political and social modernity—including building a "world-class" military. The PRC's relentless efforts to grow and mature China's national industrial and technological base has significant implications for the PRC's military modernization, as well as for the PRC's global economic partners.

PRC leadership has cast the PRC's partial adoption of market features–implemented as part of its "reform and opening up" that began in the late 1970s, and subsequently led to an economic transformation–as evidence that their strategy to modernize the PRC has been succeeding, rather than viewing the market feature adoption as a repudiation of the Party's fundamental economic ideals. PRC leaders since Deng Xiaoping have consistently rationalized the PRC's market-oriented economic reforms as a necessary regression from socialism needed to account for China's historical circumstances, which left it significantly underdeveloped. According to the Party, contemporary China remains at the beginning stage or the "primary stage of socialism," with a long process of socialist modernization ahead.

Basic Economic System. The Party conceives of China's economy as constituting the "basic economic system" in which public ownership is dominant and state, collective, and private forms of ownership develop side by side. The basic economic system comprises the PRC's public ownership economy and the multi-ownership economy.

Economic Development Goals. Despite slowing economic growth in recent years and during the COVID-19 outbreak, the PRC will continue to pursue the economic policy objectives determined by the CCP Central Committee and set forth in the recently released 14th Five-Year Plan. According to Xi's 19th Party Congress report, the PRC's economic goals are: (1) furthering supply-side structural reform; (2) making China a country of innovators; (3) pursuing a rural vitalization strategy; (4) implementing the coordinated regional development strategy; (4) accelerating efforts to improve the socialist market economy; and, (5) making new ground in pursuing opening up on all fronts. The CCP sets more specific development goals in its Five-Year Plans (FYPs). The priorities and goals in the FYPs not only apply to the government and the public ownership economy, but also serve as implicit guidance from the Party to the multi-ownership economy.

Economic Conditions. Even before COVID-19, China's economic growth had slowed because of decreases in state-led infrastructure investment and urbanization, as well as China's decision since 2016 to increase oversight on the financial sector and risky lending. The PRC's efforts in early 2020 to contain the COVID-19 outbreak with government lockdowns and strict control measures exacerbated this slowdown in its economy. In March 2021, the PRC announced an annual growth target of six percent, but economic forecasters project 2021 growth of about nine percent.

Economic Policies & Practices. The PRC has ensured greater state control over the development of its economy by selectively introducing market economy features within the "basic economic system," while avoiding a full transition to free and open markets. This has allowed the PRC to maintain laws, regulations, and policies that generally disadvantage foreign firms vis-à-vis their PRC counterparts in terms of tradable goods, services sectors, market access, and foreign direct investment. Examples of the PRC's unfair economic policies and trade practices include its support to domestic industries at the expense of foreign counterparts, commercial joint venture requirements, technology transfer requirements, subsidies to lower the cost of inputs, sustaining excess capacity in multiple industries, sector-specific limits on foreign direct investment, foreign ownership caps, data localization requirements, discriminatory cybersecurity and data transfer rules, insufficient intellectual property rights enforcement, inadequate transparency, and lack of market access—particularly in the information and communications technology (ICT), agriculture, and service sectors.

In March 2018, an investigation by the Office of the U.S. Trade Representative (USTR) under Section 301 of the Trade Act of 1974 determined that the acts, policies, and practices of the PRC government related to technology transfer, intellectual property, and innovation were unreasonable or discriminatory and burden or restrict U.S. commerce, resulting in harm to the U.S. economy of at least $50 billion per year. Additionally, the USTR's annual Special 301 Report, which identifies trading partners that do not adequately or effectively protect and enforce intellectual property rights and the findings of its Review of Notorious Markets for

Counterfeiting and Piracy, has repeatedly identified China as a country that has serious intellectual property rights deficiencies. These reports have repeatedly identified the PRC as the world's leading source of counterfeit and pirated goods. The USTR's 2020 Special 301 Report states: "China's placement on the Priority Watch List reflects U.S. concerns with China's system of pressuring and coercing technology transfer, and the continued need for fundamental structural changes to strengthen intellectual property protection and enforcement, including to trade secret theft, obstacles to protecting trademarks, online piracy and counterfeiting, the high-volume manufacturing and export of counterfeit goods, and impediments to pharmaceutical innovation."

Apart from the Section 301 investigation, the United States has placed sanctions on specific Chinese firms for violating U.S. sanctions against other states, stealing U.S. intellectual property, having ties to the PLA in dual-use sectors, and providing surveillance technology to PRC authorities engaged in widespread suppression of ethnic and religious minorities in Xinjiang. In 2019, the Chinese telecommunications firm Huawei came under greater scrutiny due to its close links with the PRC government, involvement in intellectual property theft, and its evasion of sanctions on Iran.

A substantial portion of China's economic output results from government and policy-directed investments rather than market-based forces. While the PRC pursues state-directed investment overseas and encourages mergers and acquisitions, direct state-led investments abroad have fallen sharply since 2017 in response to changing global market conditions and a desire for the PRC to reduce overseas market risk and exposure. Along with heavy investments in infrastructure and commodities to support its strategic firms, increase economic engagement, and improve economic security, the PRC is investing in technologies that will be foundational for future innovations with both commercial and military applications. For example, PRC planners have prioritized indigenization of key technologies such as chip manufacturing, which form the basis of advanced manufacturing.

The PRC appropriates foreign technology through foreign direct investment, overseas acquisitions, legal technology imports, the establishment of foreign research and development (R&D) centers, joint ventures, research and academic partnerships, talent recruitment, and industrial and cyber espionage and theft.

Recent legal proceedings highlight numerous cases of the PRC's efforts to obtain technology and knowledge through theft of trade secrets and economic espionage. In November 2019, a U.S. Federal grand jury indicted a PRC national who had worked as an imaging scientist on charges related to economic espionage and stealing trade secrets for the PRC. Federal officials stopped him from boarding a flight on a one-way trip to China in 2017 with a proprietary algorithm. In December 2018, the U.S. Department of Justice indicted two PRC nationals associated with a hacking group operating in the PRC, known as Advanced Persistent Threat 10 (APT10), for conspiracy to commit computer intrusions, conspiracy to commit wire fraud, and aggravated identity theft. They worked for a PRC company in association with the PRC

Ministry of State Security (MSS) to conduct computer intrusions, resulting in the theft of hundreds of gigabytes of sensitive data involving aviation, space, and satellite technology, manufacturing technology, pharmaceutical technology, oil and gas exploration and production technology, communications technology, computer processor technology, and maritime technology.

The PRC's recent economic policies have promoted innovation focused on strengthening domestic industry, while placing additional restrictions on foreign firms. Foreign firms continue to face significant legal and regulatory restrictions on market access due to the PRC's management of inbound investment. The Fifth Plenary of the 19th Central Committee of the CCP articulated the acceleration of "a new development pattern with domestic circulation as the main entity and domestic and international dual circulation." The new development pattern of "dual circulation" is focused on accelerating domestic consumption as a driver of economic growth, shifting to higher-end manufacturing, and creating "breakthroughs" in key technologies along critical high-end global supply chains, all while emphasizing "mutually reinforcing" foreign investment in these key technologies. On January 2021, General Secretary Xi Jinping delivered a speech at a seminar on the study and implementation of the Fifth Plenary Session where he described the new development pattern as an enhancement of the PRC's "survivability, competitiveness, development capacity, and sustainability." Recognizing that some of its initiatives such as "Made in China 2025" and OBOR have sparked concerns about the PRC's intentions, China's leaders have adopted less inflammatory rhetoric when promoting these initiatives without altering their fundamental strategic goals.

Made in China 2025: First announced by the PRC in May 2015, the "Made in China 2025" plan seeks to increase the PRC's domestic innovation by setting higher targets for domestic manufacturing in strategic industries such as robotics, power equipment, and next-generation information technology by 2020 and 2025. This plan seeks to strengthen the PRC's domestic enterprises through awarding subsidies and other incentives while increasing pressure on foreign firms to transfer technology in exchange for access to the PRC market. "Made in China 2025" came under criticism from advanced countries for unfairly favoring China's domestic enterprises at the expense of foreign participants in China's markets. Increasingly aware and sensitive to these concerns, by June 2018, the PRC began avoiding references to "Made in China 2025" in major policy papers. The PRC government ordered its media outlets to downplay use of the term in June 2018. Key events that PRC leaders use to set strategic directives have also avoided references to "Made in China," including the 2019 Central Economic Work Conference and the NPC. Despite the adjustments in its narrative, the PRC has largely continued implementing the policies behind "Made in China 2025."

One Belt, One Road (OBOR): Launched by the PRC in 2013, OBOR seeks to foster closer economic integration with countries along China's periphery and beyond thereby shaping these countries' interests to align with the PRC's, while promoting regional

stability and dulling criticism over the PRC's approach to issues it views as sensitive. OBOR also helps PRC state-owned enterprises (SOEs) find productive uses for their excess capacity in the cement, steel and construction sectors, as well as creating investment opportunities for the PRC's large reserve of savings. Countries participating in OBOR could develop economic dependence on PRC capital and be subject to predatory lending, which the PRC could leverage to pursue its geopolitical interests.

The growth of the PRC's global economic footprint also makes its interests increasingly vulnerable to domestic political transitions in participating countries, international and regional turmoil, terrorism, piracy, and serious natural disasters and epidemics, which places new requirements on the PRC to address these threats. Some OBOR projects could create potential military advantages for the PRC, such as PLA access to selected foreign ports to pre-position the necessary logistics support to sustain naval deployments in waters as distant as the Indian Ocean, Mediterranean Sea, and Atlantic Ocean to protect its growing interests. In 2019, Beijing hosted the Second Belt and Road Forum, during which the PRC sought to address growing international skepticism stemming from concerns over corruption, indebtedness, environmental sustainability, and lack of transparency surrounding OBOR projects. Although OBOR was formally adopted into the CCP constitution in 2017 as the PRC's signature foreign policy initiative, OBOR lending has slowed down significantly since its estimated peak in 2016-2017, in part due to the PRC's gradual shift away from hard-infrastructure loans toward technology-focused investments.

Digital Silk Road: The PRC's Digital Silk Road initiative, announced in 2015 as a digital subset of OBOR, seeks to build a PRC-centric digital infrastructure, export industrial overcapacity, facilitate expansion of the PRC's technology corporations, and access large repositories of data. The PRC also hopes the Digital Silk Road will increase international e-commerce by reducing cross-border trade barriers and establishing regional logistics centers by promoting e-commerce through digital free trade zones. The PRC is investing in digital infrastructure abroad, including next-generation cellular networks—such as fifth-generation (5G) networks—fiber optic cables, undersea cables, and data centers. The initiative also includes developing advanced technologies including satellite navigation systems, artificial intelligence (AI), and quantum computing for domestic use and export.

Belt and Road Initiative Space Information Corridor: The "Space Information Corridor" was announced in 2016 as a subset of OBOR. It contributes to the PRC's goal to "build China into a space power in all respects," and promotes its "strong and sustained economic and social development," according to a 2016 White Paper. Perhaps the most important element of the "Space Information Corridor" is the PRC's *Beidou* satellite navigation system, which is paired with infrastructure around the globe and along OBOR. Other systems, such as the *Fengyun* weather satellite constellation, and

terrestrial satellite control and data relay nodes also comprise key elements of the "Space Information Corridor."

Legal Framework. The PRC in recent years has implemented new laws that seek to place further restrictions on foreign firms while creating or strengthening the legal framework for the Party's national security concepts and in some cases furthering its Military-Civil Fusion (MCF) Development Strategy (discussed in the next section):

National Defense Law: Adopted in March 1997, the law provides legal justification to mobilize the military and civilian resources in defense of a broad range of national interests.

National Security Law: Adopted in July 2015, the law limits foreign access to the information and communications technology (ICT) market in the PRC on national security grounds.

Counterterrorism Law: Adopted in December 2015, among its provisions, the law requires telecommunications operators and Internet service providers to provide information, decryption, and other technical support to public and state security organizations conducting prevention and investigation of terrorist activities.

Cyber Security Law: The law, which went into effect in June 2017, promotes development of indigenous technologies and restricts sales of foreign ICT in the PRC. The law also requires that foreign companies submit ICT for government-administered national security reviews, store data in the PRC, and seek government approval before transferring data outside of the PRC.

Intelligence Law: Passed in June 2017, the law allows authorities to monitor and investigate foreign and domestic individuals and organizations to protect national security. Specifically, it requires PRC entities and individuals to provide PRC intelligence and security services with on-demand access to data, communication devices, vehicles, buildings, and other infrastructure or information to support intelligence collection efforts.

Cryptography Law: Adopted in October 2019 and coming into effect in 2020, this law requires entities working on cryptography to have management systems in place to ensure sufficient security for their encryption. Although the law encourages development of commercial encryption technology, its use cannot harm national security or the public good. It provides for the State Cryptography Administration and its local agencies to have complete access to cryptography systems and the data protected by those systems.

In March 2019, the PRC's NPC passed a new *Foreign Investment Law* with the stated objective of improving the business environment for foreign investors and leveling the playing field between foreign businesses and Chinese private firms and SOEs. The law passed

in just three months, which reflects an unusually fast turnaround in China where the same level of legislation usually takes years. PRC officials indicated that swift passage of the law was to facilitate U.S.-PRC trade talks, and the law appears to respond to a number of issues raised by the U.S. Trade Representative's Section 301 report related to unfair PRC trade practices related to intellectual property, technology transfer, and innovation. Despite the law's stated objective, its wording is vague and the most substantial provisions are not new.

Economic Coercion. The PRC employs economic coercion to advance its objectives during periods of political tension with other countries, and to exert costs on governments, companies, and individuals that cross Beijing's political redlines. Both the threatened and actualized imposition of import bans, investment restrictions, product boycotts, and other costly measures have increased since 2018. In these cases, China seeks to leverage its economic influence to impose cost and alter the behavior of targeted actors, as well as discourage others from pursuing similar actions. For example, shortly after Australia called for an independent investigation into the origins of the COVID-19 pandemic in April, the PRC halted beef imports from Australian meat processing plants and imposed an 80.5 percent tariff on its barley exports, citing pretextual anti-dumping and regulatory concerns. In October, amidst a continued deterioration in relations, China imposed additional restrictions blocking most Australian coal imports.

The PRC is generally selective in the actors and economic activity that it targets, and attempts to minimize the risks to domestic stability or economic growth. Private companies were also subject to coercive activity that threatened their access to the Chinese market. After publishing a statement in September that expressed concern about forced labor in Xinjiang, Swedish clothing company H&M was harshly criticized by the Chinese commerce ministry spokesperson and several state media organizations, which contributed to a widespread boycott of its products within China.

While the PRC has recently escalated its use of economic coercion, it has deployed such trade-restrictive measures against more than a dozen countries over the last decade. In one of the first major instances of Beijing's economic coercion, the PRC banned Norwegian salmon imports in 2010 after Chinese human rights activist Liu Xiaobo was awarded the Nobel Peace Prize. In 2017, the PRC used economic and diplomatic pressure in an attempt to urge South Korea to reconsider its approval for the United States to deploy the Terminal High-Altitude Area Defense (THAAD) system within its territory. In 2016, after the Dalai Lama visited Mongolia, the PRC suspended talks on a major assistance loan, worsening Mongolia's fiscal challenges and driving it to seek a bailout from the International Monetary Fund. China also increased fees on imports of Mongolian mining products and temporarily closed an important border crossing.

MILITARY-CIVIL FUSION DEVELOPMENT STRATEGY

Key Takeaways

- The PRC pursues its Military-Civil Fusion (MCF; 军民融合) Development Strategy to fuse its economic, social, and security development strategies to build an integrated national strategic system and capabilities in support of the PRC's national rejuvenation goals.
- Beijing's MCF strategy includes objectives to develop and acquire advanced dual-use technology for military purposes and deepen reform of the national defense science and technology industries, and serves a broader purpose to strengthen all of the PRC's instruments of national power.
- The PRC's MCF development strategy encompasses six interrelated efforts: (1) fusing China's defense industrial base and its civilian technology and industrial base; (2) integrating and leveraging science and technology innovations across military and civilian sectors; (3) cultivating talent and blending military and civilian expertise and knowledge; (4) building military requirements into civilian infrastructure and leveraging civilian construction for military purposes; (5) leveraging civilian service and logistics capabilities for military purposes; and, (6) expanding and deepening China's national defense mobilization system to include all relevant aspects of its society and economy for use in competition and war.

The PRC pursues its Military-Civil Fusion (MCF) Development Strategy as a nationwide endeavor that seeks to meld its economic and social development strategies with its security strategies to build an integrated national strategic system and capabilities in support of China's national rejuvenation goals. The Party's leaders view MCF as a critical element of their strategy for the PRC to become a "great modern socialist country" which includes becoming a world leader in science and technology (S&T) and developing a "world-class" military.

Although the PRC's MCF strategy includes objectives to develop and acquire advanced dual-use technology for military purposes and deepen reform of the national defense S&T industries, its broader purpose is to strengthen all of the PRC's instruments of national power by melding aspects of its economic, military, and social governance. MCF strives to establish an infrastructure that connects the military and civilian sectors in a way that serves as a catalyst for innovation and economic development, yields an effective unity of effort in advancing dual-use technologies, especially those suited for "intelligentized" warfare, and facilitates effective industrial mobilization during wartime.

Development & Significance. The Party has explored the concept of leveraging or integrating the combined contributions of the military and civilian sectors since the PRC's founding. The current MCF concept initially took root in the early 2000s as the Party sought

methods to enhance the PRC's overall development. This led Party leaders to call for improving "military-civilian integration" that echoed the collaboration between the defense and civilian sectors that China observed in the United States and other developed countries. Implementation of these efforts stalled due to a lack of centralized government control and the organizational barriers that exist across the party-state. Coinciding with the 11th Five Year Plan (FYP) (2006-2010), the PRC began replacing "military-civilian integration" with "military-civilian fusion." In 2007, Party officials publicly noted the change from "integration" to "fusion" was not merely cosmetic, but broadened the scope to include all available economic resources in the promotion of the defense industry.

Since that time, MCF's ambitions have grown in scope and scale as the Party has come to view it as a means to bridge the PRC's economic and social development with its security development in support of the PRC's national strategy to renew China. As such, the Party has continued to elevate MCF's importance. In 2015, the CCP Central Committee elevated the MCF Development Strategy to a national-level strategy to serve as a bridge between the PRC's national development strategy and its national security strategy that seeks to build an "integrated national strategic system and capabilities," all of which support the PRC's goal of national rejuvenation. In 2020 during the 5th Plenum of the 19th CCP Central Committee, PRC leaders reiterated the high-level priority of MCF by calling for accelerated military modernization through integration of new technologies and operational concepts, increased science and technology research, improved MCF, and personnel reforms.

Management & Implementation. The overall management and implementation of the MCF Development Strategy involves the most powerful organs in the party-state: the Politburo, the State Council (notably the National Development and Reform Commission), and the CMC. In addition to signifying its importance, the CCP Central Committee's elevation of the MCF Development Strategy to a national-level strategy also intended to overcome obstacles to implementation across the party-state.

This elevation also led to the establishment of the Central Commission for Military Civilian Fusion Development (CCMCFD) in 2017, chaired by General Secretary Xi Jinping, Premier Li Keqiang, several other members of the Politburo Standing Committee, two State Councilors, both CMC Vice Chairmen, 12 Ministry-level leaders, and others. The stated objective of the CCMCFD is to build the PRC's "national strategic system and capabilities." This commission works to improve the "top-level design" of MCF and overcome impediments to implementation. The elevation of the MCF Development Strategy and the creation of the CCMCFD signals the importance that Party leaders place on MCF and the scope and scale of the strategy's ambitions.

The PRC pursues MCF through six interrelated efforts. Each effort overlaps with the others and has both domestic and international components. The Party seeks to implement the MCF Development Strategy across every level of the PRC from the highest national-level organs down to provinces and township, and creates top-down financing and regulatory mechanisms

that incentivize civilian and military stakeholders – such as local governments, academia, research institutions, private investors, and military organizations – to combine efforts on dual-use technologies. The PRC refers to these six aspects as "systems," which may also be understood as mutually supporting lines of effort or components. The six systems in the MCF Development Strategy are:

The Advanced Defense Science, Technology, and Industrial System. This system focuses on fusing the PRC's defense industrial base and its civilian technology and industrial base. This includes expanding the private sector's participation in the PRC's defense industrial base and supply chains as well as improving the efficiency, capacity, and flexibility of defense and civilian industrial and manufacturing processes. This broader participation seeks to transfer mature technologies both ways across military and civilian sectors, with the goal to produce outsized benefits for both sectors. This also aims to increase the competitiveness within the PRC's defense industrial base in which one or two defense SOEs dominate an entire sector. This MCF system also seeks to advance the PRC's self-reliance in manufacturing key industrial technologies, equipment, and materials to reduce its dependence on imports, including those with dual-uses. The PRC's MCF-influenced industrial and technology endeavors include *Made in China 2025* that sets targets for the PRC to achieve greater self-sufficiency in key industrial areas such as aerospace, communications, and transportation.

The Military-Civil Coordinated Technology Innovation System. This MCF system seeks to maximize the full benefits and potential of the country's S&T development. Consistent with the CCP leadership's view that high technology and innovation are critical to strengthening China's composite national power, this system develops and integrates advanced technologies across civilian and military entities, projects and initiatives—with benefits flowing in both directions. This includes using cutting-edge civilian technology for military applications or to more broadly advance military S&T as well as using military advancements to push civilian economic development. Although related to the Advanced Defense Science, Technology, and Industrial System, this system largely focuses on fusing innovation and advancements in basic and applied research. Specific efforts in this MCF system include strengthening and promoting civilian and military R&D in advanced dual-use technologies and cross-pollinating military and civilian basic research. Additional efforts include promoting the sharing of scientific resources, expanding the institutions involved in defense research, and fostering greater collaboration across defense and civilian research communities. This system also seeks to foster "new-type" research institutions with mixed funding sources and lean management structures that are more dynamic, efficient, and effective than the PRC's wholly state-owned research bodies. Examples of MCF-influenced dual-use S&T endeavors include the PRC's Innovation Driven Development Strategy and Artificial Intelligence National Project.

The Fundamental Domain Resource Sharing System. This system includes building military requirements into the construction of civilian infrastructure from the ground up as well as leveraging China's civilian construction and logistics capacities and capabilities for military purposes. This includes factoring military requirements and dual-use purposes into building civilian private and public transportation infrastructure such as airports, port facilities, railways, roads, and communications networks. This also extends to infrastructure projects in dual-use domains such as space and undersea as well as mobile communications networks and topographical and meteorological systems. Another element seeks to set common military and civilian standards to make infrastructure easier to use in emergencies and wartime. This aspect of MCF has arguably the greatest reach into the PRC's local governance systems as military requirements inform infrastructure construction at the province, county, and township levels. The influence of this aspect of MCF is visible in the PRC's major land reclamations and military construction activities in the South China Sea, which brought together numerous government entities, the PLA, law enforcement, construction companies, and commercial entities. It may also have important implications for the PRC's overseas infrastructure projects and investments under OBOR as the PRC seeks to establish a more robust overseas logistics and basing infrastructure to allow the PLA to project and sustain military power.

The Military Personnel (Talent) Cultivation System. This MCF system seeks to blend and cultivate military and civilian S&T expertise through education programs, personnel exchanges, and knowledge sharing. The purpose of this effort is to improve the utilization of experts able to participate in S&T projects irrespective of whether they are military or civilian (or even foreign) experts and allow expertise to flow more freely across sectors. This aspect of MCF also seeks to reform the PRC's talent cultivation system, which encompasses hundreds of talent recruitment plans, in order to improve China's human capital, build a highly skilled workforce, and recruit foreign experts to provide access to know-how, expertise, and foreign technology. It takes into account all levels of education from the Party's nationwide "patriotic education" programs for children to the matriculation of post-doctorate researchers within China and at institutions abroad. Many of the PRC's named talents programs are likely influenced by MCF planning, as are reforms in its military academies, national universities, and research institutes.

The Socialized Support and Sustainment System for the PLA. This system entails two major efforts that seeks to shift the PLA away from its inefficient self-contained logistics and sustainment systems and towards modern streamlined logistics and support services. First, it seeks to harness civilian public sector and private sector resources to improve the PLA's basic services and support functions—ranging from food, housing, and healthcare services. The concept is to gain efficiencies in costs and personnel by outsourcing non-military services previously performed by the PLA

while also improving the quality of life for military personnel. Second, it seeks to further the construction of a modern military logistics system that is able to support and sustain the PLA in joint operations and for overseas operations. This system seeks to fuse the PLA Joint Logistic Support Force's (JLSF) efforts to integrate the military's joint logistics functions with the PRC's advanced civilian logistics, infrastructure, and delivery service companies and networks. These arrangements seek to provide the PLA with modern transportation and distribution, warehousing, information sharing, and other types of support in peacetime and wartime. This fusion also seeks to provide the PLA with a logistics system that is more efficient, higher capacity, higher quality, and global in reach.

The National Defense Mobilization System. This MCF system binds the other systems as it seeks to mobilize the PRC's military, economic, and social resources to defend or advance China's sovereignty, security and development interests. The Party views China's growing strength as only useful to the extent that the party-state can mobilize it. China views mobilization as the ability to use precisely the instrument, capability, or resource needed, when needed, for the duration needed. Within the PLA, the reforms in 2015-16 elevated defense mobilization to a department called the National Defense Mobilization Department (NDMD), which reports directly to the Central Military Commission (CMC). The NDMD plays an important role in this system by organizing and overseeing the PLA's reserve forces, militia, and provincial military districts and below. This system also seeks to integrate the state emergency management system into the national defense mobilization system in order to achieve a coordinated military-civilian response during a crisis. Consistent with the Party's view of international competition, many MCF mobilization initiatives not only seek to reform how the PRC mobilizes for war and responds to emergencies, but how the economy and society can be leveraged to support the PRC's strategic needs for international competition.

MCF Linkages. Each MCF system entails linkages between dozens of organizations and government entities, including:

- *Ministry-level organizations from the State Council*: Examples include the National Development and Reform Commission; Ministry of Foreign Affairs; Ministry of Industry and Information Technology; Ministry of Education; and key state entities such as the State Administration of Science and Technology in National Defense and others.
- *Lead military organs subordinate to the Central Military Commission*: Examples include the CMC Strategic Planning Office; Joint Political, Logistics, and Equipment Development Departments; as well as operational units and the regional military structure at the Military District and Sub-District levels, military universities and academies such as National Defense

University, Academy of Military Science, National University of Defense Technology, and service institutions.

- *State-sponsored educational institutions, research centers, and key laboratories*: Prominent examples include the Harbin Institute of Technology; Nanjing University of Science and Technology; Northwestern Polytechnical Institute; Beijing Institute of Technology; Harbin Engineering University; Beihang University; and Nanjing University of Aeronautics and Astronautics (known as the "Seven Sons of National Defense"); as well as certain PLA-affiliated laboratories of Tsinghua University, Beijing University, and Shanghai Jiaotong University, North University of China, and others.
- *Defense industry*: The ten major defense SOEs continue to fill their traditional roles providing weapons and equipment to the military services. Many defense SOEs consist of dozens of subsidiaries, sub-contractors, and subordinate research institutes.
- *Other SOEs and quasi-private companies*: High profile examples include PRC high-tech corporations and prominent SOEs like COSCO, China National Offshore Oil Company, and major construction companies that have roles in OBOR projects as well as helping the PRC build out occupied terrain features in the South China Sea.
- *Private companies*: MCF efforts also seek to increase the proportion of private companies that contribute to military projects and procurements. These enterprises include technology companies that specialize in unmanned systems, robotics, artificial intelligence, cybersecurity, and big data.
- *Multi-Stakeholder Partnerships*: In practice, many MCF efforts involve partnerships between central, provincial, or city government entities with military district departments, PLA departments, academia, research entities, and companies. A majority of provincial and local governments have announced MCF industrial plans, and more than 35 national-level MCF industrial zones have been established across China. MCF-linked investment funds created by central and local governments and private investors total in the tens of billions of dollars.

DEFENSE POLICY & MILITARY STRATEGY

Key Takeaways

- The PRC has stated its defense policy aims to safeguard its sovereignty, security, and development interests. The PRC's military strategy remains based on the concept of "active defense."

- The PRC's leaders stress the imperative of strengthening the PLA into a "world-class" military by the end of 2049 as an essential element of its strategy to rejuvenate the PRC into a "great modern socialist country." In 2020, the PLA added a new milestone for modernization in 2027, to accelerate the integrated development of mechanization, informatization, and intelligentization of the PRC's armed forces, which if realized would provide Beijing with more credible military options in a Taiwan contingency.
- In November 2020, the CMC issued the "Chinese People's Liberation Army Joint Operations Outline (trial) (中国人民解放军联合作战纲要(试行)" described as the "top-level law" of the PLA's combat doctrine system in the "new era" that would strengthen the requirements and procedures for joint operations, combat support, national defense mobilization, and political work, among others.
- In 2020, the PLA remained primarily oriented toward "safeguarding" its perceived "sovereignty and security" interests in the region, while emphasizing a greater global role for itself, such as through delivering COVID-19 aid abroad and the pursuit of overseas military facilities, in accordance with the PRC's defense policy and military strategy.

The PRC has stated its defense policy aims to safeguard its national sovereignty, security, and development interests. China's leaders view these interests as foundational to their national strategy. In 2020, the PRC's defense policy and military strategy primarily oriented the PLA towards "safeguarding" its perceived "sovereignty and security" interests in the region counter the United States. At the same time, China's leaders increasingly cast the armed forces as a practical instrument to defend Beijing's expanding global interests and to advance its foreign policy goals within the framework of "Major Power Diplomacy with Chinese Characteristics." The PRC's military strategy is based on "active defense," a concept that adopts the principles of strategic defense in combination with offensive action at the operational and tactical levels. To adapt the PRC's armed forces to long-term trends in global military affairs and meet the country's evolving national security needs, China's leaders stress the imperative of meeting key military transformation targets set in 2020 and 2035. These milestones seek to align the PLA's transformation with the PRC's overall national modernization so that by the end of 2049, the PRC will field a "world-class" military. Throughout 2020, the PLA continued to pursue these ambitious modernization efforts, probably completing or finalizing most reforms announced in 2015.

Strategic Assessment. A key driver of the PRC's defense policy is how China's leaders perceive the relative threats and opportunities facing the country's comprehensive development. In 2019, the PRC published a new defense white paper, *China's National Defense in the New Era*, which outlined the PRC's views of the international and "Asia-Pacific" security landscape and offered insights into its defense policy and military strategy. According to the paper, Beijing views the international environment as undergoing "profound changes unseen in a century." The PRC presents the assessment that, "… the configuration of

strategic power is becoming more balanced. The pursuit of peace, stability and development has become a universal aspiration of the international community with forces for peace predominating over elements of war."

The PRC also concludes that "international strategic competition is on the rise" and expresses deep concerns at what it sees as growing sources of instability in the near-term. Offering no introspection on Beijing's own role in stirring geopolitical tensions through its economic practices, military activities and modernization, excessive maritime territorial claims, "wolf warrior" diplomacy, or efforts to revise aspects of global governance, the PRC describes the international system as being "…undermined by growing hegemonism, power politics, unilateralism and constant regional conflicts and wars." Similarly, the PRC contends that global military competition is intensifying and that "major countries" are adjusting their security and military strategies, reorganizing their militaries, and are developing new types of combat forces to "seize the strategic commanding heights in military competition."

Defense Policy. The PRC's stated defense policy is to "resolutely safeguard" its sovereignty, security, and development interests, according to its 2019 defense white paper—offering continuity with past statements by PRC senior leaders and other official documents. In practice, the PRC's military power is increasingly a central feature of its regional and global ambitions. The 2019 defense white paper also identifies the PRC's national defense aims that support these interests, likely offered in order of importance:

- to deter and resist aggression;
- to safeguard national political security, the people's security and social stability;
- to oppose and contain "Taiwan independence";
- to crack down on proponents of separatist movements such as "Tibet independence" and the creation of "East Turkistan";
- to safeguard national sovereignty, unity, territorial integrity and security;
- to safeguard the PRC's maritime rights and interests;
- to safeguard the PRC's security interests in outer space, the electromagnetic spectrum and cyberspace;
- to safeguard the PRC's overseas interests; and,
- to support the sustainable development of the country.

Key changes in the "New Era" include efforts to improve coordination across the party-state to leverage all organs of national power in a unified approach to support the CCP's ambitions

of a global military capability. Unlike previous defense white papers, *China's National Defense in the New Era* explicitly stresses the PRC's armed forces' alignment and support to the Party's broader societal, and foreign policy objectives. The paper specifically aligns the PRC's armed forces with the national objectives set by General Secretary Xi at the 19th Party Congress in 2017. For example, the white paper states that the PRC's armed forces must be ready to "provide strong strategic support for the realization of the Chinese Dream of national rejuvenation, and to make new and greater contributions to the building of a shared future for mankind." Also notable is the growing explicit alignment between the PRC's defense and foreign policies, particularly in the armed forces' role in protecting the PRC's overseas interests and furthering the CCP's concept of "strategic partnerships" with other countries.

Party-Army Relations

The PLA is the principal armed wing of the CCP and, as a party-army, does not directly serve the state. The CCP Central Military Commission (CMC), currently chaired by Xi Jinping, is the highest military decision-making body in China. As a party-army, the PLA is a political actor. As a constituency within the Party, it participates in the PRC's political and governance systems. As the ultimate guarantor of the Party's rule and political and governance systems, the PLA's missions include formal and informal domestic security missions in addition to its national defense missions. Although visible differences between the CCP and the PLA are extremely rare, in recent years outside observers have pointed out that Party leaders and official propaganda have increasingly emphasized the principles of the Party's absolute control over the PLA and the PLA's loyalty to the Party, despite the fact that the officer corps is composed almost entirely of Party members.

Military Strategic Guidelines. The Chairman of the CMC issues military strategic guidelines to the PLA that provide the foundation of the PRC's military strategy. The military strategic guidelines set the general principles and concepts for the use of force in support of the CCP's strategic objectives, provide guidance on the threats and conditions the armed forces should be prepared to face, and set priorities for planning, modernization, force structure, and readiness. The CCP leadership issues new military strategic guidelines, or adjusts existing guidelines, whenever they perceive it necessary to shift the PLA's priorities based on the Party's perceptions of China's security environment or changes in the character of warfare.

Recent trends suggest the PRC may have recently reviewed and adjusted its military strategic guidelines. In early 2019, PRC state media indicated that Beijing held senior-level meetings to "establish the military strategy of the 'New Era.'" The PRC's 2019 defense white paper states that the PLA is implementing guidelines for the "New Era" that "…actively adapt to the new landscape of strategic competition, the new demands of national security, and new developments in modern warfare…" PRC official media in the latter half of 2019 echoed these themes and described the guidelines as constituting a notable change. The PRC's defense

white paper may reflect changes in the guidelines given the white paper's emphasis on the intensification of global military competition, the increase in the pace of technological change, and the military modernization themes introduced by General Secretary Xi at the 19th Party Congress. Documents released following the Fifth Plenum of the 19th Central Committee in October 2020 hailed progress in the "comprehensive and in-depth" implementation of the "New Era military strategic guidelines."

These developments are notable because the CCP leadership has issued new military strategic guidelines or adjusted its guidelines only a few times since the end of the Cold War. In 1993, the CMC under Jiang Zemin directed the PLA to prepare to win "local wars" under "high-tech conditions" after observing U.S. military operations in the Gulf War. In 2004, the CMC under Hu Jintao ordered the military to focus on winning "local wars under informationized conditions." In 2014, the CMC under Chairman Xi Jinping placed greater focus on conflicts in the maritime domain and fighting "informatized local wars."

Military Strategy: Active Defense. The PRC's military strategy is based on what it describes as "active defense," a concept that adopts the principles of strategic defense in combination with offensive action at the operational and tactical levels. Active defense is neither a purely defensive strategy nor limited to territorial defense. Active defense encompasses offensive and preemptive aspects. It can apply to the PRC acting externally to defend its interests. Active defense is rooted in the principle of avoiding initiating armed conflict, but responding forcefully if challenged. The PRC's 2019 defense white paper reaffirmed active defense as the basis for its military strategy. Minister of National Defense General Wei Fenghe reiterated this principle of active defense in his speech at the Ninth Beijing Xiangshan Forum in 2019, stating that the PRC "will not attack unless we are attacked, but will surely counterattack if attacked."

First adopted by the CCP in the 1930s, active defense has served as the basis for the PRC's military strategy since its founding in 1949. Although the PRC has adjusted and tailored the specifics of active defense over time based on changes in strategic circumstances, its general principles have remained consistent. Contemporary PRC writings describe the tenets of active defense as:

- *Adhere to a position of self-defense and stay with striking back*. This describes the basic principle for the use of military force under active defense. The PRC's 2019 defense white paper describes this principle as, "We will not attack unless we are attacked, but we will surely counterattack if attacked." Active defense may entail defensive counterattacks in response to an attack or preemptively striking an adversary that the PRC judges is preparing to attack.

- *Combine strategic defense with operational and tactical offense*. This aspect offers two approaches to warfare influenced by Mao Zedong's notion of using defense and offense in turns. First, active defense may involve offensive campaigns,

operations, and tactical actions in support of the strategic defense. These may occur rapidly and along "external lines." Second, it uses active defense involves the use of strategic defense to weaken the enemy and set the conditions to transition into strategic offense in order to secure victory.

- *Taking the operational initiative*. This aspect emphasizes the effective use of offensives at the operational and tactical levels, avoiding enemy strengths, and concentrating on building asymmetric advantages against enemy weaknesses to "change what is inferior into what is superior."

- *Strive for the best possibilities*. This calls for thorough peacetime military preparations and planning based on fighting the most challenging threat under the most complicated circumstances "in order to get the best results." This aspect stresses the importance of setting conditions in advance and suggests it is preferable to be prepared and not fight, than to fight unprepared.

- *The dialectical unity of restraining war and winning war*. This tenet seeks to resolve the dilemma that using too little force may protract a war instead of stopping it while the unconstrained use of force may worsen a war and make it harder to stop. Calling for the "effective restraint of warfare," this tenet seeks to avoid war first through sufficient military preparations and powerful conventional and strategic forces that act in concert with political and diplomatic efforts to "subdue the enemy's troops without fighting." If war is unavoidable, however, this aspect calls for restraining war by taking the "opening move" and "using war to stop war."

- *Soldiers and the people are the source of victory*. This tenet integrates the concept of active defense with the concept of "people's war." People's war comprises subordinate military strategies, "guerrilla war" and "protracted war" that Mao saw as a means to harness the capacity of China's populace as a source of political legitimacy and mobilization to generate military power. Contemporary PRC writings link the people's war to national mobilization and participation in wartime as a whole-of-nation concept of warfare.

Military Missions & Tasks. The CMC directs the PLA to be ready and able to perform specific missions and tasks to support the Party's strategy and defend the PRC's sovereignty, security, and development interests. The PLA's missions and tasks in the "New Era" include: safeguarding China's territorial sovereignty and maritime rights and interests; maintaining combat readiness; conducting military training under real combat conditions; safeguarding China's nuclear weapons and its interests in the space and cyber domains; countering terrorism and maintaining stability; protecting the PRC's overseas interests; and participating in emergency response and disaster relief.

Non-War Military Activities (NWMA)

PLA writings divide military operations into two categories: war and non-war. The PLA's concept of non-war military activities (NWMA) is an expansive and diverse set of military operations ranging from humanitarian assistance and disaster relief (HA/DR) to suppressing domestic unrest to maritime rights protection. PLA writings describe NWMA as serving a variety of political purposes, occurring at varying intensities and durations, and may include the threat of violence or the use of violence from low levels to levels approaching war. According to PLA writings, NWMA are an important "strategic means" for the military to serve the national political interest. Additionally, the PLA views NWMA as an effective way for it to support and safeguard China's development, as a means to expand the PRC's global interests, and an opportunity to gain valuable operational experience.

NWMA can be conducted internationally or domestically and encompass activities in multiple domains. NWMA can notably include operations in which the PLA uses coercive threats and/or violence below the level of armed conflict against states and other actors to safeguard the PRC's sovereignty and national interests. NWMA can also blend military and law enforcement activities including for maritime rights protection, border and coastal defense, air and sea control, deterrence operations, suppression of domestic unrest, and other forms of stability maintenance operations. NWMA also includes military diplomacy, HA/DR, counterterrorism, counterpiracy, counterdrug, peacekeeping, and noncombatant evacuation operations. In the past, PRC official writings have described aspects of NWMA as military operations other than war.

Modernization Objectives & Targets. Within the context of the Party's strategy, the modernization of the PRC's armed forces is not merely a policy preference or a momentary endeavor that may fade over time in importance. Rather, modernization of the armed forces is an indispensable element of the Party's national strategy to modernize the country. As the CCP declared at the Fifth Plenum in October 2020, the PRC's ambitions for becoming a rich country are closely integrated with its ambitions to develop a powerful military. Throughout 2020, the PLA continued to pursue ambitious modernization objectives, implement major organizational reforms, and improve its combat readiness in line with the goals and timelines announced by General Secretary Xi Jinping at the 19th Party Congress in 2017. As stated in the 2019 defense white paper, and updated in a 2020 communique following the 5th Plenum of the 19th Central Committee, the PRC's goals for modernizing its armed forces in the "New Era" are:

- **By 2020**: "To generally achieve mechanization…with significantly enhanced informationization and greatly improved strategic capabilities;"

- **By 2027**: "Accelerate the integrated development of mechanization, informatization, and intelligentization, while boosting the speed of modernization in military theories, organizations, personnel and weapons and equipment;"

- **By 2035**: "To comprehensively advance the modernization of military theory, organizational structure, military personnel, and weaponry and equipment in step with the modernization of the country and basically complete the modernization of national defense and the military …"; and,

- **In 2049**: "To fully transform the people's armed forces into world-class forces."

The communique released after the 5th Plenum of the 19th Central Committee in October 2020 added a new milestone for PLA modernization in 2027, the 100th anniversary of the PLA's founding. While the new 2027 goals did not clearly shift forward any of the PLA's declared modernization for 2035 and 2049 objectives, it did likely shift the PLA's development of certain capabilities within the categories of the integrated development of mechanization, informatization, and intelligentization. Following the PLA generally achieving mechanization, its 2020 goal, a new interim target was necessary for the CCP to keep the PLA on track towards its longer-term 2035 and 2049 goals—paralleling the CCP's broader approach towards military development occurring in three steps. PLA spokespeople have stressed that the 2027 goal means that the Chinese military should comprehensively push forward the modernization of military theories, military organizational form, military personnel, and weapons and equipment." If realized, this would provide Beijing with more credible military options in a Taiwan contingency. PRC media, citing a military source, connected the PLA's 2027 goals to developing the capabilities to counter the U.S. military in the Indo-Pacific region, and compel Taiwan's leadership to the negotiation table on Beijing's terms. The communique stressed the need to "spur on synchronous improvements in national defense and economic power," (presumably under Military-Civil Fusion), a PLA spokesman added that "China's national defense strength does not match its economic growth, and is not compatible with China's international standing and its strategic security needs."

The PLA's modernization goals set by Chairman Xi Jinping and the CMC align with and provide support to the broader elements of the PRC's national strategy, including the two centenary milestones in 2021 and 2049 and the interim waypoints in 2027 and 2035. The PRC's stated aim was to "generally" complete the PLA's mechanization and make "major progress" toward informatization by the end of 2020. By the CCP's centenary in 2021, the Party seeks to complete building the PRC into a "moderately prosperous society." Beyond 2021, the PLA's major modernization goals follow the Party's "two-step" national development approach to achieving national rejuvenation in 2049. In the first stage from 2021 to 2035, the PLA will seek to "basically complete" military modernization by 2035, at which point the PRC will have "basically" met the Party's initial thresholds of a "great modern socialist country." In the second stage from 2035 to 2049, the PLA will aim to complete its

transformation into a "world-class" military in support of the Party's goal to finish national modernization and fully realize its renewal as a "great modern socialist country."

Although China's leaders view building military strength as a strategic imperative, they also place important caveats on these objectives. For example, Chairman Xi's direction to the PLA to "basically complete" modernization by 2035 should also occur "in step with the modernization of the country." These qualifications serve several purposes that highlight the interlocking nature of the Party's strategic planning. First, as the PRC's interests continue to expand as it develops, the Party expects the PLA to keep pace with the country's evolving interests and be ready and able to defend its progress. Second, linking the PLA's transformation to the country's transformation allows Party leaders to signal the scope and scale of the internal changes they expect the PLA to implement, particularly given its historic resistance to reforms that challenge its risk-adverse organizational culture or threaten vested bureaucratic interests. Finally, these qualifications provide flexibility to the Party's leaders to modulate military resources and defense objectives based on the conditions of the country's overall development. This offers PRC leaders the ability to adapt to changing economic or international conditions and ensure military investments support—rather than compromise—the strategy.

Defense Ambitions. The CCP has not defined what it means by its ambition to have a "world-class" military by the end of 2049. Within the context of China's national strategy, however, it is likely that the PRC will seek to develop a military by mid-century that is equal to—or in some cases superior to—the U.S. military, and that of any other great power that Beijing views as a threat to its sovereignty, security, and development interests. Given the far-reaching ambitions the CCP has for a rejuvenated China, it is unlikely that the Party would aim for an end state in which China would remain in a position of military inferiority vis-à-vis the United States or any other potential rival. For the PRC to aim lower or otherwise willingly accept a permanent condition of military inferiority would seem anathema to the fundamental purpose of becoming a "great modern socialist country." However, this does not mean that the PRC will aim for the PLA to mirror the U.S. military in terms of capacity, capability, or readiness. The PRC will likely seek to develop its "world-class" military in a manner that it believes best suits the needs of its armed forces to defend and advance the country's interests and how the PLA—guided by the Party—adapts to the changing character of warfare.

Doctrine. In November 2020, the CMC announced that it had issued the "Chinese People's Liberation Army Joint Operations Outline (Trial)." PRC state media described the Outline as the "top-level law" of the PLA's combat doctrine system in the new era and the basis for organizing and implementing the PLA's joint operations and joint training and promoting the development of joint combat capabilities. The Outline establishes a system for the PLA's joint operations. It focuses on clarifying basic issues regarding the organization and implementation of joint operations, command rights and responsibilities, and the principles, requirements, and procedures for joint operations, combat support, national defense

mobilization, and political work. Additionally, PRC media also reported that the Outline focuses on "answering the major questions of 'what wars and how to fight' from the system level" and to "focus on the new situation and new problems of our joint operations."

Prior to November 2020, the last update to the PLA's "operational regulations" had occurred in 1999. The lack of updated doctrine had been noticeably absent since the PLA began sweeping reforms to its command and organizational structures in 2015, raising questions about how the PLA would practically implement joint command and conduct joint operations and training. In recent years, PLA leaders and PLA-affiliated academics had pointed to the lack of updated doctrine as an obstacle to advancing the next steps in the PLA's reform and building a unified joint PLA.

According to PLA writings, the Outline describes that the future combat style of the PLA will be integrated joint operations under the unified command of a joint operations command system. PLA writers emphasized that winning future wars would require a high degree of joint integration of various combat forces and combat elements from across the PLA services and other arms and across all domains, with jointness deepened at the operational and tactical levels. PLA writers emphasized the imperative of joint operations to victory in future wars and noted the PLA must learn from and avoid examples of foreign militaries' interservice rivalries reducing the effectiveness of their joint operations.

After the Outline was issued, PLA writings noted that PLA joint operations tended to be limited to the strategic level due to the challenges of commanding and communicating with disparate forces from different services and combat arms. These writings also include observations that coordinating forces from different services were overly reliant on the command authority of senior leaders or the use of administrative means to ensure compliance. PLA writers viewed this level of joint integration as insufficient for success in future wars and emphasized that implementing the Outline would establish the rules, systems, and compliance mechanisms to strengthen the PLA's joint command, operations, and support.

Readiness. As with other aspects of the PRC's growing strength, the Party views the PLA's long-term development as useful to the extent that the party-state can wield it. Alongside modernizing the PLA's capabilities and organizational reform, the PRC's leaders have identified enhancing the combat readiness of the armed forces as an important element of developing the PRC's military strength. In recent years, Chairman Xi Jinping and senior military leaders have continued to emphasize the need to build the PLA's combat readiness so it can "fight and win." This emphasis has not only entailed the PLA conducting more training, but making its training more rigorous and realistic as well as addressing issues in the PLA's training and education systems related to conducting complex joint operations and adapting to other aspects of modern warfare. The emphasis on enhancement the PLA's combat readiness probably has also led to a standardization of a combat readiness system across the PLA to enable the PRC to quickly transition to a wartime footing.

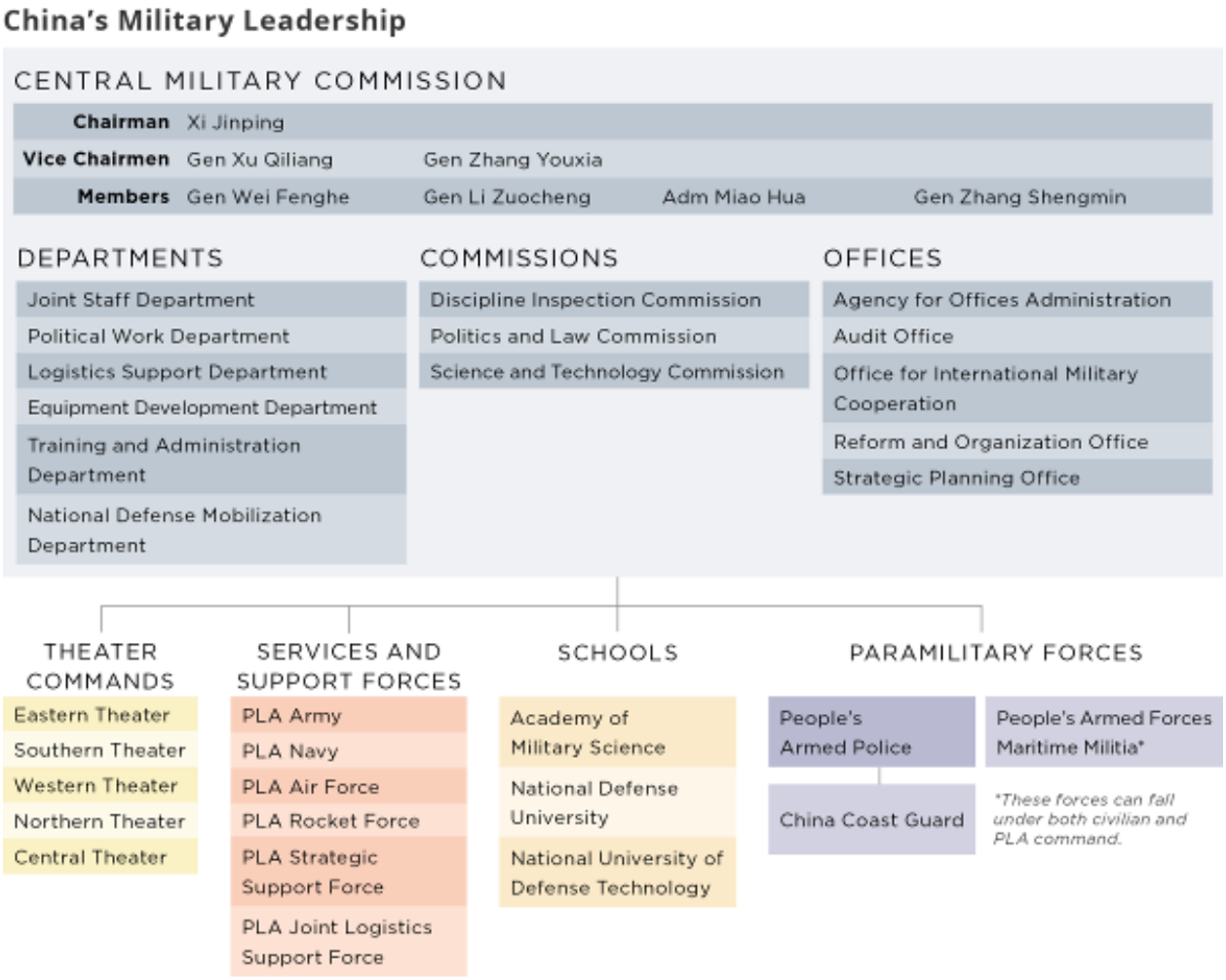
Along with the CCP leadership's focus on improving the PLA's combat readiness, in recent years PLA media outlets have noted shortcomings in the military's training and education systems that reportedly left some commanders—particularly at the operational level—inadequately prepared for modern warfare. In recent years, PLA media outlets have identified the need for the military to address the "Five Incapables" problem: that some commanders cannot (1) judge situations; (2) understand higher authorities' intentions; (3) make operational decisions; (4) deploy forces; and, (5) manage unexpected situations. Although PLA writings do not specify how widespread the "Five Incapables" are, PLA media outlets have consistently raised them. One outside expert has noted this may indicate the PLA lacks confidence in its proficiency to execute its own operational concepts. Additionally, senior Party and PLA leaders are keenly aware that the military has not experienced combat in decades nor fought with its current suite of capabilities and organizational structures. PLA leaders and state media frequently call on the force to remedy the "peacetime disease" that manifests in the form of what it characterizes as lax training attitudes and practices that are viewed as hindering combat readiness.

The COVID-19 pandemic degraded PLA readiness during early 2020, but mitigation measures probably allowed it to return to near-normal states of readiness levels by mid-summer. The PLA attempted to project an image of full operational capability through highly publicized exercises and HA/DR deployments to Wuhan, China and other countries during that time. Through the latter half of the year, the PLA returned to its years-long effort to rectify command personnel shortcomings and strengthen readiness—a goal that was emphasized as a component of the PLA's new 2027 modernization milestone. In September, the PLA conducted simultaneous drills in the South China, East China, and Yellow Seas, as well as the Bo Hai—probably to exercise the PLA's command and control systems across multiple theaters—and in November it issued a new trial outline for joint operations. The outline is intended to inform development of new doctrine, orienting the PLA to be ready for combat, and serve as the basis for joint training. Chapter 2 discusses the PLA's 2020 training and exercises in detail.

Anticorruption Campaign. Anticorruption investigations in the PLA are a component of a Party-wide effort that General Secretary Xi strengthened and accelerated shortly after taking office. The stated goal of these campaigns is to safeguard the legitimacy of the CCP, root out corruption, improve governance, and centralize Xi and the Party's authority. Military discipline inspectors led by the CMC Discipline Inspection Commission have targeted individual power networks and occupational specialties historically prone to corruption, such as officers connected to disgraced former CMC Vice Chairmen Xu Caihou and Guo Boxiong and, former Chief of Joint Staff General Fang Fenghui.

China's Military Leadership

The military's highest decision-making body, the CMC, is technically a department of the CCP Central Committee. The CMC Chairman is a civilian, usually serving concurrently as the General Secretary of the CCP and President of China. Following the 19th Party Congress, the CMC consists of two vice chairs, the chiefs of the Joint Staff and Political Work Departments, the head of the Discipline Inspection Commission, and the Minister of National Defense. Elevating the Secretary of the Discipline Inspection Commission to a CMC member reflects Xi's goals of combating graft and reinforcing PLA loyalty to the CCP. Furthermore, removing the service chiefs from the CMC while granting theater commanders operational oversight over all conventional forces within their respective regions highlights the PLA's focus on expanding joint operations capabilities.



Ministry of National Defense and general offices are not depicted in this chart.

Members of the CCP Central Military Commission

Chairman Xi Jinping's appointment as Party General Secretary and CMC Chairman in 2012 and his selection as President in the spring of 2013 represented the first simultaneous transfer of all three of the PRC's top positions to an incoming leader in recent decades. Xi was reappointed to his Party positions at the 19th Party Congress and was reappointed President in spring 2018 at the NPC. The same meeting eroded previous CCP norms of succession and also granted approval to remove presidential term limits, potentially allowing Xi to remain President for a third term. In 2016, Xi was announced as the commander-in-chief of the CMC's Joint Operations Command Center (JOCC) and was named "core" leader of the CCP Central Committee. Prior to becoming CMC Chairman, Xi served as the CMC's only civilian Vice Chairman under Hu Jintao. Xi's father was an important military figure during China's communist revolution and was a Politburo member in the 1980s. Xi Jinping served as an aide to a defense minister early in his career and had regular interactions with the PLA as a provincial Party official.

Vice Chairman General Xu Qiliang is the first career air force officer to be appointed the PRC's top uniformed official. Xu is a public advocate for reform and guides the effort as a deputy secretary of the CMC's reform leading group. Xu previously served on the CMC as the PLA Air Force (PLAAF) commander, where he oversaw rapid force modernization and expanded the air force's foreign engagement. He may have crossed paths with Xi Jinping early in his career, when both men served in Fujian Province. Xu was the first PLAAF officer to serve as deputy chief of the General Staff Department (GSD) since the Cultural Revolution period, and – at 54 years of age at the time – the youngest in PLA history. Xu is serving a third term as a CMC member.

Vice Chairman General Zhang Youxia is China's second-most senior officer and former head of the Equipment Development Department. Zhang gained rare experience as a combat commander during China's brief war with Vietnam in 1979.Zhang formerly commanded the Shenyang Military Region, which shared a border with North Korea and Russia. Zhang is one of the PLA's "princelings." His father, a well-known military figure in China, served with Xi Jinping's father at the close of China's Civil War in 1949. Zhang is currently serving his second term on the CMC.

Minister of National Defense General Wei Fenghe was appointed at the NPC in March 2018. Wei is the PLA's third-most senior officer and manages its relationship with state bureaucracies and foreign militaries. Unlike the U.S. Secretary of Defense, he is not part of the chain of command and his primary policy influence is derived from membership in the CMC and State Council. Wei served in multiple missile bases across different military regions and held top posts in the headquarters of the former PLA Second Artillery Force, the PLA Rocket Force's (PLARF's) predecessor, before being promoted in late 2010 to Deputy Chief of the General Staff—the first officer from the Second Artillery to serve in that position. Wei most recently was the PLARF commander. Wei is serving a second term as a CMC member.

Joint Staff Department Chief General Li Zuocheng oversees PLA joint operations, a narrowing of the wider responsibilities held by the former GSD prior to reforms initiated in 2015. Li is one of few remaining active duty PLA officers with combat experience and is recognized as a combat hero for his service in China's border war with Vietnam. He was also the first Army commander after the PLA Army (PLAA) became a separate service in 2015. Li previously commanded the Chengdu Military Region, which was responsible for the sensitive area of Tibet.

Political Work Department Director Admiral Miao Hua oversees the PLA's political work, including propaganda, organization, and education. Miao is a former Army officer who switched services to the Navy in December 2014 when he became political commissar of the PLA Navy (PLAN). Miao may have ties to Xi from his time serving in the 31st Group Army in Fujian Province, when his career overlapped with Xi's. Miao participated as the PLAN political commissar during the Navy's BRI cruise conducted in mid-2017.

Secretary of the Discipline Inspection Commission General Zhang Shengmin oversees the highest-level organization responsible for investigating military violations of Party discipline. Zhang is also a deputy secretary and third ranking member on the standing committee of the Party's Discipline Inspection Commission. Zhang's appointments indicate the Party's commitment to the anticorruption campaign in the military. Shortly after his appointment to the CMC, Zhang was promoted to the rank of general, the highest rank in the PLA.

CHAPTER TWO: MISSIONS AND TASKS OF CHINA'S ARMED FORCES IN THE "NEW ERA"

Key Takeaways

- With a force that totals approximately two million personnel in the regular forces, the PLA has sought to modernize its capabilities and improve its proficiencies across all warfare domains so that as a joint force it can conduct the range of land, air, and maritime operations as well as space, counterspace, electronic warfare (EW), and cyber operations.
- The PLA's evolving capabilities and concepts continue to strengthen the PRC's ability to "fight and win wars" against a "strong enemy (强敌)" [a likely euphemism for the United States], coerce Taiwan and rival claimants in territorial disputes, counter an intervention by a third party in a conflict along the PRC's periphery, and project power globally.
- In 2020, the PLA continued to make progress implementing major structural reforms, fielding modern indigenous systems, building readiness, and strengthening its competency to conduct joint operations.

DEVELOPMENTS IN THE PLA'S MODERNIZATION & REFORM

The PRC's strategy of national rejuvenation entails strengthening and adapting its armed forces to the long-term trends in global military affairs and meeting the country's evolving national security needs. During the last two decades, the PRC has invested in and improved the PLA's capabilities to address a range of security objectives beyond its continued emphasis on Taiwan contingencies. The PLA's evolving capabilities and concepts continue to strengthen the PRC's ability to counter an intervention by a third party in a conflict along China's periphery, coerce resolution to boundary disputes, project power regionally and globally, and deter nuclear attack.

With a force that totals approximately two million personnel in the regular forces, the PLA has sought to modernize its capabilities and improve its proficiencies across all warfare domains so that as a joint force it can conduct the range of land, air, and maritime operations as well as space, counterspace, electronic warfare (EW), and cyber operations. Recognizing that joint operations, information flows, and rapid decision-making are vital in modern

warfare, the PRC continues to place a high priority on modernizing the PLA's capability to command complex joint operations in near and distant battlefields. The PRC is seeking to enhance the PLA's joint command and control systems; joint logistics systems; and command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR) systems. The PRC is also modernizing, diversifying, and expanding its nuclear forces, as well as deepening the PLA's interoperability and integration with the PRC's paramilitary and militia forces.

In recent years, the CCP's efforts to strengthen its armed forces have also included undertaking the most comprehensive restructuring of the PLA's command and control arrangements, forces structure, and administrative organs in its history. These reforms have sought to reinforce the CCP's control of the military, improve the PLA's ability to conduct joint operations, increase its combat effectiveness, and address longstanding issues such as corruption and the institutional primacy of the army over the other services.

Status of 2020 Milestones (Mechanization and Reform). Although the PLA continued to make progress towards its modernization and reform goals throughout 2020, the PLA probably had mixed results in meeting several of the milestones that it planned to achieve by the end of 2020. Among the PLA's modernization goals set by the CCP leadership was to "generally achieve mechanization" by 2020. At a November 2020 news conference, a PRC Defense Ministry spokesperson stated that the PLA had "basically achieved mechanization." The goal of mechanization can be broadly understood as upgrading and modernizing the PLA's weapons and equipment so they can be networked into "systems of systems" and utilize more advanced technologies suitable for "informatized" and "intelligentized" warfare. Separately, PLA officials have indicated that the third (and final) stage of PLA reforms would take place in 2021 or 2022. The PRC's original timetable from late 2015 for the completion of the PLA's reforms indicated that 2020 was the target for completion. References to 2021 or 2022 may imply the PLA is a year or two behind in completing its reforms. Both of these years are significant for the CCP and its strategy. The Party aims for China to achieve its "moderately prosperous society" goal by the CCP's centenary in 2021. The CCP will also hold its 20th Party Congress in 2022.

People's Liberation Army (PLAA)

Key Takeaways:

- Despite the COVID-19 pandemic, border clashes with India, and other significant events in 2020, the PLAA accelerated its training and fielding of equipment from the already fast pace of recent years.
- PLAA equipment fielding in 2020 focused on improving mobile firepower and mobility with the PCL-171 120mm self-propelled howitzer and the PCL-181 155mm

self-propelled howitzer, as well as field testing of the Z-8L heavy-lift transport helicopter.

- PLAA units conducted extensive combined arms and joint training throughout 2020. Significant training likely prepared the PLAA for any escalation of border tensions with India, as well as preparing to support a Taiwan contingency. The PLAA also strove to increase the realism of its training and the effectiveness of Opposition Force (OPFOR) units.

The People's Liberation Army Army (PLAA) has approximately 975,000 active-duty personnel in combat units. The PLAA is the primary ground fighting force in the PLA. The most-recent 2019 PRC defense white paper described the PLAA's tasks as transition from "regional defense" to trans-theater operations, with an emphasis on improving its capabilities to conduct multi-domain, trans-theater, and sustained operations "so as to build a new type of strong and modernized land force."

Despite COVID-19, border clashes with India, extensive flooding in southern China, and other major events in 2020, the PLAA accelerated its training and fielding of equipment from the already fast pace of recent years. PLAA units conducted robust combined-arms training and extensive joint training exercises with other PLA services. In 2020, the PLAA highlighted training for on potential contingencies in high-elevation regions (suggesting a possible focus on India given border clashes in 2020) and projecting forces across the Taiwan Strait.

Force Structure and Organization. In 2020, the PLAA fielded a large amount of new platforms and updated equipment. The major force restructuring required by the 2016 PLA reforms is complete, but significant additional equipment fielding is necessary to complete the transformation of the PLAA into a fully modern force.

The PLAA is organized into five Theater Army Commands, the Xinjiang military district, and the Tibet military district. The PLAA has 13 group armies, which are comprised of multiple combined-arms brigades. In total, these 78 combined-arms brigades serve as the PLAA's primary maneuver force. The brigades vary in size and composition. The PLAA delineates its combined-arms brigades into three types: heavy (tracked armored vehicles), medium (wheeled armored vehicles), and light (high-mobility, mountain, air assault and motorized) and can contain up to 5,000 troops each. Each group army controls six additional brigades responsible for operational element functions: an artillery brigade, an air defense brigade, an army aviation (or air assault) brigade, a special operations forces (SOF) brigade, an engineer and chemical defense brigade, and a sustainment brigade. Although the PLAA has standardized its group armies, it does retain a number of nonstandard independent divisions and brigades that exist outside of the group armies. These units are typically located in areas the CCP considers sensitive including Xinjiang, Tibet, Hong Kong, and Beijing.

Capabilities and Modernization. Although the PLAA fielded an extensive amount of new equipment in 2020, the PLAA remains a relative laggard within the PLA in terms of modernization. Reports indicate that in 2020 approximately 40% of the PLAA's main battle tank (MBT) force is 20-40 years old and significant numbers of infantry brigades employ outdated equipment.

The PLAA fielded a number of new systems in 2020. The 72nd Group Army used the PCL-171, a self-propelled 122mm howitzer system on an assault vehicle chassis, to conduct live-fire exercises. Artillery units in most of the five joint theater commands received the PCL-181, a self-propelled 155mm howitzer system. Extensive field-testing began on the Z-8L—a 15-ton class transport helicopter that will permit the movement of heavier vehicles in air assault units.

Readiness. PLAA training in 2020 followed the trend from 2019 of focusing on combined-arms and joint training. PLAA units conducted multiple iterations of the STRIDE 2020 combined areas exercises in Inner Mongolia. PLAA units stressed realistic training, emphasized the professionalization of OPFOR formations, and conducted numerous force-on-force "confrontation drills." PRC media reported that the commander of the "blue-force" OPFOR brigade at the Zhurihe training site (a major PLA training facility for large-scale unit training similar to the U.S. Army's National Training Center) was 32-1 against PLAA "red force" units since 2015.

In addition to conventional ground force training, PLAA units conducted extensive specialty exercises in 2020. Units conducted coastal defense, multiple sea crossings and landings, and high-elevation plateau operations. Joint training included PLAA aviation helicopters landing on PLAN ships, ground-air coordination with the PLAAF, and a large-scale exercise in Russia where PLAA units trained on Russian military equipment. PLAA aviation units also trained landing on civilian ships. PLAA units likely increased their overall readiness in 2020 due to their extensive combined arms and joint training.

Major Ground Units

People's Liberation Army Navy (PLAN)

Key Takeaways

- The PRC has numerically the largest navy in the world with an overall battle force of approximately 355 ships and submarines, including approximately more than 145 major surface combatants. As of 2020, the PLAN is largely composed of modern multi-role platforms.
- The PRC commissioned its first domestically built aircraft carrier in late 2019 and its first Renhai class cruiser in early 2020. The PRC expects its second domestically built aircraft carrier to enter service by 2024.
- In 2020, the PRC launched its second Yushen class amphibious assault ship (Type 075 LHA) after launching its first in 2019, its first class of large deck amphibious warship. A third hull is also under construction.
- In the near-term, the PLAN will have the capability to conduct long-range precision strikes against land targets from its submarine and surface combatants using land-attack cruise missiles, notably enhancing the PRC's global power projection capabilities. The PRC is also enhancing its anti-submarine warfare (ASW) inventory and training to protect the PLAN's aircraft carriers and ballistic missile submarines.

The PRC's 2019 defense white paper described the People's Liberation Army Navy (PLAN) as adjusting to changes in the strategic requirements of near seas protection and far seas protection, noting that it was "speeding up the transition of its tasks from defense on the near seas to protection missions on the far seas..." Towards the PRC's goal of building a "strong and modernized naval force," the PLAN is an increasingly modern and flexible force that has focused on replacing its previous generations of platforms that had limited capabilities in favor of larger, modern multi-role combatants. As of 2020, the PLAN is largely composed of modern multi-role platforms featuring advanced anti-ship, anti-air, and anti-submarine weapons and sensors. The PLAN is also emphasizing maritime joint operations and joint integration within the PLA. This modernization aligns with the PRC's growing emphasis on the maritime domain and increasing demands for the PLAN to operate at greater distances from China.

The PLAN organizes, mans, trains, and equips the PLA's naval and naval aviation forces, as well as the PLAN Marine Corps (PLANMC), which is subordinate to the PLAN. In 2020, the PLAN continued to implement structural reforms that began in late 2015 and early 2016. Similar to the other services, the PLA-wide reforms removed the PLAN headquarters from conducting operations, which became the purview of the PLA's joint Theater Commands, and focused it on organizing, manning, training, and equipping naval forces.

Force Structure. The PLAN is the largest navy in the world with a battle force of approximately 355 platforms, including major surface combatants, submarines, aircraft carriers, ocean-going amphibious ships, mine warfare ships, and fleet auxiliaries. This figure does not include 85 patrol combatants and craft that carry anti-ship cruise missiles (ASCMs). The PLAN's overall battle force is expected to grow to 420 ships by 2025 and 460 ships by 2030. Much of this growth will be in major surface combatants. The PLAN's force structure consists of three fleets with subordinate submarine flotillas, surface ship flotillas, aviation brigades, and naval bases. The PLAN's Northern Theater Navy is subordinate to the Northern Theater Command, the Eastern Theater Navy is subordinate to the Eastern Theater Command, and the Southern Theater Navy is subordinate to the Southern Theater Command.

Submarines. The PLAN has placed a high priority on modernizing its submarine force, but its force structure continues to grow modestly as it works to mature its force, integrate new technologies, and expand its shipyards. The PLAN currently operates six nuclear-powered ballistic missile submarines (SSBNs), six nuclear-powered attack submarines (SSNs), and 46 diesel-powered attack submarines (SSs). The PLAN will likely maintain between 65 and 70 submarines through the 2020s, replacing older units with more capable units on a near one-to-one basis.

The PRC continues to increase its inventory of conventional submarines capable of firing advanced anti-ship cruise missiles (ASCMs). Between the mid-1990s and mid-2000s, the PLAN purchased 12 Russian-built Kilo class SS units, eight of which are capable of launching ASCMs. China's shipyards have delivered 13 Song class SS (Type 039) and 17 Yuan class diesel-electric (SSPs) (Type 039A/B). The PRC is expected to produce a total of 25 or more Yuan class submarines by 2025.

Over the past 15 years, the PLAN has constructed twelve nuclear submarines – two Shang I class SSNs (Type 093), four Shang II class SSNs (Type 093A), and six Jin class SSBNs (Type 094). Equipped with the CSS-N-14 (JL-2) submarine-launched ballistic missile (SLBM), the PLAN's six operational Jin class SSBNs represent the PRC's first credible sea-based nuclear deterrent. Each Jin class SSBN can carry up to 12 JL-2 SLBMs. In 2019, Beijing displayed these missiles at the PRC's 70th anniversary parade, revealing that at least a full complement of 12 JL-2s are complete and operational. The PRC's next-generation Type 096 SSBN, which likely began construction in the early 2020s, will reportedly carry a new type of SLBM. The PLAN is expected to operate the Type 094 and Type 096 SSBNs concurrently and could have up to eight SSBNs by 2030. This would align with Chairman Xi Jinping's 2018 directive for the SSBN force to achieve "stronger growth."

By the mid-2020s, the PRC will likely build the Type 093B guided-missile nuclear attack submarine. This new Shang class variant will enhance the PLAN's anti-surface warfare capability and could provide a clandestine land-attack option if equipped with land-attack cruise missiles (LACMs). The PLAN is also improving its anti-submarine warfare capabilities through the development of its surface combatants and special mission aircraft, but it

continues to lack a robust deep-water anti-submarine warfare (ASW) capability. The PRC is enhancing its ASW inventory and training to better protect the PLAN's aircraft carriers and ballistic missile submarines. The PLA increasingly has emphasized the importance of ASW in achieving China's broader maritime capability goals, to include open seas protection and preserving access to the Western Pacific and Indian Ocean.

Surface Combatants. The PLAN remains engaged in a robust shipbuilding program for surface combatants, producing new guided-missile cruisers (CGs), guided-missile destroyers (DDGs) and corvettes (FFLs). These assets will significantly upgrade the PLAN's air defense, anti-ship, and anti-submarine capabilities and will be critical as the PLAN expands its operations beyond the range of the PLA's shore-based air defense systems. By the end of 2019, the PLAN had commissioned its 30th Jiangkai II class guided-missile frigate (FFG), completing the production run while it finalizes a follow-on class with additional units under construction. The PLAN is augmenting its littoral warfare capabilities, especially for operations in the East and South China Seas, with high-rate production of the Jiangdao class FFLs (Type 056). The PLAN commissioned its ninth Jiangdao over the year by mid-2020 with over 50 Jiangdao class FFLs in service out of an expected production run of at least 70 ships. The latest FFLs are anti-submarine warfare (ASW) variants with a towed-array sonar. The PRC has also built 60 Houbei class wave-piercing catamaran guided-missile patrol boats (Type 022) for operations in China's "near seas."

The PLAN is currently expanding its force of large surface combatants with two programs, the Luyang III DDG (Type 052D) and the Renhai CG. By late 2020, the PRC had launched 25 Luyang III DDGs—including 12 lengthened Luyang III MOD DDGs. Both the standard Luyang III and the Luyang III MOD have a 64-cell multipurpose vertical launch system (VLS) capable of launching cruise missiles, SAMs, and anti-submarine missiles. In 2020, the PRC commissioned the first Renhai class guided-missile cruiser and launched the eighth hull in the class. The Renhai has 112 VLS cells and can carry a large load out of weapons including ASCMs, surface-to-air missiles (SAMs), torpedoes, and anti-submarine weapons along with likely LACMs and anti-ship ballistic missiles (ASBMs) when those become operational.

The PLAN continues to emphasize anti-surface warfare capabilities in its force development. The PLAN's frigates and corvettes, as well as modernized older combatants, carry variants of the YJ-83/YJ-83J ASCM (97 nm, 180 km), while newer surface combatants such as the Luyang II class DDGs are fitted with the YJ-62 (215 nm, 400 km). The Luyang III class DDGs and the Renhai class CGs will be fitted with a variant of China's newest ASCM, the YJ-18A (290 nm, 537 km). A few modernized destroyers have been retrofitted with the supersonic YJ-12A ASCM (250 nm, 285 km). Eight of the PLAN's 12 Kilo class SSs are equipped with the Russian-built RS-SS-N-27b ASCM (120-nm, 220-km). The PRC's Song class SS, Yuan class SSP, and Shang class SSN will field the PLAN's newest domestic submarine-launched YJ-18 and its variants, which constitute an improvement over the RS-SS-N-27b ASCM.

The PLAN recognizes that long-range ASCMs require a robust, over-the-horizon (OTH) targeting capability to realize their full potential. To fill this capability gap, the PLA is investing in joint reconnaissance, surveillance, command, control, and communications systems at the strategic, operational, and tactical levels to provide high-fidelity targeting information to surface and subsurface launch platforms.

As the PLAN continues to transition into a global multi-mission force, the addition of land-attack capabilities to its modern array of anti-surface and anti-air capabilities is a logical next step. In the coming years, the PLAN will probably field LACMs on its newer cruisers and destroyers and developmental Type 093B nuclear attack submarines. The PLAN could also retrofit its older surface combatants and submarines with land-attack capabilities as well. The addition of land-attack capabilities to the PLAN's surface combatants and submarines would provide the PLA with flexible long-range strike options. This would allow the PRC to hold land targets at risk beyond the Indo-Pacific region from the maritime domain.

Amphibious Warfare Ships. The PLAN's investment in LHAs signals its intent to continue to develop its expeditionary warfare capabilities. In April 2020, the PLAN launched the second ship of the Yushen class LHA (Type 075) following the first ship's launch in 2019. A third Yushen-class LHA was reportedly launched in January 2021, marking approximately 16-month timeframe to launch three of three vessels. The Yushen class are highly capable large-deck amphibious ships that will provide the PLAN with an all-aspect expeditionary capability. The Yushen class can carry a large number of landing craft, troops, armored vehicles, and helicopters. In addition, the PLAN has seven large Yuzhao class amphibious transport docks (LPDs) (Type 071), with an eighth ship entering sea trials in 2020. The Yuzhao class LPDs and Yushen class LHAs provide the PLA with greater capacity, endurance, and more flexibility for long-range operations than the PLAN's older landing ships, which it has reduced in number over the last decade with obsolete units being decommissioned. The Yushen and Yuzhao can each carry several of the new Yuyi class air-cushion medium landing craft and a variety of helicopters, as well as tanks, armored vehicles and PLAN marines for long-distance deployments.

Aircraft Carriers. In December 2019, the PRC commissioned its first domestically built aircraft carrier, *Shandong*, which launched in 2017 and completed multiple sea trials during 2018-2019. *Shandong* was photographed at a base on Hainan Island in the Southern Theater Navy in late 2020. The new carrier is a modified version of the *Liaoning* (Soviet Kuznetsov) design and likewise uses a ski-jump takeoff method for its aircraft. The PRC continued work on its second domestically built aircraft carrier in 2020, which will be larger and fitted with a catapult launch system. This design will enable it to support additional fighter aircraft, fixed-wing early-warning aircraft, and more rapid flight operations and thus extend the reach and effectiveness of its carrier based strike aircraft. The PRC's second domestically built carrier is projected to be operational by 2024, with additional carriers to follow.

The PLAN is also working on several future carrier-based aircraft to operate from its carriers. In addition to the standard J-15, there is a catapult-capable J-15 variant in development. The aircraft has tested from land-based steam and electromagnetic catapults at China's Huangdicun test site. A third J-15 variant, the J-15D, is a two-seat aircraft equipped with wingtip electronic support measures/electronic intelligence gathering pods as well as several conformal antennas. The aircraft is intended to fill a dedicated electronic attack role. Beyond fighter aircraft, China is refining the design of a carrier-borne AEW aircraft known as the KJ-600. A mockup of the aircraft, which appears externally similar to the E-2C/D Hawkeye, has existed for many years, and a prototype of the KJ-600 began its flight test program in late August 2020.

Auxiliary Ships. The PLAN continues to build a large number of seagoing auxiliary and support ships, including intelligence collection ships (AGIs), ocean surveillance ships (AGOSs), fleet replenishment oilers (AORs), hospital ships, submarine salvage and rescue ships, and various other specialized units. Additionally, China's first domestically built polar icebreaker, Xuelong 2, became operational in 2019. The ship is operated by the Polar Research Institute of the State Oceanic Administration. In 2020, Xuelong 2 completed its first deployment to the Arctic.

PLAN Marine Corps (PLANMC). Serving as the PLA Navy's land combat arm, the PLA Navy Marine Corps (PLANMC) expansion and growing focus on expeditionary operations has been among the most notable changes to the PRC's armed forces in recent years. The PLANMC previously consisted of two brigades (approximately 10,000 personnel) and was limited in geography and mission to amphibious assault and defense of South China Sea outposts. In 2020, the PLANMC continued to mature an enlarged force structure of eight brigades intended to be scalable and mobile, modernize its capabilities for joint expeditionary operations—including operations beyond the First Island Chain—and become more proficient in conventional and irregular warfare. Throughout 2020, the PLANMC continued to work towards fully equipping and training its four newly established maneuver brigades (in addition to its two previously existing brigades), a SOF brigade, and an aviation (helicopter) brigade. Overall, the PLANMC's reform and modernization has continued to prove slower than expected given the CMC's milestone for the PLA to "generally achieve mechanization" by the end of 2020 ahead of the CCP's centenary in 2021. In October 2020, Chairman Xi visited the PLANMC headquarters where he urged the marines to accelerate the improvement of their combat capabilities and increase their focus on "war preparations and fighting battles" by raising their training standards and to "maintain a high state of alert."

While the PLANMC likely missed the PLA's milestone to "generally achieve mechanization" by the end of 2020, an additional PLANMC brigade likely reached fully mission capable status in 2020 while another four brigades likely achieved initial operating capability (IOC) status. One of the three brigades reaching IOC was the PLANMC's aviation brigade, which graduated its first group of domestically trained ship-borne pilots in April 2020. This growing

multifaceted aviation brigade provides the PLAN and PLANMC with an increasingly proficient quick reaction capability. This coincides with Chairman Xi's remarks at the PLANMC HQ in October 2020 that the PLANMC should strive to forge a multi-functional rapid response team. Also aligned with the PLA's modernization goals, the PLANMC continued to outfit several of their new maneuver brigades with new expeditionary vehicles.

The PLANMC continues to make strides towards becoming a multidimensional expeditionary force capable of conducting operations beyond the First Island Chain to protect the PRC's growing overseas interests. The PLANMC has conducted a variety of cross-regional training exercises to improve long-range mobility and the ability to operate across diverse climates and terrain in pursuit of rapid reaction capabilities. Additionally, the PLANMC devotes time and resources to conducting NWMA, to include counter-piracy operations and international military engagements. While the focus of the PLANMC appears to be shifting towards global expeditionary operations, the PLANMC also expanded its amphibious capability from the two Southern Theater brigades to three brigades, as one Northern Theater brigade received and demonstrated their proficiency with amphibious armored vehicles.

The PLANMC maintains a presence at the PRC's first overseas military support facility in Djibouti that extends Beijing's military reach and strategic influence in Africa and the Middle East. The PLANMC's presence in Djibouti provides the PRC with the ability to support a military response to contingencies affecting the PRC's investments and infrastructure in the region and the approximately 1 million PRC citizens in Africa and 500,000 in the Middle East. The PLANMC also embarks a contingent of marines with the PLAN's Gulf of Aden counterpiracy-focused naval escort task force that supports the PRC's trade interests. Additionally, the PLANMC supports the PRC's military diplomacy. For example, it has trained with Russian and Thai forces and participated in exchanges with the United States and Australia.

Major Naval Units

Northern Theater Navy

- 1 Aircraft Carrier
- 4 Nuclear-powered Attack Submarines
- 14 Diesel-powered Attack Submarines
- 2 Cruisers
- 11 Destroyers
- 12 Frigates
- 12 Corvettes
- 2 Tank Landing Ships
- 3 Medium Landing Ships
- 15 Missile Patrol Craft

Eastern Theater Navy

- 18 Diesel-powered Attack Submarines
- 13 Destroyers
- 23 Frigates
- 24 Corvettes
- 3 Amphibious Transport Docks
- 16 Tank Landing Ships
- 5 Medium Landing Ships
- 38 Missile Patrol Craft

Southern Theater Navy

- 1 Aircraft Carrier
- 6 Nuclear-powered Ballistic Missile Submarines
- 2 Nuclear-powered Attack Submarines
- 14 Diesel-powered Attack Submarines
- 10 Destroyers
- 14 Frigates
- 20 Corvettes
- 5 Amphibious Transport Docks
- 10 Tank Landing Ships
- 8 Medium Landing Ships
- 14 Missile Patrol Craft

People's Liberation Army Air Force (PLAAF) and PLAN Aviation

Key Takeaways

- The PLAAF and PLAN Aviation together constitute the largest aviation force in the Indo-Pacific region.
- The PLAAF is rapidly catching up to Western air forces. The PLAAF continues to modernize with the delivery of domestically built aircraft and a wide range of UAVs.
- In October 2019, the PRC signaled the return of the airborne leg of its nuclear triad after the PLAAF publicly revealed the H-6N as its first nuclear-capable air-to-air refuelable bomber.

The PLAAF and PLAN Aviation together constitute the largest aviation forces in the region and the third largest in the world, with over 2,800 total aircraft (not including trainer variants or UAVs) of which approximately 2,250 are combat aircraft (including fighters, strategic bombers, tactical bombers, multi-mission tactical, and attack aircraft). The PLAAF's role is to serve as a comprehensive strategic air force capable of long-range airpower projection. The PRC's 2019 defense white paper described the PLAAF's missions and tasks as transitioning from territorial air defense to "offensive and defensive operations." In 2017, Lieutenant General Ding Laihang assumed the post of PLAAF commander and exhorted the service to build a truly "strategic" air force capable of projecting airpower at a long range. The PLAAF is rapidly catching up to Western air forces. This trend is gradually eroding longstanding and significant U.S. military technical advantages vis-à-vis the PRC in the air domain.

The CMC's intent is to transform the PLAAF into a more effective and capable force that is proficient at conducting joint operations. The PLAAF is comprised of aviation, airborne, air defense, radar, electronic countermeasure, and communications forces. Amid the wide-ranging reorganization of the PLA, the PLAAF has reorganized into five Theater Command Air Forces, established at least six new air bases, and restructured previously subordinate regiments into brigades under the new bases by disbanding its fighter and fighter-bomber divisions.

Fighters. The PLAAF and PLAN Aviation continue to field greater numbers of fourth-generation aircraft (now more than 800 of 1,800 total fighters, not including trainers) and probably will become a majority fourth-generation force within the next several years. For fifth-generation fighters, the PLAAF has operationally fielded limited numbers of its new J-20, while development continues on the smaller FC-31/J-31 for export or as a future naval fighter for the PLAN's next class of aircraft carriers. During the PRC's 70th anniversary parade in October 2019, the PLAAF conducted high-profile flyovers of its J-20, and J-16 and J-10C advanced fourth-generation fighters armed with the latest air-to-air missiles (AAMs). In addition, the PRC has received delivery of all 24 Su-35 advanced fourth-generation fighters

it purchased from Russia in 2016. Finally, the PLAAF is preparing upgrades for the J-20, which may include increasing the number of AAMs the fighter can carry in its low-observable configuration, installing thrust-vectoring engine nozzles, and adding super cruise capability by installing higher-thrust indigenous WS-15 engines.

Bombers. The PRC's bomber force is currently composed of H-6 Badger variants, which are domestically produced versions of the Soviet Tupolev Tu-16 (Badger) bomber. Despite the relative age of its bomber force, the PLAAF has worked to maintain and enhance the operational effectiveness of these aircraft. In recent years, the PRC has fielded greater numbers of the H-6K, a modernized H-6 variant that integrates standoff weapons and features more-efficient turbofan engines for extended-range. The H-6K can carry six LACMs, giving the PLA a long-range standoff precision strike capability that can range targets in the Second Island Chain from home airfields in mainland China. PLAN Aviation has traditionally fielded the H-6G to support maritime missions. More recently, PLAN Aviation has begun operating the H-6J, a maritime strike version of the H-6K with six weapons pylons for ASCMs. This aircraft carries six supersonic long-range YJ-12 ASCMs and can attack warships out to the Second Island Chain – significantly extending PLAN Aviation's reach.

During the PRC's 70th anniversary parade in 2019, the PLAAF publicly revealed the H-6N, a derivative of the H-6K optimized for long-range strikes. The H-6N features a modified fuselage that allows it to carry externally an air-launched ballistic missile (ALBM) that may be nuclear capable. In October 2020, an H-6N was observed carrying an air-launched ballistic missile. The H-6N's air-to-air refueling capability also provides it greater reach over other H-6 variants that are not refuelable in air. As of 2020, the PLAAF has operationally fielded the H-6N bomber, providing a platform for the air component of the PRC's nascent nuclear triad. In 2021, the H-6N-equipped unit very likely will be developing tactics and procedures to conduct the PLAAF nuclear mission. In addition, the PLAAF is seeking to extend its power projection capability with the development of a new stealth strategic bomber, with official PRC state media stating that this new stealth bomber will have a nuclear mission in addition to filling conventional roles. The PLAAF is also developing new medium- and long-range stealth bombers to strike regional and global targets. PLAAF leaders publicly announced the program in 2016, however it may take more than a decade to develop this type of advanced bomber.

Special Mission Aircraft. In 2019, the PLAAF publicly debuted its new Y-9 communications jamming/electronic countermeasures aircraft (known as the GX-11). This aircraft is designed to disrupt an adversary's battlespace awareness at long ranges. The PLA can conduct air-to-air refueling operations to extend the ranges of its fighter and bomber aircraft equipped with refueling probes using the H-6U, a modified tanker variant of the H-6 bomber, as well as a small number of larger IL-78 Midas. In addition, the PRC is developing a tanker variant of its Y-20 heavy-lift transport, which will enable the PLAAF to expand its tanker fleet and improve the PLAAF's ability to operate beyond the First Island Chain from bases in mainland China.

Production and deliveries of the KJ-500—the PRC's most advanced airborne early warning and control (AEW&C) aircraft—continued at a rapid pace, joining earlier KJ-2000 Mainring and KJ-200 Moth variants. These aircraft amplify the PLAAF's ability to detect, track, and target threats in varying conditions, in larger volumes, and at greater distances. These aircraft also help to extend the range of the PRC's integrated air defense system (IADS) network. Furthermore, China has produced at least one KJ-500 with an aerial refueling probe, which will improve the aircraft's ability to provide persistent AEW&C coverage.

The PRC's aviation industry continues to advance with deliveries of its domestic Y-20 large transport aircraft and completion of the world's largest seaplane, the AG600. Both aircraft made debut appearances at the November 2016 Zhuhai Air Show. These transports will supplement and eventually replace the PRC's small fleet of strategic airlift assets, which to date, consists of a limited number of Russian-made IL-76 aircraft. These large transports are intended to support airborne C2, logistics, paradrop, aerial refueling, and strategic reconnaissance operations, as well as HA/DR missions.

Unmanned Aerial Vehicles (UAVs). The PRC displayed its largest ever suite of UAV aircraft at the Zhuhai Air Show in November 2018. In addition to displays of armed-capable reconnaissance UAVs such as the Yunying, Caihong CH-4 and CH-5, and Yilong (Wing Loong) series of aircraft, there were multiple displays of low-observable flying-wing aircraft such as the CH-7, Tianying, and Yaoying-III to complement earlier flying wing UAVs such as the Anjian and Lijian. The Tengden Company also displayed armed UAVs, such as the TW328, as well as a large dual-engine TW356 transport UAV that suspends a large cargo pod between the two large engine nacelles. The PRC has begun deploying its Xianglong joined-wing high altitude reconnaissance UAV to airfields in western China and to Hainan Island. The PRC is continuing to develop the Shendiao and upgrade the BZK-005 Changying to a larger and longer enduring aircraft. During the PRC's 70th anniversary parade, the PLA displayed several advanced unmanned aerial systems such as the rocket-powered, high-speed Wuzhen-8 and the Gongji-11 stealth unmanned combat aerial vehicle.

Air and Missile Defense. The PLAAF possesses one of the largest forces of advanced long-range SAM systems in the world, composed of Russian-sourced SA-20 (S-300) battalions and domestically produced CSA-9 (HQ-9) and follow-on HQ-9b battalions. To improve its strategic long-range air defenses, the PRC has acquired the SA-21 (S-400) SAM system from Russia. The PLAAF conducted its first SA-21 test fires in December 2018. The PRC is also developing its indigenous CH-AB-X-02 (HQ-19), which will likely have a ballistic missile defense (BMD) capability. China is also developing kinetic-kill vehicle technology to field a mid-course interceptor, which will form the upper layer of a multi-tiered missile defense. China conducted a test of a land-based mid-course interceptor on February 4, 2021.

PLAAF Airborne Corps

The PLAAF Airborne Corps commands six identified airborne combined-arms brigades (three light motorized, two mechanized, and one air assault), a special operations brigade, an operational support brigade, an aviation transport brigade, a training base, and a new training brigade.

Each airborne combined arms brigade typically commands four combined arms battalions (identified as either mechanized, motorized, or assault), an artillery battalion, a reconnaissance and pathfinder battalion, an operations support battalion, a service support battalion, and possibly a transportation battalion.

2020 was the 70th anniversary of the founding of PLA airborne forces. PRC media reflected on the evolution of PLA airborne into a joint-operations armed branch with diversified capabilities—e.g. from a simple airborne infantry force into an airborne combined-arms force. Modern-day airborne units are expected to perform integrated air-land missions in multiple strategic directions, in various battlefield environments, with diverse services and arms. Significant new equipment development in recent years enables airborne units to achieve these effects and accomplish these missions.

Airborne units conducted significant joint training events in 2020. Airborne units conducted training and operations in a maritime environment, and responded directly to requests for assistance from a PLA Navy unit. In at least two separate instances, PLAAF Airborne units conducted inter-service training exercises with PLAA units, which reportedly included force-on-force maneuvers. The airborne unit specifically trained on infantry assault, reconnaissance, and fire strike, as well as gathering data on equipment, and improving leadership. Airborne units increased integration with other PLAAF units, including the first heavy equipment airdrop from the Y-20 in a high plateau environment. Airborne units also worked with military and civilian logistics (airlines, railways, etc.) to move equipment long distances to perform subsequent airborne operations thousands of kilometers from their home base—sometimes in just a few hours. Airborne units worked on nighttime offense and defense operations, including battalion-sized, full-equipment night jumps. Airborne units experimented with using UAS for continuous airdropping operations, dispersed replenishment, fast-roping replenishment, and wounded personnel evacuation.

Throughout the summer of 2020, airborne forces assisted in supporting the national, regional, and local responses to emergencies—specifically the COVID-19 outbreak and widespread flooding. PRC media claimed the units quickly transitioned from disaster response to combat training, including the integration of new fighting vehicles.

In August 2020, PLA airborne troops participated in the Airborne Platoon contest at the International Army Games in Russia. The PLA contingent used Russian infantry vehicles for the first time and placed first in various events, according to PRC media.

Equipment upgrades for airborne forces in 2020 include a new assault rifle and a new wheeled armored vehicle.

Major Aviation Units

People's Liberation Army Rocket Force (PLARF)

Key Takeaways

- In 2020, the PLARF advanced its long-term modernization plans to enhance its "strategic deterrence" capabilities.
- In 2020, the PLARF launched more than 250 ballistic missiles for testing and training. This was more than the rest of the world combined.
- In 2020, the PLARF began to field its first operational hypersonic weapons system, the DF-17 hypersonic glide vehicle (HGV) capable medium-range ballistic missile (MRBM).
- The PLARF continues to grow its inventory of DF-26 intermediate-range ballistic missiles (IRBMs), which are capable of conducting both conventional and nuclear precision strikes against ground targets as well as conventional strikes against naval targets.
- The PRC is developing new intercontinental ballistic missiles (ICBMs) that will significantly improve its nuclear-capable missile forces and will require increased nuclear warhead production, partially due to the introduction of multiple independently targetable reentry vehicle (MIRV) capabilities. China has commenced building three solid-fueled ICBM silo fields, which will cumulatively contain hundreds of new ICBM silos.
- The number of warheads on the PRC's land-based ICBMs capable of threatening the United States is expected to grow to roughly 200 in the next five years.

The PLA Rocket Force (PLARF) organizes, mans, trains, and equips the PRC's strategic land-based nuclear and conventional missile forces and associated support forces and missile bases. The PLARF is a critical component of the PRC's nuclear deterrence strategy and its strategy to deter and counter third-party intervention in regional conflicts. The PLARF, previously known as the PLA Second Artillery Force, was elevated to the status of a full service alongside the PLAA, PLAN, and PLAAF and renamed as part of the sweeping PLA reforms initiated in late 2015. According to the PRC's 2019 defense white paper, the PLARF is working towards "enhancing its credible and reliable capabilities of nuclear deterrence and counterattack, strengthening intermediate and long-range precision strike forces, and enhancing strategic counter-balance capability, so as to build a strong and modernized rocket force." In 2019, the PLARF's participation in the PRC's 70th anniversary military parade was designed to show its progress towards goals first publicized by Chairman Xi Jinping in 2016 and 2017 to "achieve a great rise in strategic capabilities," accelerate the PLARF's pace of development, and make enhanced "breakthroughs…in strategic deterrence capability."

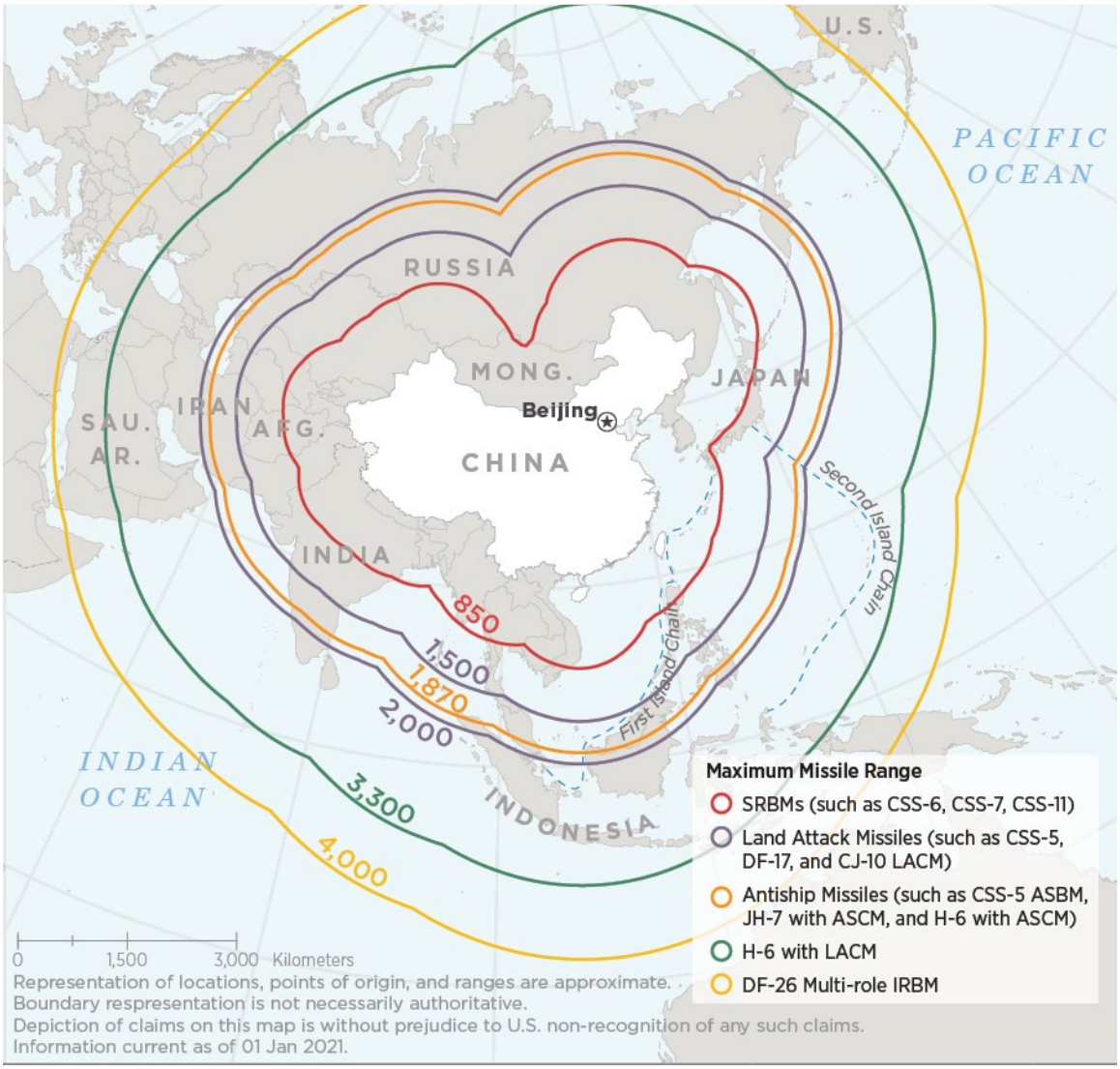
The PLARF fields a variety of conventional mobile ground-launched short-, medium-, and intermediate-range ballistic missiles and ground-launched cruise missiles. The PLARF's ground-based missile forces complement the air and sea-based precision strike capabilities of the PLAAF and PLAN. The PLARF's conventional missile forces include the CSS-6 (DF-15) short-range ballistic missile (SRBM) (range 725-850 km); the CSS-7 (DF-11) SRBM (600 km); the CSS-11 (DF-16) SRBM (more than 700 km); land-attack and anti-ship variants of the CSS-5 (DF-21) medium-range ballistic missile (MRBM) (approximately 1,500 km); the hypersonic glide vehicle capable DF-17 MRBM; the DF-26 IRBM (approximately 3,000 km); the CJ-10 (DH-10) ground-launched cruise missile (GLCM) (approximately 1,500 km); and the CJ-100 (DF-100) GLCM (approximately 2,000 km). The PLARF's conventionally armed CSS-5 Mod 5 (DF-21D) ASBM variant gives the PLA the capability to conduct long-range precision strikes against ships, including aircraft carriers, out to the Western Pacific from mainland China. The DF-21D has a range exceeding 1,500 km, is fitted with a maneuverable reentry vehicle (MaRV), and is reportedly capable of rapidly reloading in the field. The PLARF continues to grow its inventory of DF-26 IRBMs, which it first revealed in 2015 and fielded in 2016. The multi-role DF-26 is designed to rapidly swap conventional and nuclear warheads and is capable of conducting precision land-attack and anti-ship strikes in the Western Pacific, the Indian Ocean, and the South China Sea from mainland China. In 2020, the PRC fired anti-ship ballistic missiles against a moving target in the South China Sea , but has not acknowledged doing so. In 2020, the PRC had begun operational fielding of the DF-17 hypersonic glide vehicle capable MRBM, with fielding possibly intended to replace some older SRBM units, according to PRC media.

The PLARF is developing and testing several new variants of theater-range missiles and developing capabilities and methods to counter adversary BMD systems. This was more than the rest of the world combined excluding ballistic missile employment in conflict zones. The DF-17 passed several tests successfully and is deployed operationally. While the DF-17 is primarily a conventional platform, it may be equipped with nuclear warheads. In 2020, a PRC-based military expert described the primary purpose of the DF-17 as striking foreign military bases and fleets in the Western Pacific.

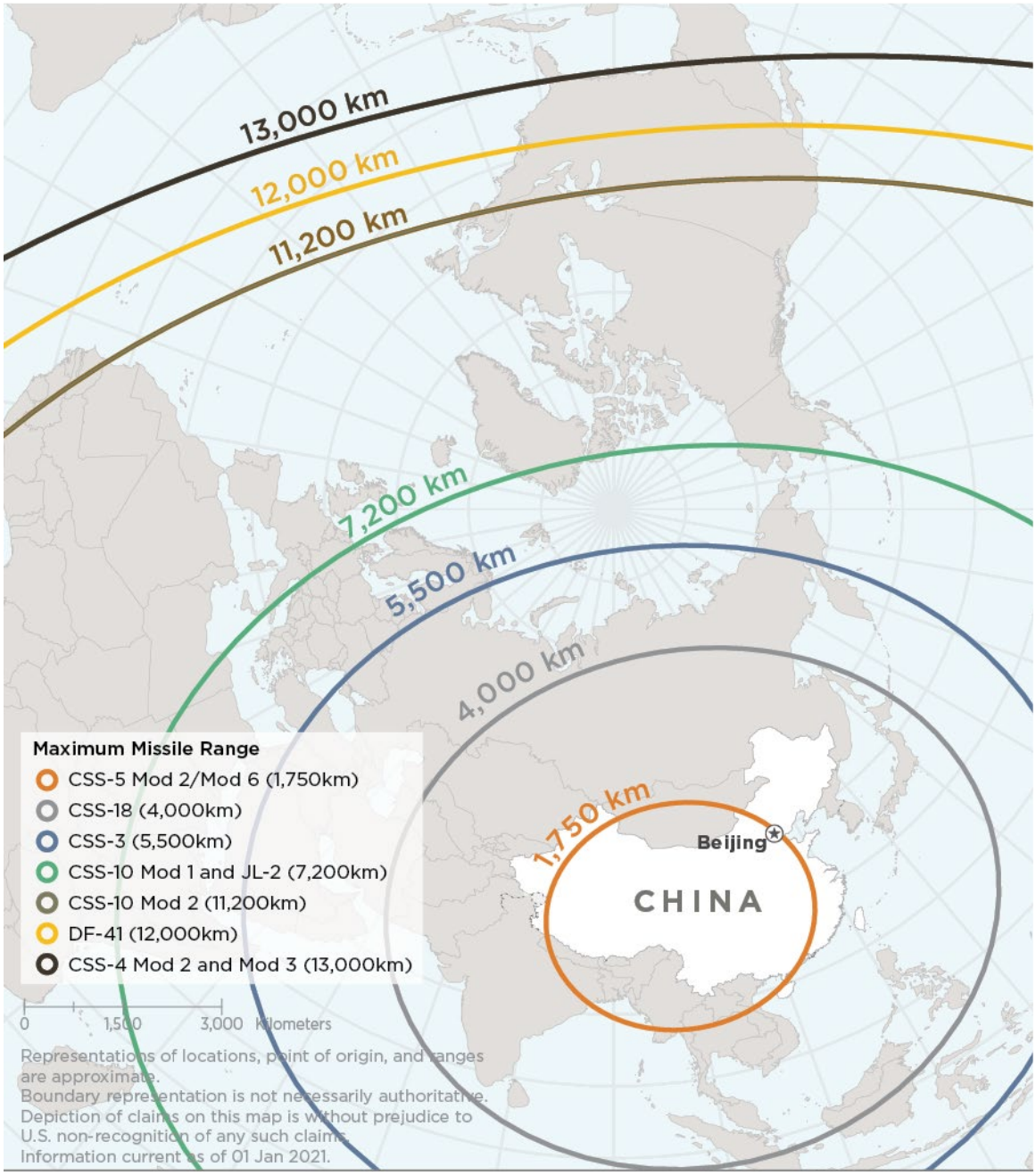
The PLARF is developing intercontinental ballistic missiles (ICBMs) that will significantly improve its nuclear-capable missile forces with more survivable delivery systems and will require increased nuclear warhead production, partially due to the introduction of multiple independently targetable reentry vehicle (MIRV) capabilities. Already, the PRC appears to be doubling the numbers of launchers in some ICBM units. The PRC's ICBM arsenal consists of approximately 100 ICBMs, including fixed and mobile launchers capable of launching unitary and multiple reentry vehicles. China's fixed ICBMs consist of the shorter range CSS-3 (DF-4), as well as the silo-based CSS-4 Mod 2 (DF-5A) and MIRV-equipped Mod 3 (DF-5B), which is capable of carrying up to five MIRVs. PRC media indicates a follow-on DF-5C may be in development. The solid-fueled, road-mobile CSS-10 class and CSS-20 (DF-41) ICBMs complement this force. The CSS-10 Mod 2 (DF-31A), with a range in excess of

11,000 km, can reach most locations within the continental United States. PRC media reports suggest a DF-31B might also be in development. The DF-41 ICBM has been operationally deployed with commentary during the 2019 parade noting that two brigades existed for the system. The PRC appears to be considering additional DF-41 launch options, including rail-mobile and silo basing. The PRC is building multiple ICBM silos intended to support the land-based component of the PRC's nuclear triad. Additionally, sources indicate a "long-range" DF-27 ballistic missile is in development. Official PRC military writings indicate this range-class spans 5,000-8,000km, which means the DF-27 could be a new IRBM or ICBM.

Conventional Strike



Nuclear Ballistic Missiles



Strategic Support Force (SSF)

Key Takeaways

- The PLA Strategic Support Force (SSF) is a theater command-level organization established to centralize the PLA's strategic space, cyber, electronic, information, communications, and psychological warfare missions and capabilities.
- The SSF's Network Systems Department is responsible for information warfare with a mission set that includes cyberwarfare, technical reconnaissance, electronic warfare, and psychological warfare.
- PRC continues to develop counterspace capabilities—including direct ascent, co-orbital, electronic warfare, and directed energy capabilities—that can contest or deny an adversary's access to and operations in the space domain during a crisis or conflict.
- The PRC's space enterprise continues to mature rapidly and Beijing has devoted significant resources to growing all aspects of its space program, from military space applications to civil applications such as profit-generating launches, scientific endeavors, and space exploration.

As part of its efforts to restructure the PLA for modern warfare, the CMC established the PLA SSF in 2015 to centralize the PLA's strategic space, cyber, electronic, and psychological warfare missions and capabilities. The SSF's creation highlights the PRC's understanding of the information domain as a strategic resource in modern warfare. Among the impetuses for the SSF's establishment was the PLA's apparent concern about the disparity between its cyber capabilities and those of the United States, and the view of China's leaders that achieving information dominance and denying adversaries the use of the electromagnetic spectrum is necessary to seize and maintain the strategic initiative in a conflict. The SSF reports directly to the CMC and supports the entire PLA with its capabilities. The PRC's 2019 defense white paper described the SSF's modernization goals as "seeking to achieve big development strides in key areas and accelerate the integrated development of new-type combat forces, so as to build a strong and modernized strategic support force."

The SSF oversees two deputy theater command-level departments: the Space Systems Department responsible for military space operations, and the Network Systems Department responsible for information operations (IO), which includes technical reconnaissance, EW, cyber warfare, and psychological operations. At the headquarters level, the SSF has a four-department administrative structure that includes the Staff, Equipment, Political Work, and Logistics Departments. As a strategic organization, the SSF is directly subordinate to the CMC, but may report to the theater commands in wartime. The SSF provides information support derived from space-, cyber-, and terrestrial-based means to all PLA services and the five joint theater commands.

General Li Fengbiao is the SSF commander. Lt. Gen. Shang Hong and Lt. Gen Ju Qiansheng are the commanders of the Space Systems and Network Systems Departments, respectively, though new promotions were announced in 2021.

The SSF participates in joint exercises and training throughout China, including possible national strategic joint exercises. For example, the SSF exercised and assessed its ability to establish command posts and provide joint communications to the theater commands in 2019 and 2020. These exercises allow the SSF to assess and improve its capabilities to support joint operations and better enable the PLA to project power into the East and South China seas.

Network Systems Department. The SSF Network Systems Department is responsible for information warfare with a mission set that includes cyberwarfare, technical reconnaissance, electronic warfare (EW), and psychological warfare. By placing these missions under the same organizational umbrella, the PRC seeks to remedy the operational coordination challenges that hindered information sharing under the PLA's pre-reform organizational structure. The integration of cyber and EW elements under one organization is a crucial step towards realizing the operational concept of integrated network and electronic warfare that the PLA has envisioned since the early 2000s. The Network Systems Department operates five theater –aligned technical reconnaissance bases, a number of signals intelligence bureaus, and several research institutes. The Network Systems Department provides intelligence support to the theater commands by leveraging a diverse suite of ground based technical collection assets to provide a common operating picture to geographically dispersed operational units.

- *The SSF and the "Three Warfares" Concept*: The former General Political Department's 311 Base, which now falls under the SSF Network Systems Department, performs missions and tasks associated with the PLA's concept of "Three Warfares," which comprises psychological warfare, public opinion warfare, and legal warfare. This base is the only publicly known organization in the PLA that performs psychological warfare operations. The goals of the PLA's psychological warfare mission are to shape international public narratives, weaken the enemy's will, shape diplomatic and political narratives, and advance the PRC's interests through all phases of conflict.

Space Systems Department. The SSF Space Systems Department is responsible for nearly all PLA space operations, including space launch and support; space surveillance; space information support; space telemetry, tracking, and control; and space warfare. The PRC officially designated space as a new domain of warfare in its 2015 defense white paper, and expects space to play an important role in future conflicts by enabling long-range precision strikes and in denying other militaries the use of overhead command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR) systems. The Space System Department operates at least eight bases, including those whose core missions are the launch, tracking, R&D, and operation of the satellites vital to China's

overhead C4ISR architecture. The SSF operates tracking, telemetry, and command stations in Namibia, Pakistan, and Argentina. The SSF also operates Yuan Wang space support ships that track satellite and intercontinental ballistic missile (ICBM) launches.

SSF Research and Development. The SSF operates several academic and research institutions including the Information Engineering University, Space Engineering University, and the former GSD 56th and 57th Research Institutes. These institutions offer programs in space based surveillance, intelligence, weapon launch and early warning, communications and information engineering, cryptology, big data, and information attack and defense technology.

Space and Counterspace Capabilities. The PRC's space enterprise continues to mature rapidly and Beijing has devoted significant economic and political resources to growing all aspects of its space program, from military space applications to civil applications such as profit-generating launches, scientific endeavors, and space exploration. The PRC's space enterprise not only includes the SSF but also encompasses other military, government, and civilian organizations, including state-owned enterprises, academic institutions, and commercial entities. The PLA has historically managed the PRC's space program and the SSF Space Systems Department is responsible for nearly all PLA space operations. The PRC continues to strengthen its military space capabilities, despite its public stance against the weaponization of space. The PLA continues to invest in improving its capabilities in space-based intelligence, surveillance, and reconnaissance (ISR), satellite communication, satellite navigation, and meteorology, as well as human spaceflight and robotic space exploration. The PRC plans to have a permanent operating space station by 2022 that will host its own and foreign payloads and astronauts The PRC has built an expansive ground support infrastructure to support its growing on-orbit fleet and related functions including spacecraft and space launch vehicle (SLV) manufacture, launch, C2, and data downlink. Additionally, the PRC continues to develop counterspace capabilities—including direct ascent, co-orbital, electronic warfare, and directed energy capabilities—that can contest or deny an adversary's access to and operations in the space domain during a crisis or conflict.

In 2020, China launched 39 SLVs, of which all but 4 were successful, placing more than 70 spacecraft on orbit, including navigation, ISR, communications, and test/engineering satellites, as well as satellites for foreign customers. Key developments for 2020 included:

- *Inaugural Launch of Reusable PRC Space Plane*: In early September, the PRC became the third country to successfully launch and recover a space plane, after the United States and the Soviet Union. The space plane spent about two days in space before releasing a second object, de-orbiting, and landing at an airfield in Western China. The second object remains on orbit. Beijing has not released any information on the mission beyond calling it a "reusable experimental spacecraft."

- *Worldwide Satellite Navigation Constellation Complete*: In June, the PRC completed its longstanding goal of a BeiDou constellation with worldwide coverage. In addition to the Global BeiDou System, Beijing also operates satellites providing coverage to the Asia Pacific region. Both constellations provide satellite navigation and mass communication services to users, as well as command and control options to the PLA, reducing PRC dependence on U.S. GPS. New BeiDou satellites are equipped with radiofrequency inter-satellite links, new atomic clocks, and other advanced technologies. Additionally, the PRC plans to offer satellite-based augmentation services, a worldwide short message service, and internationally recognized search and rescue capabilities.

- *Solidifying Gains in Space Launch*: Throughout 2020, the PRC solidified gains to its national space lift capabilities with successful launches of its LM-5 and LM-5B heavy lift rockets, its sea launch capability, and the inaugural flights of its LM-8 medium lift rocket and a new commercial rocket. The PRC also launched its first LM-5B, which will enable the construction of their future space station. In September, Beijing successfully completed its second sea launch. In November, the PRC launched the Ceres-1, its fourth commercially developed rocket, following two commercial attempts in 2019 and one in 2018. The PRC space program suffered four failures this year, including the attempted inaugural flight of the LM-7A, which Beijing plans to use as its main geosynchronous Earth orbit (GEO) launch platform.

- *Launched Second GEO Imager*: On 12 October, China launched its second GEO imager—Gaofen-13—a 15-meter resolution electro-optical satellite positioned at 117.9 degrees East, providing persistent coverage of the western Pacific and Indian Oceans. Beijing claims the satellite will be used for land survey, agriculture, environmental monitoring, weather, and disaster response, but it may address military requirements such as maritime target tracking like other Gaofen satellites.

The PLA continues to acquire and develop a range of counterspace capabilities and related technologies, including kinetic-kill missiles, ground-based lasers, and orbiting space robots, as well as expanding space surveillance capabilities, which can monitor objects in space within their field of view and enable counterspace actions. As of December 2020, the PRC's reconnaissance and remote sensing fleet consisted of more than 200 satellites designed to collect data for civil, commercial, or military owners and operators. Reportedly, the PLA owns and operates approximately half of these systems, most of which could support situational awareness of regional rivals and potential flashpoints, while monitoring, tracking, and targeting an adversary's forces. In concert with its marked improvements in satellite navigation, launch capabilities, and space object surveillance and identification, the PRC is developing electronic warfare capabilities such as satellite jammers; offensive cyber capabilities; and directed-energy weapons. Moreover, the PRC has demonstrated

sophisticated, potentially damaging on-orbit behavior with space-based technologies. The PRC has an operational ground-based Anti-Satellite (ASAT) missile intended to target low-Earth orbit satellites, and China probably intends to pursue additional ASAT weapons capable of destroying satellites up to geosynchronous Earth orbit. The PRC is employing more sophisticated satellite operations and is probably testing dual-use technologies in space that could be applied to counterspace missions.

Although the PRC has not publicly acknowledged the existence of any new programs since it confirmed it used an ASAT missile to destroy a weather satellite in 2007, the PLA's defense academics often publish on counterspace threat technologies. These scholars stress the necessity "to cripple or destroy the enemy's information system would drastically degrade the enemy's combat capabilities by making it blind, deaf or paralyzed" suggesting that such systems, as well as navigation and early warning satellites, could be among the targets of attacks designed to "blind and deafen the enemy."

Joint Logistic Support Force (JLSF)

Key Takeaways

- The PLA established the JLSF in 2016 to streamline the PLA's joint strategic and campaign-level logistics. The JLSF is establishing support relationships among joint logistic units and other PLA service logistics elements and integrating civilian logistics into military operations.
- In 2020, the JLSF conducted exercises of various size, scope, and complexity to improve the PLA's ability to conduct joint logistics operations. The JLSF also had an active role coordinating with civilian companies to provide logistic support in response to the initial outbreak of COVID-19 in early 2020.

Established in 2016, the PLA Joint Logistic Support Force (JLSF) provides integrated joint logistics support for the PLA. The JLSF strives to be the "backbone" of the PLA's logistics system. The JLSF's development is central to the PRC's efforts to build a joint, lean, and efficient "combat-oriented modern logistics system" which Beijing views as essential for modern warfare. In 2019, the JLSF made its debut at the PRC's 70th anniversary parade, and the First Party Congress of the JLSF defined its development plans for the next five years. According to the PRC's 2019 defense white paper, the JLSF is "being integrated into the joint operations system to enhance the capabilities of integrated joint logistics, so as to build a strong and modernized joint logistic support force." The JLSF works to streamline PLA joint strategic- and campaign-level logistics by overseeing theater wide supply operations, establishing and coordinating support relationships among the PLA service logistics elements, conducting joint logistics exercises with the PLA services, and integrating civilian logistics resources into military operations. In 2020, the JLSF conducted exercises of various size, scope, and complexity to improve the PLA's ability to conduct joint logistics operations.

Headquartered at the Wuhan Joint Logistics Support Base, the JLSF provides the PLA with joint strategic- and campaign-level logistics, enabling the PLA to conduct large-scale operations. The JLSF has force elements for inventory and warehousing, medical services, transport, force projection, oil pipelines, engineering and construction management, reserve equipment, and procurement support. The JLSF has five subordinate Joint Logistics Service Centers (JLSCs) aligned with the five Theater Commands that are intended to streamline the PLA's logistics support. During peacetime, the JLSF controls the JLSCs' operations and activities; during wartime, each Theater Command assumes control of their designated JLSC. JLSC-subordinate elements, Joint Logistics Sub-Departments (JLSDs), provide every day materiel support to the PLA, and in February 2020, the PLA established Joint Logistic Support Brigades (JLSBs) to focus exclusively on providing logistic support to combat operations. JLSCs will form JLSBs by retasking mobile logistic units subordinate to JLSDs, and JLSCs will have operational control of these units during combat operations.

The PLA leverages a variety of methods and arrangements to use civilian transport and logistics resources to move military personnel and equipment more rapidly. In 2020, the JLSF routinely integrated civilian logistics resources and equipment into military operations and exercises. The JLSF also had an active role working with civilian companies to provide logistic support in response to the initial outbreak of COVID-19 in early 2020. During the crisis, the JLSF coordinated with civilian rail entities to transport emergency medical supplies to Wuhan via high-speed rail.

MILITARY READINESS

Key Takeaways

- The CMC's focus is on improving the PLA's combat readiness and the guidance issued by senior leaders is increasingly evident in the PLA's training and exercises.
- The PLA is training to "fight and win" through increasingly realistic combat training that uses dedicated "blue force" opponents and other elements to improve realism.
- Despite initial delays and cancellations in military training, exercises, research, and recruitment in the early months of the COVID-19 pandemic, impact to the overall readiness of the PLA remains minimal.

The CMC's focus on improving the PLA's combat readiness and the guidance issued by senior leaders is increasingly evident in the PLA's training and exercises. In 2020, the PLA continued to focus its annual training cycle on building readiness through increasingly large-scale and complex joint exercises, service-level exercises, numerous mission-oriented force-on-force exercises, live-fire exercises, and skills-based competition exercises. Notable is the PLA's focus on increasingly realistic combat training using dedicated "blue force" opponents to improve realism, training simulation technology, and enacting efforts to strengthen and evaluate commanders' ability to conduct joint operations. Despite initial delays and

cancellations in military training, exercises, research, and recruitment in the early months of the COVID-19 pandemic, impact to the overall readiness of the PLA readiness remains minimal.

COVID-19 Impact on PLA Readiness

COVID-19 temporarily degraded the PRC's military readiness and halted production of commercial and domestic military equipment; however, by spring 2020, both military readiness and defense production returned to normal readiness levels. For instance, the PLAN commissioned the PRC's first Type 055 guided-missile destroyer and launched its second Type 075 amphibious helicopter assault ship. Additionally, the PLAN's fifth and sixth Type 094 Jin-class nuclear-powered ballistic missile submarines entered service, and the PRC's first domestically produced aircraft carrier, the Shandong, started its first sea trials all amid COVID-19.

PLA joint training and exercises reportedly were delayed or altered due to safety concerns during the early stages of COVID-19, but service-level training continued with minimal disruption. The PLA has taken mitigation measures, such as modifying training schedules and monitoring the number of training participants, which has contributed to the minimal impact to overall readiness. The PRC's stance on issues like Taiwan has not deviated due to COVID-19 and participation in regional exercises like Cobra-Gold and Golden Dragon display the PLA's ability to conduct shows of force in the South China Sea.

PLA Army

In 2020, the worldwide spread of COVID-19 delayed and reduced in size the majority of PLAA training exercises, although units continued to train at theater, brigade, or battalion levels with a continued focus on enhanced and realistic training scenarios. In September, Western Theater troops participated in Kavkaz 2020, Russia's annual command post exercises, and in March, Golden Dragon, a combined tactical military exercise with the Cambodian military. However, these exercises appear to be the only major international exercises the PRC participated in this year. An earlier planned "Peace Mission" exercise in Russia scheduled for August 2020, to which the PRC had planned to send nearly 10,000 troops, was suspended likely due to the pandemic. In 2020, acute tensions and clashes along the border with India resulted in significant PLAA force buildup and establishment or enforcement of forward positions along the Line of Actual Control. These tensions likely provided the PLAA with valuable real-world operational and tactical experience.

Single-service exercises, largely at the individual brigade or theater level, replaced the majority of joint-service exercises for this year and were largely focused on force-on-force activities as well as implementing new or improved tactics, techniques, and procedures. Units also worked to incorporate the PRC's goals for modernization into training by incorporating

updated denial and deception as well as familiarization with new and updated equipment and weapon systems.

PLA Navy and PLA Navy Marine Corps

The PLAN conducted significant training events throughout 2020, appearing to successfully balance training requirements with COVID-19 related restrictions. In 2020, the PRC's first domestically-built aircraft carrier, the Shandong, conducted planned sea trials and training, including aviation support, damage control, and weapons and equipment performance testing. The PLA Navy also continued to emphasize realistic combat training, highlighted in late 2020 by three concurrent naval exercises in the Bo Hai, South China, and Yellow Seas, which included anti-ship, air defense, and landing operations. The PLA Navy also exercised distant-sea operations, with the Southern Theater Command Navy formation completing a 41-day training iteration that covered over 14,000 nautical miles and included counterterrorism, anti-piracy, wartime replenishment, and live-fire operations. In October 2020, President Xi Jinping visited the PLANMC Headquarters at Chaoan where he observed a recently recorded video of marines conducting amphibious assault and underwater infiltration training.

PLA Air Force

In 2020, The PLAAF has worked to improve its combat effectiveness while overcoming the impact of the COVID-19 pandemic, including carrying out foreign exchanges and joint training exercises as well as sending aircraft to multiple countries to deliver pandemic prevention materials. A video released in March called "2020, Flying Courageously in the Spring Skies" depicted PLAAF units conducting combat-realistic training using J-20, Y-20, J-16, and H-6K aircraft. Separately, three Y-20 aircraft were deployed to transport Western Theater Command troops to the Kavkaz 2020 exercise in Russia, marking the first Y-20 transnational airlift for heavy equipment. The PRC also conducted military exercises and record-breaking numbers of flights across the Taiwan Strait centerline, probably in response to a perceived warming of ties between Washington and Taipei.

PLA Rocket Force

In 2020, The PLARF continued exercising with a focus on realistic training, enhancing combat readiness, rapidly mobilizing, operating in complex electromagnetic environments, and integrating support elements. On August 26, the PLARF test-fired four medium-range ballistic missiles into the South China Sea, marking the second consecutive year that the PLA has conducted such a test. In July 2019, the PLARF conducted its first-ever confirmed live-fire launch into the South China Sea, firing six DF-21D anti-ship ballistic missiles into the waters north of the Spratly Islands.

PLA Strategic Support Force and PLA Joint Logistic Support Force

In 2020, the SSF conducted a rapid, long-distance mobilization exercise with a focus on equipment familiarization, command, control, and communications support, and realistic training under extreme conditions. In late-2020, the JLSF held a skills competition testing participating units' comprehensive support capabilities, including command, finance, resupply medical rescue, and transport. This event was the largest-scale skills competition since the founding of the JLSF in late 2016, featuring over 1,000 participants from all five theater Joint Logistics Support Centers, general hospitals of the PLA, and subordinate units. In August 2020, a Western Theater JLSF support service brigade partnered with a 76th Group Army combined-arms brigade to exercise integrated support services during a mountain assault operations drill.

INCREASING INTEROPERABILITY AND INTEGRATION WITH PLA RESERVES, PARAMILITARY & MILITIA

Key Takeaway

- Interoperability and integration between the PLA, its reserve components, and the PRC's paramilitary forces continues to grow in scale and sophistication, including the coordination between the PLAN, the CCG, and the People's Armed Forces Maritime Militia (PAFMM).

People's Liberation Army Reserve Force. The People's Liberation Army Reserve Force was founded in 1983 and professionalized throughout the 1990s and 2000s. The PLA Reserve Force is comprised of approximately 510,000 personnel subordinate to the Army Reserve, Navy Reserve, Air Force Reserve, and Rocket Force Reserve. According to PLA documents, active duty personnel are the backbone of the Reserve Force, but reserve-duty officers and soldiers are its foundation. The primary mission of the reserves is to reinforce active-duty forces for national defense, with a secondary mission to aid in national disasters or maintaining social order. While originally founded to support the ground forces, reforms in recent years seek to reduce PLAA reserves and increase those for the PLAN, PLAAF, and the PLARF. However, PRC writings suggest that, as of 2018, the Reserve Force was still predominately ground force-centric, with less than 10% of reservists serving specialized technical functions in the PLAN, PLAAF, PLARF, or PLA SSF.

On July 1, 2020, the PRC amended laws, regulations, and policies to bring the Reserve Force under the command of the Central Committee of the CCP and the Central Military Commission (CMC). The previous arrangement split control of the Reserve Force between the PLA and local Party committees. Motivations for the change include improving combat capability, facilitating cooperation with active-duty units, and upholding the CCP's absolute

leadership over the military. PRC sources often stated specifically that the reform would enhance reserve performance in Tibet and Xinjiang.

Reserve personnel are likely predominantly demobilized soldiers and officers from recent military personnel reductions. Reserve officers are selected from veteran PLA officers, local officials, PAP or militia officers, and other technical personnel. Reserve soldiers are selected from eligible PLA veterans, trained grass-roots militias, and other local or military specialty personnel. Some reserve soldiers also failed to meet active duty entry requirements and conduct remedial training in the reserves until they are able to join the active duty force.

Anecdotal evidence suggests that significant issues remain in the mobilization of reserve forces, including which equipment should be used, what level of government pays for the mobilization, and resistance from enterprises at the sudden requisition of their employees. PRC documents state that Reserve Force equipment is predominately antiquated; one report stated that more than 70% of air defense artillery and artillery equipment is at or beyond its maximum service life. Some of the equipment is no longer manufactured and repair requires cannibalization.

The PLA Reserve Force also provides significant support to local areas after natural disasters. Reservists across the country also contributed to the PRC's efforts in fighting COVID-19. The PLA Reserve Force does not include militias, the Civil Air Defense, or myriad other groups (e.g. the People's Armed Police or the Xinjiang Production and Construction Corps (XPCC)).

People's Armed Police (PAP). The PAP is a component of the PRC's armed forces and an armed wing of the CCP with an estimated 660,000 personnel. Primary missions of the PAP include primary responsibility for PRC domestic security, enforcing PRC maritime law domestically (including in areas of disputed territorial claims, like the South China Sea), and providing rear area support to the PLA during wartime, and disaster response. The PAP is organized into three main parts: the Internal Security Corps, the Mobile Corps, and the China Coast Guard (CCG). The Internal Security Corps covers each of the PRC's provinces, provincial-level cities, and "autonomous" regions. The PRC will likely continue to maintain a reported PAP presence in Hong Kong, until Beijing assesses the "security situation" has been stabilized. The Mobile Corps consists of two large mobile contingents at the national level without fixed geographic areas of responsibility. Each mobile contingent has multiple mobile detachments, along with other specialized detachments. Xinjiang is a particular focus of the PAP due to alleged "separatist" activity, as well as its proximity to areas of unrest in Central Asia. The China Coast Guard is covered in depth in the next section of this report.

On July 1, 2020, the standing committee of the PRC's legislature, the National People's Congress, approved a revision to the *Law on the People's Armed Police Force* which officially recognized the Central Military Commission's (CMC) singular command of the PAP, identified the PAP as an important part of the armed forces that fall under the leadership

of the CCP, as well as affirming its primary mission set of handling security emergencies, conducting counter-terrorism operations, and executing maritime law enforcement and rescue. This legal amendment codified and deepened the substantial reforms of 2018, when command of the PAP was centralized under the CMC after decades of dual-leadership under the CMC and State Council (a PRC government body); the China Coast Guard was subordinated to the PAP; and myriad auxiliary duties (e.g. protecting gold mines, firefighting, etc.) were removed from the PAP's purview to focus its mission on PRC domestic and international security. PRC media noted that the 2020 PAP reforms included an article that permitted the PAP to conduct certain operations, including counter-terrorism training, outside of the PRC.

Xi Jinping and the CCP leadership tasked the PAP with integrating themselves into the PLA's joint operation system. The PAP is increasingly focused on internal security and joint operations with the PLA and is developing capabilities for rapid response, mobility, and counterterrorism operations. The PAP also conducts training with foreign partners, including at least Uzbekistan, Kyrgyzstan, and Russia. Since at least 2016, PAP forces have likely operated in Tajikistan, patrolling the tri-border region connecting Tajikistan, Afghanistan, and the PRC.

In 2020, the PAP supported the PRC's response to COVID-19. Additionally, the PAP reportedly executed thousands of disaster response operations in response to heavy flooding in southern China during the summer.

The PRC's Internal Security Forces

The PRC's internal security forces consist primarily of the Ministry of Public Security (MPS), the Ministry of State Security (MSS), the People's Armed Police (PAP), the PLA, and the militia. The Party relies on these forces to address challenges ranging from protests over political, social, environmental, or economic problems, to terrorism and natural disasters. In 2020, the PRC mobilized and deployed over 4,000 military medical personnel to Hubei Province for its coronavirus control efforts. PRC internal security forces also provided medical expertise and supplies globally to support international pandemic control efforts. Lastly, the PRC deployed more than 1.2 million PLA and PAP soldiers as well as more than 300,000 militia for domestic response and disaster relief.

Ministry of Public Security (MPS). The MPS leads the PRC's civilian national police, which serves as the first-line force for public order. The key mission of the MPS is domestic law enforcement and the "maintenance of social security and order" with duties including anti-rioting and anti-terrorism.

Ministry of State Security (MSS). The MSS is the PRC's main civilian intelligence and counterintelligence service. The missions of the MSS are to protect the PRC's national security; secure political and social stability; implement the National Security Law and

related laws and regulations; protect state secrets; conduct counterintelligence; and investigate organizations or people inside the PRC who carry out or direct, support, or aid other people perceived to harm national security.

People's Armed Police (PAP). The PAP is a paramilitary component of the PRC's armed forces. Its primary missions include internal security, maintaining public order, maritime security, and assisting the PLA in times of war. As part of a reorganization of the PRC's security structures in 2018, the CMC assumed direct control of the PAP. The same reform also subordinated the China Coast Guard (CCG) to the PAP.

People's Liberation Army (PLA). In addition to its national defense mission, the PLA has formal and informal roles in the PRC's internal security. As the principal armed wing of the CCP, the PLA is the ultimate guarantor of the CCP's survival and supports other internal security forces as necessary. For example, the PLA may provide transportation, logistics, and intelligence to assist local public security forces with internal security. The PLA's active and reserve forces are authorized under the National Defense Law to directly "assist in maintaining public order" when CCP leaders consider it necessary.

Militia. The militia is an armed reserve force of civilians available for mobilization. It is distinct from the PLA's reserve forces. Militia units organize around towns, villages, urban sub-districts, and enterprises and vary widely in composition and mission. The PRC's National Defense Law authorizes the militia to assist in maintaining public order. Local maritime militia forces commonly referred to as the People's Armed Forces Maritime Militia (PAFMM) perform tasks including safeguarding maritime claims, often conducted in conjunction or coordination with the PLAN and the CCG.

China Coast Guard (CCG). The CCG is subordinate to the PAP and is responsible for a wide range of missions under the umbrella of maritime rights protection, including enforcement of the PRC's sovereignty claims, surveillance, protection of fisheries' resources, anti-smuggling, and general law enforcement. In November 2020, a draft law defining the CCG's authorities and jurisdiction was published by the National People's Congress for public comment. The law in its draft form listed the CCG's missions and the procedures to carry out the missions, to include the use of law enforcement equipment and weapons. The Standing Committee of China's National People's Congress passed the Coast Guard Law on January 22, 2021, and was met with concern by countries in the region due to the Law's vague language on use of force and jurisdiction. The PRC primarily uses paramilitary maritime law enforcement agencies in maritime disputes, selectively using the PLAN to provide over watch in case of escalation.

The CCG's rapid expansion and modernization has improved the PRC's ability to enforce its maritime claims. Since 2010, the CCG's fleet of large patrol ships (more than 1,000 tons) has more than doubled from approximately 60 to more than 130 ships, making it by far the largest

coast guard force in the world and increasing its capacity to conduct simultaneous, extended offshore operations in multiple disputed areas. Furthermore, the newer ships are substantially larger and more capable than the older ships, and the majority are equipped with helicopter facilities, high-capacity water cannons, and guns ranging from 30 mm to 76 mm. A number of these ships are capable of long-endurance and out-of-area operations.

In addition, the CCG operates more than 70 fast patrol combatants (more than 500 tons), which can be used for limited offshore operations, more than 400 coastal patrol craft, and approximately 1,000 inshore and riverine patrol boats.

People's Armed Forces Maritime Militias (PAFMM). The PAFMM is a subset of the PRC's national militia, an armed reserve force of civilians available for mobilization. There is no national level PAFMM organization; rather militia units organize around towns, villages, urban sub-districts, and enterprises and vary widely in composition and mission. The PAFMM has played a major role in coercive activities to achieve the PRC's political goals below the threshold of armed conflict, part of broader PRC military theory that sees confrontational operations short of war as an effective means of accomplishing political objectives.

A large number of PAFMM vessels train with and assist the PLAN and CCG in tasks such as safeguarding maritime claims, surveillance and reconnaissance, logistic support, and search and rescue. The government subsidizes various local and provincial commercial organizations to operate militia vessels to perform "official" missions on an ad hoc basis outside of their regular civilian commercial activities. These traditional maritime militia units contrast with Sansha City maritime militia, which is more professional, better equipped, and staffed by full time, salaried personnel. Nevertheless, traditional maritime militia units continue to play a central role advancing the PRC's claims in the South China Sea, including through escorted fishing operations in areas at the farthest extent of the Nine-Dash Line.

The PAFMM has played significant roles in a number of military campaigns and coercive incidents over the years, and also supported PRC fishing fleets operating in disputed waters. From late December 2019 to mid-January 2020, a large fleet of over 50 PRC fishing vessels operated under the escort of multiple China Coast Guard patrol ships in Indonesian claimed waters northeast of the Natuna Islands. At least a portion of the PRC ships in this fishing fleet were affiliated with known traditional maritime militia units, including a maritime militia unit based out of Beihai city in Guangxi province. While most traditional maritime militia units operating in the South China Sea continue to originate from townships and ports on Hainan Island, Beihai is one of a number of increasingly prominent maritime militia units based out of provinces in mainland China. These mainland based maritime militia units routinely operate in the Spratly Islands and in the southern South China Sea, and their operations in these areas are enabled by increased funding from the PRC government to improve their maritime capabilities and grow their ranks of personnel.

PLA CAPABILITIES IN DEVELOPMENT

Key Takeaways

- The PLA has fielded, and is further developing capabilities to provide options for the PRC to dissuade, deter, or, if ordered, defeat third-party intervention during a large-scale, theater campaign such as a Taiwan contingency. U.S. defense planners often refer to these collective capabilities as anti-access/area-denial (A2/AD) capabilities.
- The PLA is additionally developing the capabilities and operational concepts to conduct offensive operations deeper into the Pacific and Indian Oceans, and in some cases, globally.

Military Capabilities for Anti-Access/Area Denial (A2/AD) within the Second Island Chain

Key Takeaways

- In addition to strike, air and missile defense, anti-surface and anti-submarine capabilities improvements, the PRC is focusing on information, cyber, and space and counterspace operations.
- The PLA's A2/AD capabilities are to date the most robust within the First Island Chain, although the PRC is beginning to field significant capabilities capable of conducting operations out to the Second Island Chain, and seeks to strengthen its capabilities to reach farther into the Pacific Ocean and globally.
- The PLA highlights big data analysis as useful for monitoring and early warning and artificial intelligence as a tool for more realistic exercises and the ability to respond quickly in the case of a conflict in cyberspace. The PLA's focus on an integrated approach to cyber defense using advanced technologies likely will lead to the PLA improving its cyber defense capabilities over the next several years.

The PRC's military modernization plan includes the development of A2/AD capabilities to conduct long-range attacks against adversary forces who might deploy or operate within the western Pacific Ocean. The PLA's A2/AD capabilities are, to date, the most robust within the First Island Chain, although the PRC seeks to strengthen its capabilities to reach farther into the Pacific Ocean. These capabilities span the air, maritime, space, electromagnetic, and information domains.

Long-Range Precision Strike. The PRC's military modernization efforts have rapidly transformed the PLA's missile force. PLA writings frame logistics and power projection assets as potential vulnerabilities in modern warfare, which aligns with the PLA's expanding ability to conduct strikes against regional air bases, logistics and port facilities,

communications, and other ground-based infrastructure. U.S. bases in Japan are in range of a growing number of the PLA's MRBMs and LACMs. LACMs will also likely be deployable on surface platforms like the Renhai class guided-missile cruisers. H-6K bomber flights into the Western Pacific demonstrate the PRC's ability to range Guam with air-launched LACMs. The DF-26 is capable of conducting precision conventional or nuclear strikes against ground targets, such as U.S. military bases on Guam, as well as against maritime targets. The PLA is investing in reconnaissance, surveillance, command, control, and communications systems at the strategic, operational, and tactical levels to provide high-fidelity OTH targeting information for its strike platforms.

Surface and Undersea Operations. The PRC continues to construct an array of offensive and defensive capabilities to enable the PLA to gain maritime superiority within the First Island Chain and grow toward projecting combat power at longer ranges. The PRC's broad range of ASCMs and shore, ship, submarine, and airborne launch platforms as well as submarine-launched torpedoes and naval mines allow the PLAN to create an increasingly lethal, multi-axis threat against an adversary approaching PRC waters and operating areas. Additionally, the PLA has fielded DF-21D ASBMs specifically designed to hold adversary aircraft carriers at risk when located within 1,500 km of China's coast, and it has an ASBM variant of the longer range DF-26 IRBM (approximately 4,000 km). The PLA's undersea domain capabilities are gradually progressing as well, but it continues to lack a robust deep-water ASW capability.

Information Operations (IO). The PRC's view of information operations involves any activity that could affect the adversary's and China's own ability to use and share information. This includes cyber, EW, space/counterspace, and psychological warfare. The PRC assesses that controlling the information spectrum in the modern battlespace is a critical enabler, if not a fundamental prerequisite in a conflict. PLA authors often cite this capability—sometimes termed "information dominance"—as necessary to seize the initiative and set the conditions necessary to gain air and sea superiority. This concept likely envisions combining military capabilities across space and cyber domains as well as the electromagnetic spectrum with non-military instruments of state power. The PRC's investment in advanced EW systems, counterspace capabilities, and cyber operations—combined with more traditional forms of information control, such as propaganda and denial and deception—reflect the priority the PLA places on gaining and maintaining the information advantage.

Space and Counterspace Operations. PLA strategists regard the ability to use space-based systems—and to deny them to adversaries—as central to modern warfare. The PLA views space operations as a key enabler of PLA campaigns aimed at countering third-party intervention. The PRC seeks to enhance the PLA's C2 for joint operations and establish a real-time surveillance, reconnaissance, and warning system, and it is increasing the number and capabilities of its space systems, including communications and intelligence satellites, as well as the BeiDou navigation satellite system. These capabilities allow the PLA to maintain

situational awareness of potential flashpoints as well as monitor, track, and target adversary forces. Additionally, the PRC continues to develop direct ascent, co-orbital, electronic warfare, and directed energy capabilities that can contest or deny an adversary's access to and operations in the space domain during a crisis or conflict; PLA writings indicate the purpose of these capabilities is to deter and counter the intervention of a third party during a military conflict.

Cyber Operations. PLA researchers view strong cyber capabilities as winning modern wars in the information age, and believes cyber attack, defense, and reconnaissance should make up a single, integrated effort.

PLA writings advocate seizing cyberspace superiority by using offensive cyber operations to deter or degrade an adversary's ability to conduct military operations against the PRC, including during peacetime. PRC writings suggest cyber operations allow the PRC to manage the escalation of a conflict because cyber attacks are a low-cost deterrent. The writings also claim that cyber attacks demonstrate capabilities and resolve to an adversary. The PRC's cyber attack operations target critical military and civilian nodes, including civilian critical infrastructure, to deter or disrupt adversary intervention, and retain the option to scale these attacks to achieve desired conditions with minimal strategic cost. Although the PRC considers its cyber capabilities and cyber personnel as lagging behind the United States in some areas, it is working to improve training and bolster domestic innovation to overcome these perceived shortfalls and advance cyber operations.

As a result, PRC leaders seem to have increasing confidence in PLA cyber capabilities. Five years ago, Beijing established the SSF with the goal to make progress applying information technology and developing strategic capabilities by 2020. More recently, China's 2019 defense white paper and PLA academics describe China's cyber capabilities as commensurate with its status as a major cyber country developing into a cyber power. This is consistent with China's goal to become a world-leading cyber power by 2035. The PLA also appears to be integrating offensive and defensive cyber operations into its joint military exercises, possibly allowing its cyber personnel to gain combat experience while testing capabilities.

The PLA believes itself vulnerable to cyber attacks, and is working to accelerate improvements to its cyber defense capabilities. As a part of these efforts, the PLA is focusing on improving its ability to detect and counter cyber intrusions, safeguard military networks and systems, and defend the PRC's national cyber border. The PLA highlights big data analysis as useful for monitoring and early warning and artificial intelligence as a tool for more realistic exercises and the ability to respond quickly in the case of a conflict in cyberspace. The PLA's focus on an integrated approach to cyber defense using advanced technologies likely will lead to the PLA improving its cyber defense capabilities over the next several years.

Integrated Air Defense System (IADS). The PRC has a robust and redundant IADS architecture over land areas and within 300 nm (556 km) of its coast that relies on an extensive early warning radar network, fighter aircraft, and a variety of SAM systems. The PRC has also placed radars and air defense weapons on outposts in the South China Sea, further extending the range of its IADS. It also employs point defenses, primarily to defend strategic targets against adversary long-range cruise missiles and airborne strike platforms.

The PLA has increasing numbers of advanced long-range SAMs, including its indigenous CSA-9 (HQ-9) and its follow-on HQ-9B, Russian SA-10 (S-300PMU), and SA-20 (S-300PMU1 / PMU2), all of which have the advertised capability to protect against both aircraft and low-flying cruise missiles. To improve its strategic air defenses, the PLA possesses Russian-built SA-21 (S-400) Triumf SAM systems as a follow-on to the SA-20. Compared to these other systems, the SA-21 systems possess a longer maximum range, improved missile seekers, and more sophisticated radars. The PRC manufactures a variety of long-range air surveillance radars, including models claiming to support BMD and other models asserting the ability to detect stealth aircraft. Marketing materials also emphasize these systems' ability to counter long-range airborne strike and combat support aircraft. PLAAF AEW&C aircraft such as the KJ-2000 and KJ-500 can further extend the PRC's s radar coverage well past the range of its ground-based radars.

- *Ballistic Missile Defense (BMD)*. The PLA's long-range SAM inventory also offers a limited capability against ballistic missiles. The PRC's domestic CSA-9 (HQ-9) long-range SAM system likely has a limited capability to provide point defense against tactical ballistic missiles. The PLA has SA-20 (S-300 PMU2) SAMs and SA-21 (S-400) SAMs that may have some capability to engage ballistic missiles, depending on the interceptors and supporting infrastructure. The PRC is working to develop BMD systems consisting of exo-atmospheric and endo-atmospheric kinetic-energy interceptors. PRC state media confirmed the PLA's intent to move ahead with land- and sea-based mid-course missile defense capabilities in 2016. The Type-055 Destroyer has been identified as a platform for such mid-course intercept capabilities suggesting the PRC will have forward deployed missile defense in the near future. Additionally, the HQ-19 interceptor has undergone tests to verify its capability against 3,000 km-class ballistic missiles. In addition, China is pursuing a mid-course interceptor that may have capabilities against IRBMs and possibly ICBMs.

Air Operations. The PLA's planned fielding of a fifth-generation fighter force will bolster its air-to-air capability, adding to the airpower of the PRC's fourth-generation Russian-built Su-27/Su-30 and J-11A, and its indigenous J- 10A/B/C, J-11B, and more advanced J-16 fighters. The J-20 and FC-31/J-31 feature high maneuverability, stealth characteristics, and an internal weapons bay, as well as advanced avionics and sensors providing enhanced

situational awareness, advanced radar tracking and targeting capabilities, and integrated EW systems.

- The PLAAF's growing fleet of J-20, J-16, and J-10C fighters operating with KJ-500 AEW&C aircraft will enable longer-range A2/AD and counter air operations across the western Pacific Ocean.

- The PRC's continuing upgrades to its bomber fleet will give it the capability to carry new, longer-range cruise missiles. In addition, the PLAAF has added an aerial refueling capability to some of its bomber fleet with the introduction of the H-6N, extending its range and/or loiter time. Moreover, the PLAAF is developing the Y-20U, a new tanker variant of its large Y-20 heavy-lift transport, which will enable the PLAAF to significantly expand its tanker fleet and improve its power projection capabilities.

- The PLAAF employs the medium-range H-6K bomber, which can carry up to six precision-guided CJ-20 air-launched cruise missiles (ALCMs) each, giving it the ability to engage U.S. forces as far away as Guam.

- The PLAN is currently fielding the H-6J bomber, a maritime derivative of the H-6K, which can carry up to six supersonic YJ-12 ASCMs each, allowing for saturation attacks against U.S. naval groups within the Second Island Chain. These will supplement the existing PLAN H-6G bombers capable of carrying up to four YJ-12 ASCMs.

Military Capabilities for Global Power Projection

Key Takeaways

- The PRC continues to increase its military capabilities to achieve regional and global security objectives beyond a Taiwan, South China Sea, or Korea contingency.
- The PRC's continuing improvements of air and ground-based missile strike capabilities enable other military assets to operate farther from China.
- The PRC's continues to build a multi-carrier force. The PLA's next generation of carriers will have greater endurance and a catapult system.

The PRC continues to increase its military capabilities to achieve regional and global security objectives beyond a Taiwan contingency. PLA ground, naval, air and missile forces are increasingly capable of projecting power at greater distances from China and they are expanding the PLA's capacity to contest U.S. military superiority in the event of a conflict.

Improvements in the PRC's' air and ground-based missile capabilities to range targets beyond the First Island Chain enable other military assets to operate farther from China. These assets

can conduct a variety of missions, including sovereignty enforcement and offensive operations such as blockades. The PRC is also enhancing the PLA's ISR capabilities to extend the reach of the PLA's situational awareness, enabling timely responses to perceived threats.

PLA Army (PLAA). The PLAA is rapidly developing a limited capability to project ground power as an expeditionary force. In addition to protecting national sovereignty and security, the 2019 PLA defense white paper charges the PLAA with defending the PRC's development interests—a vague term commonly understood to include anything that impacts the PRC's security and economy internationally. PRC leadership also ordered the PLAA to speed up its transition from regional defense to trans-theater operations, as well as improve its capabilities for precise, multi-dimensional, trans-theater, multi-functional, and sustained operations. A ground force with these capabilities would likely be able to project at least limited ground power regionally. The PLAA's primary power projection initiatives are mobile, modular combined arms formations, Special Forces, and PLAA Aviation and Air Assault units.

After years of substantial reform, the combined-arms battalion of the combined arms brigade is the foundational tactical unit of the PLAA. PLAA officers tell PRC media that the formations comprise 10 different arms, are plug-and-play, and can be adjusted based on the terrain and mission requirements. Recently developed PLAA equipment appears focused on mobility and ease of transport, including the PLC-171 assault-vehicle based 122mm howitzer, the PCL-181 wheeled howitzer, 3rd-generation Dongfeng Mengshi assault vehicles, and the Z-8L wide-body transport helicopter.

The PLAAs 15 Special Operations Brigades provide commanders with the capability of expeditionary direct action and infiltration. Special Operations units maintained robust training throughout 2020. Reporting focused on direct action, infiltration, island-landing, and the use of UASs in a myriad of environments (maritime, desert, jungle, etc.). Specialty training included airfield seizure and diving. PLAA Special Operations units likely provide the PLA the ability to conduct small-scale, expeditionary direct action and reconnaissance operations.

PLAA Aviation and Air Assault units remained a focus of development in 2020. PLAA training events and reports in PRC media show that air-ground integration and multi-dimensional assaults are a core military capability and now a normal part of training. PLAA Aviation work directly with ground units to enhance its ability to support air assault operations and conduct air strikes. Army Aviation joint training with the PLAN in 2020 highlighted the capability of ground force units to operate off of Navy ships. The two PLAA Air Assault brigades continued extensive training on helicopter insertion, air reconnaissance, and coordinating air strikes with other PLAA units and joint service partners. The Z-8L transport helicopter was publically announced in 2020; PRC media noted that, once fielded, three Z-8 transport aircraft battalions could airdrop a battalion-level highly mobile operation team in one lift. Ongoing development of PLAA Aviation and Air Assault units will lead to a highly-mobile, modular ground force unit capable of supporting expeditionary operations.

PLA Navy (PLAN). The PLAN continues to develop into a global force, gradually extending its operational reach beyond East Asia into a sustained ability to operate at increasingly longer ranges, including a continuous presence in the Gulf of Aden. The PLAN's latest surface and subsurface platforms enable combat operations beyond the reach of the PRC's land-based defenses. In particular, the PRC's aircraft carriers and planned follow-on carriers, once operational, will extend air defense coverage beyond the range of coastal and shipboard missile systems and will enable task group operations at increasingly longer ranges. The PLAN's emerging requirement for sea-based land-attack systems will also enhance the PRC's ability to project power. Furthermore, the PLAN now has a sizable force of highly capable logistical replenishment ships to support long-distance, long-duration deployments, including two new Fuyu class fast combat support ships (AOEs) built specifically to support aircraft carrier operations. The PLAN's expanding fleet of large modern amphibious warships will enable it to conduct in a wide range of expeditionary operations wherever PRC interests are threatened or in support of PRC participation in international assistance operations. The expansion of naval operations beyond China's immediate region will also facilitate its non-war military activities and further legitimize the PRC's growing global military posture, including its base in Djibouti.

- The PLAN's force structure continues to evolve, incorporating more platforms with the versatility for both offshore and long- distance power projection. China is engaged in series production of the Renhai class CG, the Luyang III MOD class DDG, and the Jiangdao class FFL. Additionally, production of the Jiangkai II FFGs continues with 30 units currently in service. The Renhai CG displaces more than 10,000 tons and can carry an array of long-range ASCMs and SAMs. It will likely be able to launch ASBMs and LACMs once these weapons are available. The Renhai CG will be China's premier carrier escort for blue-water operations. At least one unit became operational in 2020, with several more outfitting and under construction.

- The PLAN continues to extend its strike range with more and increasingly sophisticated domestically produced ship, submarine, and aircraft-deployed ASCMs, with the exception of a few legacy missiles imported from Russia in the 1990s and early 2000s.

- The PLAN continues to learn lessons from operating its first aircraft carrier, *Liaoning*. Its first domestically built aircraft carrier, *Shandong*, was launched in 2017 and commissioned in December 2019—the beginning of what the PLA states will be a multi-carrier force. The PRC's next generation of carriers, including one that began construction in 2018, will have greater endurance and a catapult launch system capable of launching various types of special mission fixed-wing aircraft for missions such as early warning, EW, and ASW.

These improvements would increase the striking power of a potential carrier battle group when deployed to areas beyond China's immediate periphery.

- The PLAN continues to build multiple new, large ships that can support force projection operations, including LHAs, LPDs, large logistic support ships, and specialized blue-water auxiliary ships—including high-capability intelligence collection ships (AGI/AGOS).

The PLAN's ability to perform missions beyond the First Island Chain is modest but growing as it gains more experience operating in distant waters and acquires larger and more advanced platforms. The PRC's experience in extended range operations primarily comes from extended task group deployments and its ongoing counterpiracy mission in the Gulf of Aden.

- In April 2020, *Liaoning,* accompanied by at least five additional ships transited the Miyako Strait in the First Island Chain and operated in the Western Pacific for a routine training exercise. The presence of an AOE increases the PLAN's capability and intent to conduct extended carrier operations.

- In January-February 2020, a PLAN naval task group conducted a 41-day training mission in the Pacific that operated near Hawaii and crossed the International Date Line.

- The PLAN sustained its counter-piracy task groups in the Gulf of Aden in 2020, a 12 year effort that is the PRC's first enduring naval operation beyond the Indo-Pacific region.

The PRC has long challenged foreign military activities in its exclusive economic zone in a manner that is inconsistent with the rules of customary international law as reflected in the Law of the Sea Convention. However, in recent years, the PLA has begun conducting the very same types of military activities inside and outside the First Island Chain in the exclusive economic zones of other countries including the United States. This activity highlights the PRC's double standard in the application of its interpretation of international law. Examples include sending AGIs to collect on military exercises such as the Rim of the Pacific (RIMPAC) exercise off Hawaii in 2014 and 2018, TALISMAN SABER off Australia in 2019, and a U.S. missile defense test off Alaska in 2017.

PLAN Marine Corps (PLANMC). The PLANMC's roles and missions principally include global expeditionary operations, conducting amphibious operations to seize and defend small reef and island outposts, and conducting non-war military activities (NWMA). Although the PLANMC has traditionally focused on its task to assault and defense of small islands in the South China Sea, more recently its focus has grown to include expeditionary operations beyond the First Island Chain. The PLANMC's roles under NWMA support the PRC's efforts to protect its overseas interests including resources, infrastructure, and citizens abroad.

The PLANMC maintains a presence at the PRC's first overseas military base in Djibouti that extends Beijing's military reach and strategic influence in Africa and the Middle East. In 2020, the PRC highlighted a PLANMC SOF unit that had joined the previously assigned PLANMC unit in Djibouti. The PLANMC's presence in Djibouti provides the PRC with the ability to support a military response to contingencies affecting the PRC's investments and infrastructure in the region and the approximately 1 million PRC citizens in Africa and 500,000 in the Middle East. The PLANMC also embarks a contingent of marines with the PLAN's Gulf of Aden counterpiracy-focused naval escort task force that supports China's trade interests. Additionally, the PLANMC supports the PRC's military diplomacy. For example, they have trained with Thai, Pakistani, Saudi, South African, and Djiboutian forces.

PLA Air Force (PLAAF) and PLA Navy Aviation. The PLAAF and PLAN Aviation continued to improve their capabilities to conduct offensive and defensive offshore operations such as strike, air and missile defense, strategic mobility, and early warning and reconnaissance missions. Although they currently have limited power projection capability, both the PLAAF and PLAN Aviation are seeking to extend their reach. The PLAAF, in particular, has received repeated calls from its leadership to become a truly "strategic" air force, able to project power at long distances and advance and defend the PRC's global interests.

- The PLAAF is expanding its inventory of refuelable fighters, developing refuelable variants of the H-6 bomber and KJ-500 AEW&C aircraft, and testing a tanker variant of its Y-20 heavy lift transport. Together, these new aircraft will noticeably expand China's ability to conduct long-range offensive air operations.

- Following former PLAAF Commander General Ma Xiaotian's 2016 public statement that China was developing a new generation of long-range bombers, a number of reports suggest the new bomber, likely named the H-20, could debut sometime in the next decade with the following features: a stealthy design, employing many fifth- generation technologies; a likely range of at least 8,500 km; a payload of at least 10 metric tons; and a capability to employ both conventional and nuclear weaponry.

- The PRC's outposts in the South China Sea extends the possible operating areas of PLA aviation forces. Future deployments of PLA combat aircraft operating from Spratly Island outposts could feature extended range and/or loiter time over the South China Sea or even reach into the Indian Ocean. The PRC could also replicate its success establishing a naval base in Djibouti to establish overseas logistics facilities that would further extend and sustain regional and global air operations.

PLA Strategic Support Force (SSF). The SSF's strategic space, cyber, and psychological warfare capabilities and missions are not bound by geographic constraints and can be used

independently or to enable and support PLA global power projection operations. The PRC continues to develop a variety of counterspace capabilities designed to limit or prevent an adversary's use of space-based assets during crisis or conflict. In addition to the development of directed-energy weapons and satellite jammers, the PLA has an operational ground-based anti-satellite (ASAT) missile intended to target low-Earth orbit satellites, and the PRC probably intends to pursue additional ASAT weapons capable of destroying satellites up to geosynchronous Earth orbit.

ADVANCING TOWARD AN INFORMATIZED MILITARY

Key Takeaways

- Chairman Xi has called for the PLA to create a highly informatized force capable of dominating all networks and expanding the country's security and development interests.
- The PLA considers information operations (IO) as a means of achieving information dominance early in a conflict, and continues to expand the scope and frequency of IO in military exercises.
- The PRC presents a significant, persistent cyber espionage and attack threat to an adversary's military and critical infrastructure systems.
- The PLA is pursuing next-generation combat capabilities based on its vision of future conflict, which it calls "intelligentized warfare," defined by the expanded use of AI and other advanced technologies at every level of warfare.

Chairman Xi Jinping has called for the PLA to create a highly informatized force capable of dominating all networks and expanding the country's security and development interests. PRC military writings describe informatized warfare as the use of information technology to create an operational system-of-systems, which would enable the PLA to acquire, transmit, process, and use information during a conflict to conduct joint military operations across the ground, maritime, air, space, cyberspace, and electromagnetic spectrum domains. The PLA is accelerating the incorporation of command information systems enabling forces and commanders to carry out missions and tasks more effectively to win informatized local wars. The PLA continues to expand the scope and regularity of military exercises simulating informatized operations and likely views conventional and cyberspace operations as a means of achieving information dominance early in a crisis or conflict.

Command, Control, Communications, Computers, and Intelligence Modernization (C4I). The PRC continues to prioritize C4I modernization as a response to trends in modern warfare that emphasize the importance of rapid information sharing, processing, and decision-making. The PLA seeks to modernize itself, both technologically and organizationally, to

command complex, joint operations across all warfare domains and potentially in multiple theaters.

The PLA sees networked, technologically advanced C4I systems as essential to providing reliable, secure communications to fixed and mobile command posts, thereby enabling rapid, effective, multi-echelon decision-making. These systems are designed to distribute data including intelligence, battlefield information, logistical information, and weather reports via redundant, resilient communications networks to improve commanders' situational awareness. At the height of the border standoff between the PRC and India in 2020, the PLA installed a fiber optic network in remote areas of the western Himalayas to provide faster communications and increased protection from foreign interception. PLA field commanders view near-real-time ISR and situational data as well as redundant and reliable communications as essential to streamlining decision making processes and shortening response timelines. The PRC is also fielding the Integrated Command Platform to units at multiple echelons across the force to enable lateral and cross-service communications required for joint operations. Digital databases and command automation tools allow commanders to simultaneously issue orders to multiple units while on the move and enable units to quickly adapt to shifting conditions in the battlespace.

As the PLA continues to focus on improving its ability to fight and win informatized wars, future information systems will likely implement emerging technologies such as automatization, big data, the internet of things, artificial intelligence (AI), and cloud computing to improve process efficiencies. The PLA has already begun this process by embracing big data analytics that fuse a variety of data to improve automation and to create a comprehensive, real-time picture to warfighters.

Electronic Warfare (EW). The PLA considers EW an integral component of modern warfare and seeks to achieve information dominance in a conflict through the coordinated use of cyber and electronic warfare. The PRC's EW strategy emphasizes suppressing, degrading, disrupting, or deceiving enemy electronic equipment throughout the continuum of a conflict while protecting its ability to use the cyber and electromagnetic spectrum. The PLA is likely to use electronic warfare early in a conflict as a signaling mechanism to warn and deter adversary offensive action. Potential EW targets include adversary systems operating in radio, radar, microwave, infrared and optical frequency ranges, as well as adversary computer and information systems. PLA EW units routinely train to conduct jamming and anti-jamming operations against multiple communication and radar systems and Global Positioning System (GPS) satellite systems during force-on-force exercises. These exercises test operational units' understanding of EW weapons, equipment, and performance but they also enable operators to improve confidence in their ability to operate effectively in a complex electromagnetic environment. In addition, the PLA reportedly tests and validates advances in EW weapons' R&D during these exercises.

Cyberwarfare. The development of cyberwarfare capabilities is consistent with PLA writings, which identify IO—comprising cyber, electronic, space, and psychological warfare—as integral to achieving information superiority and as an effective means for countering a stronger foe. The PRC has publicly identified cyberspace as a critical domain for national security and declared its intent to expedite the development of its cyber forces.

The PRC presents a sophisticated, persistent cyber espionage and attack threat to military and critical infrastructure systems. The PRC seeks to create disruptive and destructive effects—from denial-of-service attacks to physical disruptions of critical infrastructure— to shape decision-making and disrupt military operations at the initial stages and throughout a conflict. The PRC believes these capabilities are even more effective against militarily superior adversaries that depend on information technologies. As a result, the PRC is advancing its cyberattack capabilities and has the ability to launch cyberattacks—such as disruption of a natural gas pipeline for days to weeks—in the United States.

Authoritative PLA sources call for the coordinated employment of space, cyber, and EW as strategic weapons to "paralyze the enemy's operational system of systems" and "sabotage the enemy's war command system of systems" early in a conflict. PLA writings judge other countries have effectively used cyberwarfare and other IO in recent conflicts and argue attacks against C2 and logistics networks to affect an adversary's ability to make decisions and take actions in the early stages of conflict. The PLA also considers cyber capabilities a critical component in its overall integrated strategic deterrence posture, alongside space and nuclear deterrence. PLA studies discuss using warning or demonstration strikes—strikes against select military, political, and economic targets with clear awing effects—as part of deterrence. Accordingly, the PLA probably seeks to use its cyberwarfare capabilities to collect data for intelligence and cyberattack purposes; to constrain an adversary's actions by targeting network-based logistics, C2, communications, commercial activities, and civilian and defense critical infrastructure; and, to serve as a force-multiplier when coupled with kinetic attacks during armed conflict.

The PLA's recent structural reforms may further change how the PLA organizes and commands IO, particularly as the SSF continues to develop its capabilities and further integrate into joint planning, exercises, and operations with other PLA forces. The SSF likely is generating synergies by combining national-level cyber reconnaissance, attack, and defense capabilities in its organization, alongside other strategic IO capabilities.

Cyber Activities Directed Against the U.S. Department of Defense (DoD)

PRC-based intrusions continued to target computer systems around the world, including those owned by the U.S. Government, through 2020. These and past intrusions focus on accessing networks and extracting information. The PRC uses its cyber capabilities to not only support intelligence collection against U.S. political, economic, academic, and military targets, but also to exfiltrate sensitive information from the defense industrial base to gain military advantage and possibly for cyberattack preparations. The targeted information can benefit the PRC's defense high-technology industries, support the PRC's military modernization, provide China's leadership with insights into U.S. plans and intentions, and enable diplomatic negotiations. Additionally, targeted information could enable PLA cyber forces to build an operational picture of U.S. defense networks, military disposition, logistics, and related military capabilities that could be exploited prior to or during a crisis. The accesses and skills required for these intrusions are similar to those necessary to conduct cyber operations in an attempt to deter, delay, disrupt, and degrade DoD operations prior to or during a conflict. In aggregate, these cyber-enabled campaigns threaten to erode U.S. military advantages and imperil the infrastructure and prosperity on which those advantages rely.

Intelligentized Warfare. In October 2020, the CCP announced that modern warfare is evolving to include intelligentization and incorporated the concept into its 14th Five-Year Plan. Beijing anticipates that AI and other advanced technologies, such as cloud computing and big data analytics, are changing the future of warfare faster than expected. As a result, it is adjusting the PRC's defense modernization plans to focus on integrating "mechanized, informatized, and intelligentized development," suggesting the PLA will field some intelligentized capabilities as it completes mechanization and informatization over the next decade.

PLA strategists have stated new technologies will increase the speed and tempo of future warfare, and that operationalization of AI will be necessary to improve the speed and quality of information processing by reducing battlefield uncertainty and providing decision making advantage over potential adversaries. The PLA is also exploring next-generation operational concepts for intelligentized warfare, such as attrition warfare by intelligent swarms, cross-domain mobile warfare, AI-based space confrontation, and cognitive control operations. The PLA considers unmanned systems to be critical intelligentized technologies, and is pursuing greater autonomy for unmanned aerial, surface, and underwater vehicles to enable manned and unmanned hybrid formations, swarm attacks, optimized logistic support, and disaggregated ISR, among other capabilities.

NUCLEAR CAPABILITIES

Key Takeaways

- Over the next decade, the PRC aims to modernize, diversify, and expand its nuclear forces.
- The PRC is investing in, and expanding, the number of its land-, sea-, and air-based nuclear delivery platforms and constructing the infrastructure necessary to support this major expansion of its nuclear forces.
- The PRC is also supporting this expansion by increasing its capacity to produce and separate plutonium by constructing fast breeder reactors and reprocessing facilities.
- The accelerating pace of the PRC's nuclear expansion may enable the PRC to have up to 700 deliverable nuclear warheads by 2027. The PRC likely intends to have at least 1,000 warheads by 2030, exceeding the pace and size the DoD projected in 2020.
- The PRC has possibly already established a nascent "nuclear triad" with the development of a nuclear capable air-launched ballistic missile (ALBM) and improvement of its ground and sea-based nuclear capabilities.
- New developments in 2020 further suggest that the PRC intends to increase the peacetime readiness of its nuclear forces by moving to a launch-on-warning (LOW) posture with an expanded silo-based force.

Strategy. The PRC's nuclear weapons policy currently prioritizes the maintenance of a nuclear force able to survive a first strike and respond with sufficient strength to conduct multiple rounds of counterstrike, deterring an adversary with the threat of unacceptable damage to its military capability, population, and economy. The PLA probably currently selects its nuclear strike targets to achieve conflict de-escalation and return to a conventional conflict with a remaining force sufficient to deter its adversary. PLA planners would probably avoid a protracted series of nuclear exchanges against a superior adversary, and state that the scale and intensity of retaliatory force needs to be carefully controlled.

The PRC's current approach to nuclear force includes a public declaratory "no first use" (NFU) policy. That policy states the PRC will never use nuclear weapons first at any time nor under any circumstances, and the PRC unconditionally undertakes not to use or threaten to use nuclear weapons against any non-nuclear-weapon state or in nuclear-weapon-free zones. There is some ambiguity about conditions where Beijing's NFU policy would no longer apply; there has also been no indication that national leaders are willing to publicly attach such additions, nuances, or caveats. The PRC's lack of transparency regarding the scope and scale of its nuclear modernization program, however, raises questions regarding its future intent as it fields larger, more capable nuclear forces. Some PLA officers have discussed the

PRC using nuclear weapons first in cases like when a conventional attack threatens the survival of the PLA's nuclear force or the CCP itself.

Readiness. Although the PRC almost certainly keeps the majority of its nuclear force on a peacetime status—with separated launchers, missiles, and warheads—nuclear and conventional PLARF brigades conduct "combat readiness duty" and "high alert duty," which apparently includes assigning a missile battalion to be ready to launch, and rotating to standby positions as much as a monthly basis for unspecified periods of time. Authoritative PLA text books on strategy state "high alert duty" is valuable for the defender in a nuclear war, recommending the PLARF adopt a high alert posture conceptually comparable to the claimed high alert posture kept by portions of U.S. and Russian nuclear forces, and that such a posture is compatible with the PRC's active defense concept, NFU policy, and post-strike response approach.

Nuclear Forces. The PRC is working to develop a viable nuclear triad of delivery systems dispersed across land, sea, and air forces.

Land-Based Platforms. The PRC's land-based nuclear forces primarily consists of ICBMs with different basing modes complimented by several theater-range road-mobile MRBMs and IRBMs. The PRC has approximately 100 ICBMs, including the silo-based CSS-4 Mod 2 (DF-5A) and Mod 3 (DF-5B); the solid-fueled, road-mobile CSS-10-class (DF-31, DF-31A and DF-31AG) and CSS-20 (DF-41); and the more limited range roll-out-to-launch CSS-3 (DF-4). The PRC appears to be doubling the numbers of launchers in some ICBM units. This strategic arsenal is complemented by road-mobile, solid-fueled CSS-5 Mod 2 and Mod 6 (DF-21) MRBMs and DF-26 IRBMs capable of ranging targets in the Indo-Pacific region. The PLA is developing a DF-5C and may be developing a DF-31B ICBM.

Sea-based Platforms. The PRC's six operational JIN SSBNs, which are equipped to carry up to 12 CSS-N-14 (JL-2) SLBMs, are the country's first viable sea-based nuclear deterrent. The PRC's next-generation Type 096 SSBN reportedly will be armed with a follow-on SLBM, and it will likely begin construction in the early- 2020s. Based on the 40-plus-year service life of the PRCs first generation SSNs, the PRC will operate its JIN and Type 096 SSBN fleets concurrently. The current range limitations of the JL-2 will require the JIN to operate in areas north and east of Hawaii if the PRC seeks to target the east coast of the United States. As the PRC fields newer, more capable, and longer ranged SLBMs such as the JL-3, the PLAN will gain the ability to target the continental United States from littoral waters, and thus may consider bastion operations to enhance the survivability of its sea-based deterrent. The South China Sea and Bohai Gulf are probably the PRC's preferred options for employing this concept.

Air Platforms. The PLAAF has operationally fielded the H-6N bomber, providing a platform for the air component of the PRC's nascent nuclear triad. In 2021, the H-6N-equipped unit very likely will be developing tactics and procedures to conduct the PLAAF nuclear mission.

The H-6N, compared to other H-6 bombers, adds an air-to-air refueling probe, as well as its recessed fuselage modifications that would allow for external carriage of an ALBM believed to be nuclear capable.

Future Developments. Over the next decade, the PRC will expand and diversify its nuclear forces. The PRC probably intends to develop new nuclear warheads and delivery platforms that at least equal the effectiveness, reliability, and/or survivability of some of the warheads and delivery platforms currently under development by the United States and/or Russia.

Evolving Nuclear Posture. The PRC evolving posture is presently more consistent with what PLA writings describe as a "limited deterrent"—a posture that the PLA describes as the very wide space between a minimum and maximum deterrent. The PRC claims to adhere to a minimum deterrent which it defines as "…keeping its nuclear capabilities at the minimum level required for national security." The PRC perceived national security requirements will grow as it transitions from a '"large country" to a '"powerful country" and its minimum number of military forces – to include nuclear –needed to defend those greater interests is also likely to grow.

Stockpile Size. Last year, DoD estimated that the PRC had a nuclear warhead stockpile in the low-200s and projected it to at least double over the next decade. Since then, Beijing has accelerated its nuclear expansion, which may enable the PRC to have up to 700 deliverable nuclear warheads by 2027 and likely intends to have at least 1,000 warheads by 2030. The PRC is constructing the infrastructure necessary to support this force expansion, including increasing its capacity to produce and separate plutonium by constructing fast breeder reactors and reprocessing facilities. Though this is consistent with the PRC goal of closing the nuclear fuel cycle, the PRC likely intends to use some of this infrastructure to produce plutonium for its expanding nuclear weapons program.

The PRC's long-term nuclear requirements—and the relationship between the PRC's nuclear requirements and its national strategy and goal to field a "world-class" military by mid-century—remain unclear from public sources. Hawkish PRC state media outlets have asserted that the PRC needs 1,000 warheads, while retired PLA officers have suggested that the PRC should possesses a "mutually assured destruction" capability. While neither of those claims are official, anticipated changes to the capacity, capability, and readiness of the PRC's nuclear forces in the coming years seem likely to outpace potential developments by the nuclear forces of any adversary that could plausibly threaten the PRC ability to retaliate against a first strike. A Western think tank publication indicated that the PRC could field more than 1,000 nuclear warheads by the end of the decade, judging from the amount of plutonium that could be produced from reactors under construction. Regardless of the ultimate number of nuclear weapons it makes, the PRC will probably continue to claim it is, like other nuclear powers, adhering to the minimum of nuclear weapons needed to protect its security interests.

The PRC maintained a high level of activity at its Lop Nur nuclear weapons test site throughout 2019, according to the U.S. Department of State's April 2020 *Executive Summary of Findings on Adherence to and Compliance with Arms Control, Nonproliferation, and Disarmament Agreements and Commitments*. The executive summary states, "China's possible preparation to operate its Lop Nur test site year-round, its use of explosive containment chambers, extensive excavation activities at Lop Nur, and lack of transparency on its nuclear testing activities – which has included frequently blocking the flow of data from its International Monitoring System (IMS) stations to the International Data Center operated by the Preparatory Commission for the Comprehensive Nuclear Test-Ban Treaty Organization – raise concerns regarding its adherence to the 'zero yield' standard adhered to by the United States, United Kingdom, and France in their respective nuclear weapons testing moratoria."

Lower-yield Nuclear Weapons. PRC strategists have highlighted the need for lower-yield nuclear weapons in order to increase the deterrence value of the PRC's nuclear force, though they have not defined specific nuclear yield values. A 2017 defense industry publication indicated a lower-yield weapon had been developed for use against campaign and tactical targets that would reduce collateral damage. By late 2018, PRC concerns began to emerge that the United States would use low-yield weapons against a Taiwan invasion fleet, with related commentary in official media calling for proportionate response capabilities. The DF-26 is the PRC's first nuclear-capable missile system that can conduct precision strikes, and therefore, is the most likely weapon system to field a lower-yield warhead in the near-term.

PRC military writings in 2012 noted that the introduction of new precise small-yield nuclear weapons could possibly allow for the controlled use of nuclear weapons, in the warzone, for warning and deterrence. Such discussions provide the doctrinal basis for limited nuclear employment on the battlefield, suggesting PRC nuclear thinkers could be reconsidering their long-standing view that nuclear war is uncontrollable.

Launch on Warning (LOW). The PLA is implementing a launch-on warning posture, called "early warning counterstrike" (预警反击), where warning of a missile strike leads to a counterstrike before an enemy first strike can detonate. PLA writings suggest multiple manned C2 organs are involved in this process, warned by space and ground based sensors, and that this posture is broadly similar to the U.S. and Russian LOW posture. The PRC probably seeks to keep at least a portion of its force on a LOW posture, and since 2017, the PLARF has conducted exercises involving early warning of a nuclear strike and launch on warning responses.

The PRC has also made advances in early warning needed to support a LOW posture. China already has several ground-based large phase array radars – similar in appearance to U.S. PAVE PAWS radars – that could support a missile early warning role. In 2013, foreign media

sources claimed to be in possession of PLA documents indicating expedited plans to field three geostationary satellites capable of detecting ballistic missile launches. Then, in 2015, the PRC's defense white paper identified "improve strategic early warning" as specific nuclear force modernization goals with the PRC's 13th Five-Year Plan (2016-2020) reported including requirements to place early warning satellites in space. As of 2021, the PRC has at least one early warning satellite in orbit. In 2019, Russia offered to assist China in developing a missile early warning system.

The PRC probably believes a LOW posture is consistent with its no first use policy. In the 1970s and 1980s, the PRC considered using its land-based ballistic missile early warning radar to support a LOW posture for its silo-based CSS-4 ICBMs, but apparently this early warning system was unreliable.

Despite these developments, the PRC has called upon other states to abandon similar launch-on-warning postures to enhance strategic stability while taking little action of its own. PRC military writings note that command and control systems – which would include early warning systems – can be a source of accidental nuclear war. In 2020, the PRC renewed its missile and space launch notification agreement with Russia, but has refused to join the Hague Code of Conduct or participate in other bilateral confidence building measures designed to reduce the risk of accidental nuclear war. In 2020, the PRC launched more than 250 ballistic missiles exceeding its launch numbers for 2018 and 2019 despite COVID-19.

New Silo-based Nuclear Missiles. The PRC is building hundreds of new ICBM silos, and is on the cusp of a large silo-based ICBM force expansion comparable to those undertaken by other major powers. In 2017, PRC state media indicated rail-mobile and silo-options were being considered as basing modes for the DF-41 ICBM. In 2019, commercial imagery from a non-governmental organization revealed that the PRC had constructed an ICBM silo at one of the PLARF's Western training ranges that is smaller than China's existing CSS-4 (DF-5) silos and was believed to be used to evaluate silo-basing for the DF-41 or smaller ICBMs like the DF-31. Since then, the PRC appears to be building several of these silos, suggesting the PRC has moved beyond concept evaluation and is preparing for large scale construction of this new solid-fueled silo-based ICBM. There are also some indications that the PRC may be building new CSS-4 (DF-5) ICBM silos. When taken with the PRC's past concerns about silo survivability and ongoing strategic early warning progression, these new silos provide further evidence China is moving to a LOW posture.

CHEMICAL AND BIOLOGICAL RESEARCH

Key Takeaways

- The PRC has engaged in biological activities with potential dual-use applications, which raise concerns regarding its compliance with the Biological and Toxins Weapons Convention (BWC) and the Chemical Weapons Convention (CWC).

- Studies conducted at PRC military medical institutions discussed identifying, testing, and characterizing diverse families of potent toxins with dual-use applications.
- Based on available information, the United States cannot certify that the PRC has met its obligations under the Chemical Weapons Convention (CWC) due to concerns regarding the PRC's research of pharmaceutical-based agents (PBAs) and toxins with potential dual-use applications.

The PRC has engaged in biological activities with dual-use applications, which raise concerns regarding its compliance with Article I of the Biological and Toxins Weapons Convention (BWC), to which the PRC became a party in 1984. According to the U.S. Department of State's April 2021 report "*2021 Adherence to and Compliance With Arms Control, Nonproliferation, and Disarmament Agreements and Commitments*," available information shows the PRC engaged in activities that raise concerns with regard to its obligations under Article I of the BWC, which requires States Party "never in any circumstances to develop, produce, stockpile, or otherwise acquire or retain …[m]icrobial or other biological agents, or toxins whatever their origin or method of production, of types and in quantities that have no justification for prophylactic, protective, or other peaceful purposes," as well as "weapons, equipment or means of delivery designed to use such agents or toxins for hostile purposes or in armed conflict." In addition, the United States does not have sufficient information to determine whether the PRC eliminated its assessed historical biological warfare (BW) program, as required under Article II of the Convention.

The United States assesses that the PRC possessed an offensive biological warfare program from 1950s to at least the late 1980s. Although the PRC has submitted BWC Confidence-Building Measures (CBMs) each year since 1989, the PRC's CBM reporting has never otherwise disclosed it ever pursued an offensive BW program, and the PRC has never acknowledged publicly or in diplomatic channels its past offensive program. As part of its historical BW program, the PRC had probably weaponized ricin, botulinum toxins, and the causative agents of anthrax, cholera, plague, and tularemia.

The PRC continues to develop its biotechnology infrastructure and pursue scientific cooperation with countries of concern. Available information on studies conducted at PRC military medical institutions has included information that discusses identifying, testing and characterizing diverse families of potent toxins with dual-use applications. The United States has compliance concerns with respect to PRC military medical institutions' toxin research and development because of the dual-use applications and their potential as a biological threat.

Further, based on available information, the United States cannot certify that the PRC has met its obligations under the Chemical Weapons Convention (CWC) due to concerns regarding the PRC's research of pharmaceutical-based agents (PBAs) and toxins with potential dual-use applications. The United States is concerned about the PRC's interest in PBAs and toxins because these agents have utility for chemical weapons applications.

The PRC signed the CWC on January 13, 1993, ratified the CWC on April 25, 1997, and submitted its initial declarations in 1998. Scientists at a PRC military institute have expressed interest in military applications of PBAs and are engaged in research involving the synthesis, characterization, and testing of PBAs with potential dual-use applications. In addition, available information on studies conducted at PRC military medical institutions indicates that researchers identify, test and characterize diverse families of potent toxins—which raises questions about the intended purposes of the work conducted by the researchers.

CHAPTER THREE: FORCES, CAPABILITIES, AND ACTIVITIES ON CHINA'S PERIPHERY

Key Takeaways

- The PRC continues to implement military reforms associated with the establishment of the Eastern, Southern, Western, Northern, and Central Theater Commands, which are organized based on the PRC's perception of peripheral threats.
- Under the direction of the Central Military Commission (CMC), each Theater Command has operational authority over the PLA conventional forces within the theater.

The PRC continues to implement reforms associated with the establishment of five theater commands in early 2016. The Eastern, Southern, Western, Northern and Central Theater Commands replaced seven army-based military regions and are now the highest-ranking "joint operations command" organizations within their respective geographical areas. Each theater command receives direction from the CMC and has operational authority over the PLA forces within its theater. The Theater Command is also responsible for all conventional combat and non-combat operations within its area of responsibility. Theater commands are responsible for developing theater-specific command strategies aimed at preparing to fight and win against an adversary, developing joint operational plans and military capabilities, responding to crises, and safeguarding the sovereignty and stability of territories. The strategic directions of the theater commands are based on PRC perceptions of peripheral threats:

Eastern Theater Command – Taiwan, East China Sea;

Southern Theater Command – South China Sea; Southeast Asia border security; territorial disputes;

Western Theater Command – India, Central Asia, "counterterrorism" in Xinjiang and Tibet;

Northern Theater Command – Korean Peninsula, Russia border security; and,

Central Theater Command – Capital defense; surge support to other theaters.

Eastern Theater Command

Key Takeaway

- The Eastern Theater Command is oriented toward Taiwan and the East China Sea.

The Eastern Theater Command has responsibility for the East China Sea and likely executes operational control over national defense matters related to Taiwan and Japan, including contingencies in and around the Taiwan Strait and the Senkaku Islands. In 2020, the Eastern Theater Command focused on a series of training and exercises to improve joint operations and combat readiness, organizing exercises and drills consisting of long-distance training and mobilization, aerial combat, and live-fire training. PLA units located within the Eastern Theater Command include three group armies, a naval fleet, a naval aviation division, two marine brigades, two Air Force divisions, two operational Air Force bases, and one Rocket Force base. The Eastern Theater Command also likely commands all China Coast Guard (CCG) and maritime militia ships while they are conducting Senkakus-related operations. During a contingency, the Eastern Theater Command likely also exercises command over some Strategic Support Force (SSF) units in theater and receives strategic intelligence support from the SSF to improve battlefield awareness and facilitate joint operations within the theater.

In August and September 2020, the Eastern Theater Command conducted a series of military exercises in the vicinity of Taiwan that featured large-scale naval and air maneuvers, amphibious operations, and multiple instances of PLA aircraft crossing the median line of the Taiwan Strait. An Eastern Theater Command spokesperson stated that these drills were meant to further test and improve multi-service joint operations capabilities, as well as to deter "Taiwan independence" forces and foreign actors from threatening the peace and stability of the Taiwan Strait region.

Developments in the Security Situation in the Taiwan Strait

Key Takeaways

- PRC diplomatic, political, and military pressure against Taiwan intensified in 2020.
- Throughout 2020, the PLA increased provocative and destabilizing actions in and around the Taiwan Strait, to include repeated flights into Taiwan's Air Defense Identification Zone and conducting combat drills such as island seizure operations.

Tensions between the PRC and Taiwan heightened in 2020, as the PRC intensified political and military pressure aimed at Taiwan. In January 2020, despite the PRC's election interference, President Tsai Ing-wen won reelection for a second term. The PRC continues its suspension of formal communication with Taiwan, which it did in 2016, and remains steadfast that Taiwan must accept Beijing's view of the "1992 Consensus" to restart formal engagement. China's leaders have directly equated the "1992 Consensus" to Beijing's "one

China Principle" which was reaffirmed by General Secretary Xi in a January 2019 address to "compatriots" in Taiwan. President Tsai has continually pledged to maintain the status quo in cross-Strait relations and called for the PRC to respect Taiwan's democracy and agree to negotiations without preconditions. In her May 2020 inauguration speech, Tsai reiterated that her China policy would be based on the Republic of China's constitution and the law governing cross-Strait relations, with a willingness to engage in dialogue on the principles of "peace, parity, democracy, and dialogue" to the PRC's displeasure.

The PRC also maintained its diplomatic pressure on Taiwan, thwarting Taiwan's efforts to participate in international organizations such as the World Health Organization, International Civil Aviation Organization, and the International Criminal Policy Organization (INTERPOL). Despite the stalled consultations with the ruling Democratic Progressive Party (DPP), the Chinese Communist Party (CCP) continues to engage with Taiwan's Kuomintang (KMT) party, and the PRC continues to hold lower-level cross-Strait exchanges such as the municipal Shanghai-Taipei Twin City Forum, held virtually in August 2020, due to the pandemic.

The PLA continues to prepare for contingencies in the Taiwan Strait to deter, and if necessary, compel Taiwan to abandon moves toward independence. The PLA also is likely preparing for a contingency to unify Taiwan with the PRC by force, while simultaneously deterring, delaying, or denying any third-party intervention, such as the United States and/or other like-minded partners, on Taiwan's behalf. As part of a comprehensive campaign to pressure Taiwan and the Tsai administration, and signal its displeasure at warming Washington-Taipei ties, China has persistently conducted military operations near Taiwan and military training for a Taiwan contingency. Throughout 2020, China's military increased provocative actions in and around the Taiwan Strait, to include repeated flights into Taiwan's Air Defense Identification Zone and conducting combat drills such as island seizure operations. In 2020, Beijing also publicly refuted the existence of the Taiwan Strait 'median line,' a decades-long tacit agreement between the two sides intended to reduce miscalculation and avoid sparking accidental crises.

East China Sea

Key Takeaway

- The PRC continues to use maritime law enforcement ships and aircraft to patrol near the Japan-administered Senkaku Islands. In 2020, the PRC stepped up efforts to challenge Japan's control over the islands by increasing the duration and assertiveness of its patrols.

The PRC claims sovereignty over the Japanese-administered Senkaku Islands in the East China Sea, which Taiwan also claims. It also continues to uphold the importance of abiding by the four-point consensus signed in 2014, which states Japan and the PRC will acknowledge divergent positions over the East China Sea but will prevent escalation through dialogue, consultation, and crisis management mechanisms. The United States does not take a position on sovereignty of the Senkaku Islands but recognizes Japan's administration of the islands and continues to reaffirm that the islands fall within the scope of Article 5 of the U.S.-Japan Mutual Security Treaty. In addition, the United States opposes any unilateral actions that seek to undermine Japan's administration of the islands.

The PRC uses maritime law enforcement ships and aircraft to patrol near the islands, not only as a visible representation of the PRC's sovereignty claims, but also in an effort to improve readiness and respond quickly to potential contingencies. During 2020, the PRC continued to conduct regular patrols into the contiguous and territorial waters of the Senkaku Islands, and stepped up efforts to challenge Japan's control over the islands by increasing the duration and assertiveness of its patrols. In July, two PRC coast guard vessels conducted a record-setting patrol within the 12nm territorial waters that lasted 39 hours and 23 minutes, following a similar patrol just two days prior. These two patrols represented the longest time PRC vessels have ever spent continuously operating inside the Senkakus' territorial waters since 2012. By the end of the year, PRC vessels had been observed in the contiguous waters of the islands for 333 days, breaking 2019's record of 282 days.

PRC coast guard vessels also acted more assertively during their patrols in 2020, shadowing Japanese fishing vessels operating within the Senkakus' territorial waters and ordering them to leave on multiple occasions. Japan's government protested in late November 2020 when PRC ships entered Japan's contiguous zone for the 306th time this year, further straining the relations between the PRC and Japan in relation to the Senkakus and complicating plans to reschedule a planned visit to Japan by President Xi Jinping.

Eastern Theater

Southern Theater Command

Key Takeaway

- The Southern Theater Command is oriented toward the South China Sea, Southeast Asia border security, and territorial and maritime disputes.

The area of responsibility of the Southern Theater Command covers mainland and maritime Southeast Asia, including the South China Sea. This geographic area implies that the Southern Theater Command is responsible for securing the South China Sea, supporting the Eastern Theater Command in any operation against Taiwan, and assuring the security of sea lines of communication (SLOCs) Beijing sees as vital to China's global ambitions. PLA units located within the Southern Theater Command include two group armies, a naval fleet, three marine brigades, two air force bases, and two rocket force bases. The Southern Theater Command is responsible for responding to U.S. freedom of navigation operations in the South China Sea, and can assume command as needed over all CCG and maritime militia ships conducting operations within the PRC's claimed "nine-dash line."

- The Southern Theater Command is responsible for training, force disposition, and operations in the South China Sea. In 2019 and 2020, Southern Theater Command units conducted multiple live-fire drills and amphibious training events near PRC-occupied features in the South China Sea. The Southern Theater Command also plays a significant role in the PLA's bilateral and multilateral exercises with countries in Southeast Asia, participating in a counterterrorism exercise with Cambodia, a U.S. co-led multilateral exercise in Thailand, and a coast guard exercise with the Philippines in 2020.

- The Southern Theater Command commands the PLA Hong Kong and Macao garrisons. In August 2020, the PLA Hong Kong and Macao garrisons conducted an annual rotation of forces. In 2019, PLA and probable People's Armed Police (PAP) forces deployed into Hong Kong by land, air, and sea from Shenzhen at night, nominally as part of the usual annual rotation, however, no forces were observed rotating out of Hong Kong in 2020. In 2020, PAP and PLA units continued to publicly highlight their anti-riot, counterterrorism, and disaster prevention training.

- All the PLA's 24 Su-35s purchased from Russia are assigned to the Southern Theater Command Air Force, and have flown patrols in the South China Sea and into the Western Pacific. The Southern Theater Command was also the first command to receive the PLAN's H-6J maritime strike bombers. In December 2019, the PRC commissioned its first-domestically produced aircraft carrier, *Shandong* into service at Yulin Naval Base in the Southern Theater Command. Shortly after, the carrier returned to its shipyard in the Northern Theater to

complete testing and flight certifications with J-15 fighter aircraft before returning to its homeport on Hainan Island sometime in 2020.

South China Sea

Key Takeaways

- In 2020, the PRC did not resume land reclamation or major military infrastructure construction at its seven Spratly Islands outposts.
- The PRC's Spratly outposts are capable of supporting military operations, include advanced weapon systems, and have supported non-combat aircraft; however, no large-scale presence of combat aircraft has been yet observed there.
- In 2020, the PRC continued to deploy PLAN, CCG, and civilian ships in response to Vietnamese and Malaysian drilling operations within the PRC's claimed "nine-dash-line" and Philippines' construction at Thitu Island.

Developments in the Security Situation. In July 2016, pursuant to provisions in the 1982 UN Convention on the Law of the Sea (UNCLOS), an arbitral tribunal convened at the Philippines' behest ruled that the PRC's claims to "historic rights" in the SCS, within the area depicted by the "nine-dash line," were not compatible with UNCLOS. Since December 2019, four SCS claimants (Indonesia, Malaysia, the Philippines, and Vietnam) have explicitly referenced the arbitral ruling in notes verbales to the UN denying the validity of the PRC's "historic rights" and nine-dash line claims. Beijing, however, categorically rejects the tribunal decision, and the PRC continues to use coercive tactics, including the employment of PLA naval, coast guard, and paramilitary vessels, to enforce its claims and advance its interests. The PRC does so in ways calculated to remain below the threshold of provoking conflict.

- The PRC states that international military presence within the SCS is a challenge to its sovereignty. The PRC continues to employ coercive tactics to enforce its claims. Throughout 2020, the PRC deployed PLAN, CCG, and civilian ships to maintain a presence in disputed areas, such as near Scarborough Reef and Thitu Island, as well as in response to oil and gas exploration operations by rival claimants within the PRC's claimed "nine-dash line." Separately, the CCG rammed and sank two Vietnamese fishing boats in separate incidents near the Paracel Islands over the course of the year. In both incidents, all the Vietnamese sailors were rescued without loss of life.

- In April 2020, Beijing announced the creation of two new administrative districts in the SCS, one covering the Paracels and other encompassing the Spratly Islands. This action likely intends to further solidify Chinese claims on these areas—especially in terms of domestic law—and justify its actions in the region.

- In July 2019, China and Association of Southeast Asian Nations (ASEAN) members completed the first reading of the China-ASEAN Code of Conduct (CoC), with a second and third reading remaining before China and ASEAN members finalize the agreement. The PRC and ASEAN member states had sought to complete CoC negotiations by 2021; however, the COVID-19 pandemic forced the cancellation of scheduled joint working group meetings in 2020. When negotiations resume, they are unlikely to produce substantive outcomes because the PRC and some SCS claimants are probably sensitive to language in the CoC that limits their activities. Given the delay, the complexity of the issues, and a mandate for ASEAN consensus—on an issue that members disagree on—it is extremely unlikely that there will be a CoC signed in 2021.

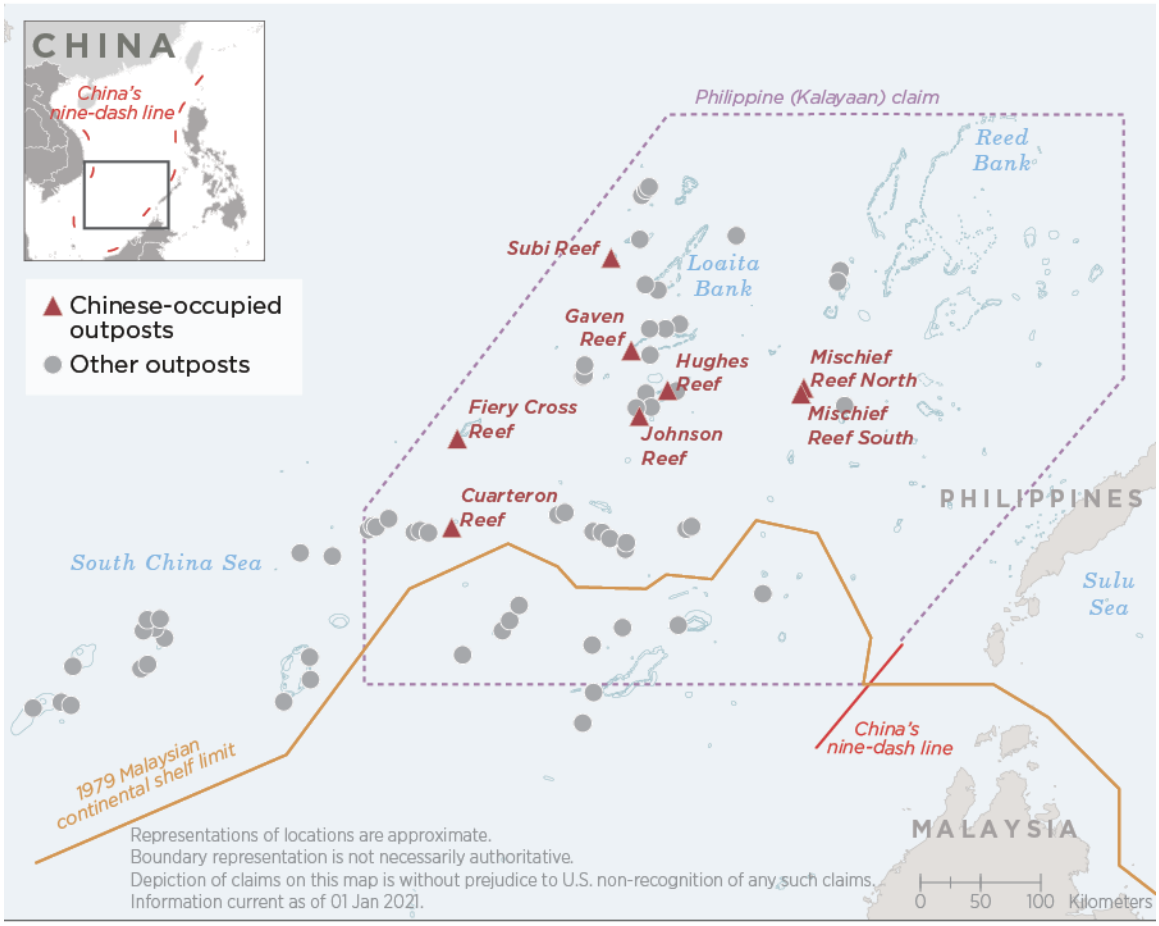
South China Sea Outposts Capable of Supporting Military Operations

Since early 2018, PRC-occupied Spratly Island outposts have been equipped with advanced anti-ship and anti-aircraft missile systems and military jamming equipment, marking the most capable land-based weapons systems deployed by any claimant in the disputed South China Sea to date. In addition, in early 2020, the PLA deployed KJ-200 anti-submarine warfare and KJ-500 airborne early warning aircraft to Fiery Cross Reef. From early 2018 through 2020, the PRC regularly utilized its Spratly Islands outposts to support naval and coast guard operations in the South China Sea.

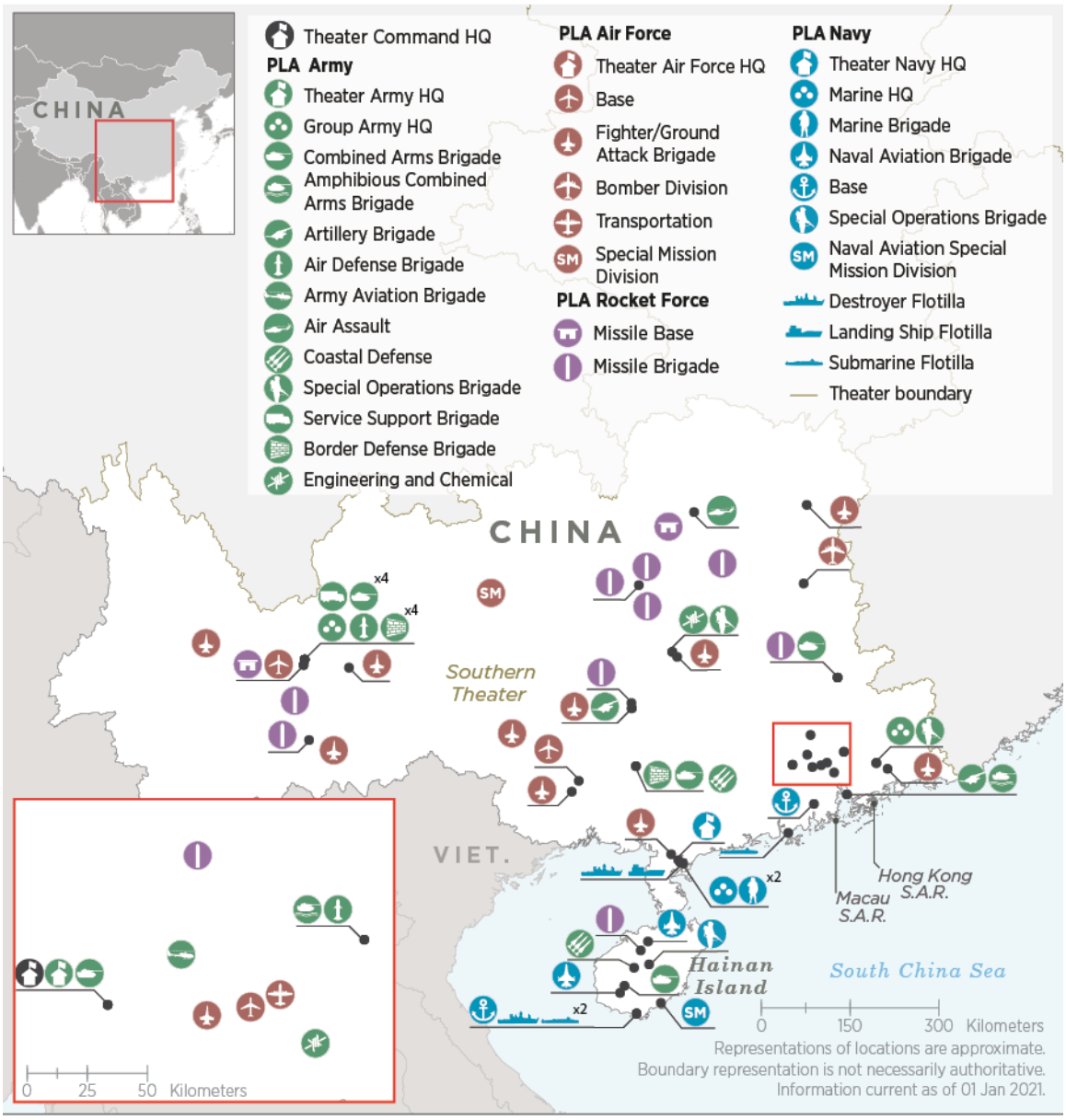
No substantial land has been reclaimed at any of the outposts since the PRC completed its extensive artificial manipulation in the Spratly Islands in late 2015, after adding more than 3,200 acres of land to the seven features it occupies in the Spratlys.

The PRC has stated these projects are mainly to improve marine research, safety of navigation, and the living and working conditions of personnel stationed on the outposts. However, the outposts provide airfields, berthing areas, and resupply facilities that allow the PRC to maintain a more flexible and persistent military and paramilitary presence in the area. This improves the PRC's ability to detect and challenge activities by rival claimants or third parties and widens the range of response options available to Beijing.

Spratly Outpost



Southern Theater



Western Theater Command

Key Takeaway

- The Western Theater Command is oriented toward India and counterterrorism missions along China's Central Asia borders.

The Western Theater Command is geographically the largest theater command within the PRC and is responsible for responding to conflict with India and terrorist and insurgent threats in western China. PLA units located within the Western Theater Command include two group armies, two military districts, three air force bases, and one rocket force base. PAP units responsible for Xinjiang operations are also likely under the control of the Western Theater Command.

Within China, the Western Theater Command focuses on Xinjiang and Tibet Autonomous Regions where the CCP perceives a high threat of separatism and terrorism, particularly among Uyghur populations in Xinjiang. According to the U.S. Department of State's *2020 Country Reports on Human Rights Practices*, in the PRC, "genocide and crimes against humanity occurred during the year against the predominantly Muslim Uyghurs and other ethnic and religious minority groups in Xinjiang." Authorities were reported to have arbitrarily detained more than one million Uyghurs, ethnic Kazakhs, Kyrgyz, and other Muslims in extrajudicial internment camps designed to erase religious and ethnic identifies. PRC government officials justified the camps under the pretense of combatting terrorism, separatism, and extremism."

Beginning in early May 2020, tensions along the India-China border dominated the Western Theater Command's attention. Differing perceptions of border demarcations along the Line of Actual Control (LAC) joined with recent infrastructure construction, led to multiple unarmed clashes, an ongoing standoff, and military buildups on both sides of the India-China border. In response to an unarmed skirmish in June 2020 between PRC and Indian patrols in Galwan Valley—the most violent clash between the two countries in 45 years—the Western Theater Command led a large-scale mobilization and deployment of PLA forces along the LAC.

China-India Border

Key Takeaways

- The current standoff between the two nations resulted in the first deaths in the last 45 years.
- Diplomatic efforts are making slow progress as both sides resist losing perceived advantages on the border.

Beginning in early May 2020, PRC and Indian forces faced off in unarmed clashes at multiple locations along the LAC. The resulting standoff triggered the buildup of forces on both sides of the disputed border. Each country demanded the withdrawal of the other's forces and a return to pre-standoff conditions, though neither the PRC nor India agreed on those conditions. The PRC blamed the standoff on Indian infrastructure construction, which it perceived to encroach on PRC territory, while India accused the PRC of launching aggressive incursions into India's territory.

- This incident was the deadliest clash between the two nations in the past 45 years. On June 15, 2020, patrols violently clashed in Galwan Valley resulting in approximately 20 Indian soldiers and, according to PRC officials, the death of 4 PLA soldiers. In addition, on September 8, 2020, a PLA patrol fired warning shots at an Indian patrol near Pangong Lake—the first shots fired along the LAC in decades.

- Throughout the standoff, PRC officials sought to downplay the severity of the crisis, emphasizing Beijing's intent to preserve border stability and prevent the standoff from harming other areas of its bilateral relationship with India. The PRC seeks to prevent border tensions from causing India to partner more closely with the United States. PRC officials have warned U.S. officials to not interfere with the PRC's relationship with India.

Western Theater

Northern Theater Command

Key Takeaway

- The Northern Theater Command is oriented toward the Korean Peninsula and Russian border security.

The Northern Theater Command's area of responsibility includes the majority of the PRC's borders with Mongolia and Russia, North Korea, and the Yellow Sea. The Northern Theater is responsible for operations along China's northern periphery and conducting border stability operations associated with North Korean contingency and northern border contingencies involving Mongolia or Russia. PLA units located within the Northern Theater Command include three group armies, a naval fleet, two marine brigades, one special mission aircraft division, two operational air bases, and one PLARF base.

During a contingency, the Northern Theater Command likely also exercises command over some Strategic Support Force (SSF) units in theater and receives strategic intelligence support from the SSF to improve battlefield awareness and facilitate joint operations within the theater. The Northern Theater Navy would be responsible primarily for protecting the sea approaches to northern China, but it could provide mission-critical assets to support other fleets. In 2020, Northern Theater Command forces conducted various training activities, including integration training among a submarine, surface ships and aircraft, as well as long-range navigation and ground attack training by fighter-bomber aircraft.

Relations with North Korea

Key Takeaways

- The PRC's warming relationship with North Korea in 2019 appeared to stagnate in 2020 following Pyongyang's self-isolation due to the COVID-19 pandemic.
- The PLA conducts military exercises in preparation for a contingency on the Korean Peninsula.

Following a period of tensions in 2017, Beijing and Pyongyang began to resume high-level political and military diplomacy in 2019, but that was abruptly stalled by the COVID-19 pandemic. North Korea's forced self-isolation ceased almost all trade and people-to-people exchanges across the border, and the North Korean regime's paranoia about the risks of COVID-19 has prevented China-North Korea diplomatic exchanges. The PRC does not fully implement the UN Security Council's sanctions imposed on North Korea in 2017. Additionally, Beijing did not regularly act against illicit ship-to-ship transfers in the PRC's territorial seas and China-based North Korean banking and weapons trade representatives and

their activities. The PRC also continued to import coal—albeit at lower volumes—via Chinese barges from North Korea's Nampo Port and ship-to-ship transfers.

The PRC's objectives for the Korean Peninsula include stability, denuclearization, and the absence of U.S. forces near China's border. The PRC's focus on maintaining stability on the Korean Peninsula involves preventing North Korea's collapse and military conflict on the Peninsula. Toward these ends, the PRC continues to advocate for an approach towards North Korea that prioritizes dialogue, to include the resumption of U.S.-North Korea talks. Beijing has urged Washington to acknowledge Pyongyang's "legitimate concerns" and argues that Pyongyang has taken denuclearization measures that merit a commensurate U.S. response, such as sanctions relief.

The PLA conducts military exercises in preparation for a contingency on the Korean Peninsula including air, land, sea, and chemical defense training events. China's leaders could order the Northern Theater Command to engage in a range of operations in the event of a crisis. These could include securing the China-North Korea border to control the flow of refugees, or a military intervention into North Korea to secure weapons of mass destruction or preserve a North Korean buffer state.

Northern Theater

Central Theater Command

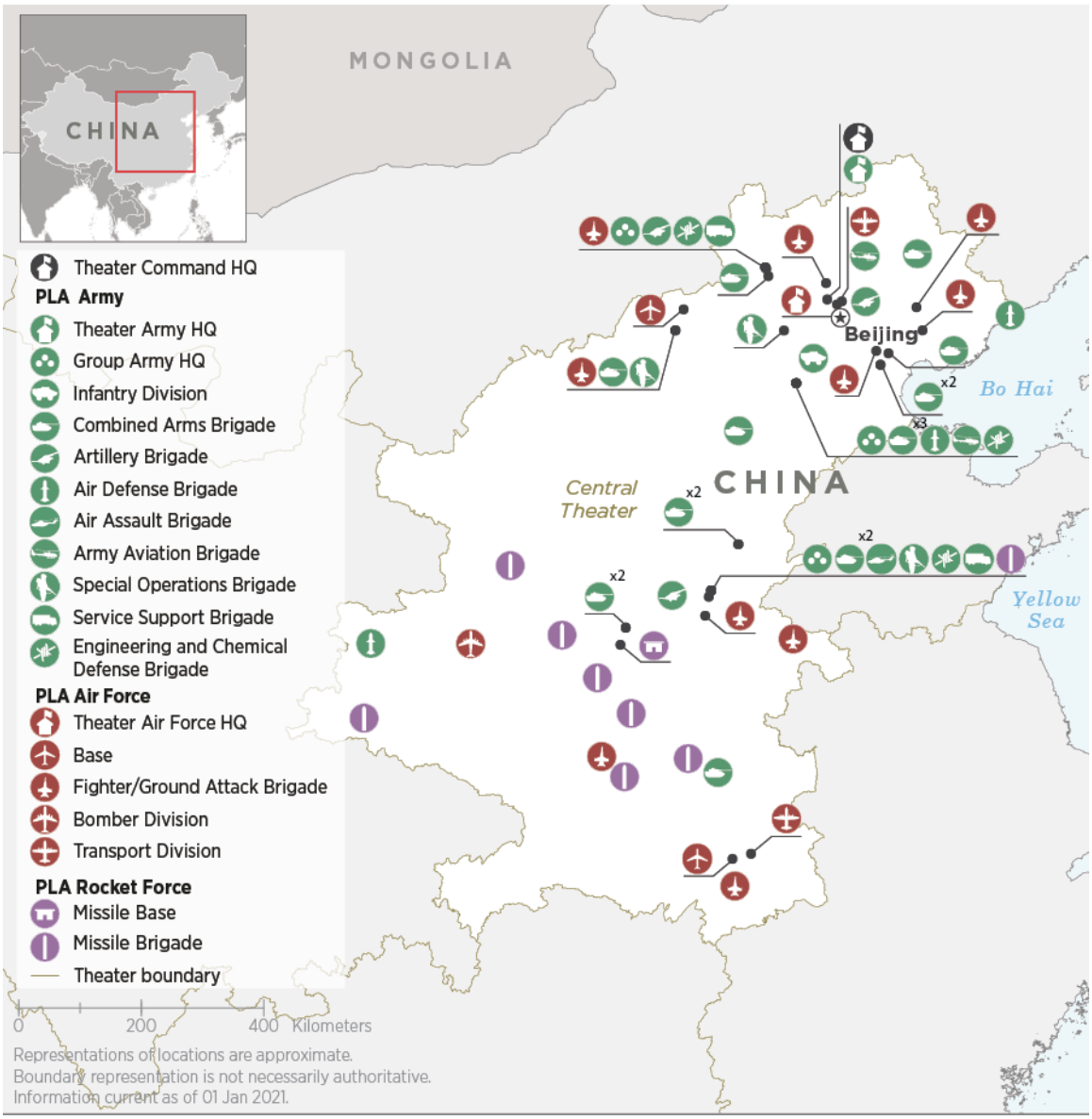
Key Takeaway

- The Central Theater Command is oriented toward capital defense and providing surge support to other theaters.

The Central Theater Command is responsible for the defense of the capital, providing security for CCP leadership, and serving as a strategic reserve to the other theater commands. The Central Theater Command's area of responsibility stretches from the Bohai Gulf to the interior of China, connecting the other four theater commands. Units within the Central Theater Command include three group armies, two air force bases, and one rocket force base. Although the Central Theater Command has coastal responsibilities, it lacks a subordinate naval fleet.

In July 2020, the Central Theater Command deployed troops to Hubei and Henan Provinces to support relief efforts following flooding from the Yangtze and Huai Rivers. The Central Theater Command also deployed 83rd Group Army troops throughout Henan to reinforce sections of dikes that were damaged.

Central Theater



THE PRC'S STRATEGY & CAPABILITIES DEVELOPMENT IN THE TAIWAN STRAIT

Key Takeaways

- Although the PRC publicly advocates for peaceful unification with Taiwan, the PRC has never renounced the use of military force; the circumstances under which the PRC has historically indicated it would consider using force remain ambiguous and have evolved over time.
- The PRC has a range of options for military campaigns against Taiwan, from an air and maritime blockade to a full-scale amphibious invasion to seize and occupy some or all of Taiwan or its offshore islands.

The PRC appears willing to defer the use of military force as long as it considers that unification with Taiwan could be negotiated over the long-term and the costs of conflict outweigh the benefits. The PRC argues that the credible threat of force is essential to maintaining the conditions for political progress on its terms and preventing Taiwan from making moves toward independence. In January 2019, General Secretary Xi Jinping publicly reiterated the PRC's long-standing refusal to renounce the use of force to resolve the Taiwan issue, and staked the PRC's position for peaceful unification under the model of "one country, two systems." Based on the 2019 speech, "once country, two systems" entails the "protection" of Taiwan's social system, way of life, private property, religious beliefs, and "lawful rights and interests," provided the PRC's "sovereignty, security, and development interests," are ensured. In 2020, senior PRC leaders and government spokespersons continued to call for cross-Strait discussions on the foundation of adhering to Beijing's interpretation of the "1992 Consensus" and opposing Taiwan independence, and reiterated contents of Xi's 2019 speech.

Based on changing public sentiment in Taiwan, according to recent polling data, PRC leaders may perceive a closing window of opportunity to subjugate Taiwan under the pretenses of Beijing's "one country, two systems" framework. The PRC has increasingly resorted to an aggressive pressure campaign against Taiwan and the Tsai administration to curtail Washington-Taipei ties and deter "Taiwan independence." The PRC conducting persistent military operations near Taiwan—and training for a Taiwan contingency—likely signals a greater urgency for the PLA to continue to develop and perfect its strategy and capabilities should PRC leaders look to a military option to achieve their objectives.

The circumstances under which the PRC has historically indicated it would consider the use force have evolved over time. These circumstances have included:

- Formal declaration of Taiwan independence;
- Undefined moves toward Taiwan independence;

- Internal unrest in Taiwan;
- Taiwan's acquisition of nuclear weapons;
- Indefinite delays in the resumption of cross-Strait dialogue on unification; and
- Foreign military intervention in Taiwan's internal affairs.

Article 8 of the PRC's March 2005 *Anti-Secession Law* states that the PRC may use "non-peaceful means" if "secessionist forces … cause the fact of Taiwan's secession from China," if "major incidents entailing Taiwan's secession" occur, or if "possibilities for peaceful reunification" are exhausted. The PRC's use of such non-specific conditions increases their policy flexibility through deliberate strategic ambiguity.

PRC COURSES OF ACTION AGAINST TAIWAN

The PRC continues to signal its willingness to use military force against Taiwan. The PLA has a range of options to coerce Taipei based on its increasing capabilities in multiple domains. The PRC could pursue a measured approach by signaling its readiness to use force or conduct punitive actions against Taiwan. The PLA could also conduct a more comprehensive campaign designed to force Taiwan to capitulate to unification, or compel Taiwan's leadership to the negotiation table under Beijing's terms. Notably, the PRC would seek to deter potential U.S. intervention in any Taiwan contingency campaign – capabilities relevant to deterring or countering potential U.S. intervention were among those that the PRC highlighted during its October 2019 military parade celebrating its 70th anniversary. Failing that, the PRC would attempt to delay and defeat intervention in an asymmetric, limited war of short duration. In the event of a protracted conflict, the PLA might choose to escalate cyberspace, space, or nuclear activities in an attempt to end the conflict, or it might choose to fight to a stalemate and pursue a political settlement. The PLA could initiate the military options listed below individually or in combination.

Air and Maritime Blockade. PLA writings describe a Joint Blockade Campaign in which the PRC would employ kinetic blockades of maritime and air traffic, including a cut-off of Taiwan's vital imports, to force Taiwan's capitulation. Large-scale missile strikes and possible seizures of Taiwan's offshore islands would accompany a Joint Blockade in an attempt to achieve a rapid Taiwan surrender, while at the same time, posturing air and naval forces to conduct weeks or months of blockade operations if necessary. The PRC will also likely complement its air and maritime blockade operations with concurrent electronic warfare (EW), network attacks, and information operations (IO) to further isolate Taiwan's authorities and populace and to control the international narrative of the conflict.

Limited Force or Coercive Options. The PRC could use a variety of disruptive, punitive, or lethal military actions in a limited campaign against Taiwan, probably in conjunction with

overt and clandestine economic and political activities supported by a variety of IO to shape perceptions or undercut the effectiveness or legitimacy of the Taiwan authorities. Such a campaign could include computer network or limited kinetic attacks against Taiwan's political, military, and economic infrastructure to induce fear in Taiwan and degrade the Taiwan population's confidence in their leaders. Similarly, PLA special operations forces (SOF) could infiltrate Taiwan and conduct attacks against infrastructure or leadership targets.

Air and Missile Campaign. The PRC could use missile attacks and precision air strikes against air defense systems, including air bases, radar sites, missiles, space assets, and communications facilities to degrade Taiwan's defenses, neutralize Taiwan's leadership, or break the Taiwan people's resolve.

Invasion of Taiwan. Publicly available PRC writings describe different operational concepts for an amphibious invasion of Taiwan. The most prominent of these, the Joint Island Landing Campaign, envisions a complex operation relying on coordinated, interlocking campaigns for logistics, air, and naval support, and EW. The objective would be to break through or circumvent shore defenses, establish and build a beachhead, transport personnel and materiel to designated landing sites in the north or south of Taiwan's western coastline, and launch attacks to seize and occupy key targets or the entire island. In 2020, the PLA conducted joint amphibious assault exercises near Taiwan. Furthermore, the PRC continues to build capabilities that would contribute to a full-scale invasion; in 2019, the PLA completed construction of its first helicopter dock amphibious assault ship (LHA).

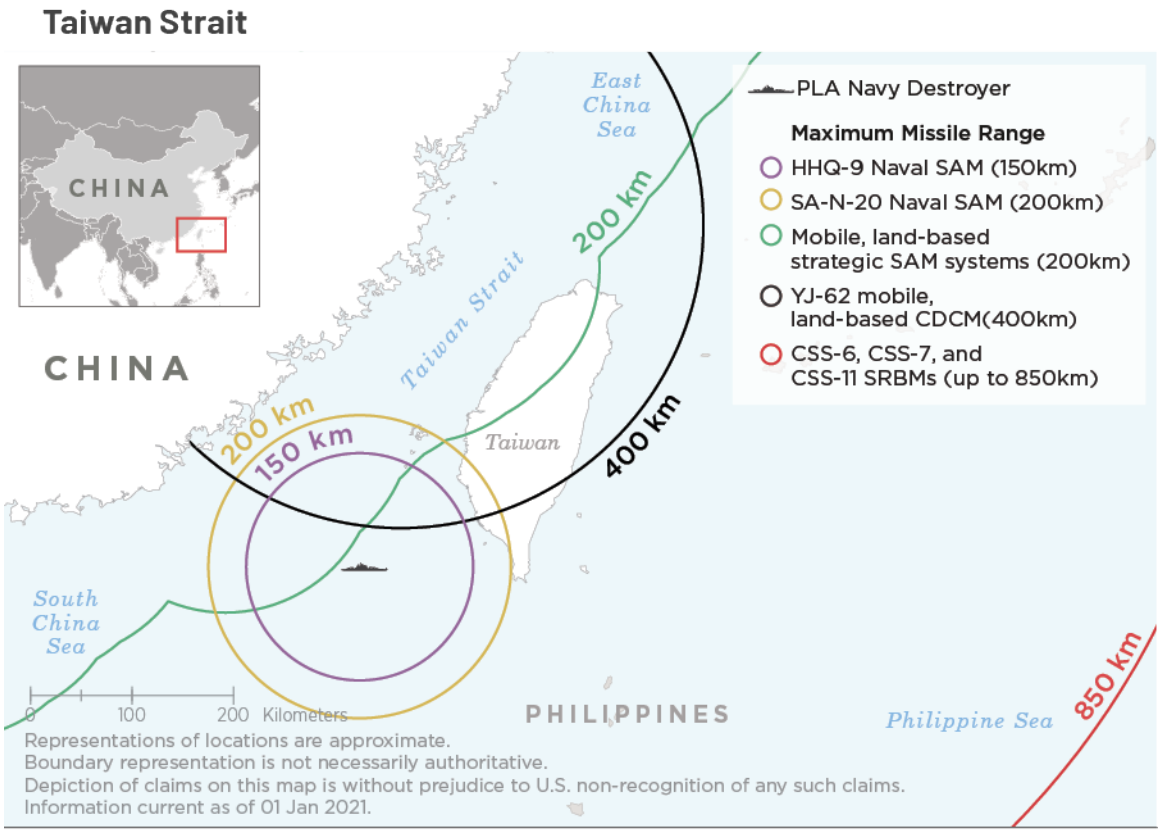
Large-scale amphibious invasion is one of the most complicated and difficult military operations, requiring air and maritime superiority, the rapid buildup and sustainment of supplies onshore, and uninterrupted support. An attempt to invade Taiwan would likely strain PRC's armed forces and invite international intervention. These stresses, combined with the PRCs combat force attrition and the complexity of urban warfare and counterinsurgency, even assuming a successful landing and breakout, make an amphibious invasion of Taiwan a significant political and military risk for Xi Jinping and the Chinese Communist Party.

The PLA is capable of attempting various amphibious operations short of a full-scale invasion of Taiwan. With few overt military preparations beyond routine training, the PRC could launch an invasion of small Taiwan-occupied islands in the South China Sea such as Pratas or Itu Aba. A PLA invasion of a medium-sized, better-defended island such as Matsu or Jinmen is within the PLA's capabilities. Such an invasion would demonstrate military capability, political resolve, and achieve tangible territorial gain while simultaneously showing some measure of restraint. However, this kind of operation involves significant, and possibly prohibitive, political risk because it could galvanize pro-independence sentiment on Taiwan and generate powerful international opposition.

Effect of PLA Reform on a Taiwan Contingency

One of the overarching goals of the 2015 structural reforms to reshape the PLA was to construct a military capable of conducting complex joint operations, including those that would be involved in a Taiwan contingency. PLA reforms seek to clarify command authorities, improving joint integration, and facilitating the transition from peace to war. The abolishment of military regions in favor of military theaters—in this case, the PLA's Eastern Theater Command—has also likely streamlined and improved the PLA's ability to conduct yearlong planning and preparation for joint military operations across the Taiwan Strait. At least some PLA combat units are likely experiencing temporary decreases in readiness and proficiency to conduct large-scale joint operations as they reorganize units, integrate new capabilities, and adjust to new command structures.

A significant addition to the overall structure of the PLA was the establishment of both the Strategic Support Force (SSF) and the Joint Logistic Support Force (JLSF) in 2016. During a Taiwan contingency, the JLSF, in conjunction with subordinate joint logistics support centers, would coordinate joint logistics and the delivery of materiel as well as oversee various civil-military support systems to sustain the campaign. The logistics and sustainment effort of a PLA amphibious and air assault on Taiwan probably remain one of the key components for the operation. The creation of the SSF likely improves the PLA's ability to execute and coordinate IO (particularly cyber, EW, and counterspace) in a Taiwan contingency. It may also improve the PLA's ability to manage and provide space-based reconnaissance to the CMC and the Eastern Theater Command, improving PLA command staffs' situational awareness of Taiwan's military units and facilities. The PLA is likely still exploring how to reform its joint command processes to integrate IO and ISR capabilities more fully at the theater-level, but structural reforms have removed the biggest barriers to integrating these strategic capabilities at the theater-level.



THE PLA'S CURRENT POSTURE FOR A TAIWAN CONFLICT

PLA Army (PLAA). The PLAA continues to enhance its readiness to prevent Taiwan independence and execute an invasion. Significant reorganizations and cross-sea amphibious assault training in recent years likely indicate supporting a Taiwan operation is a high priority for the Army. Major PLAA contributions to a Taiwan invasion scenario likely include extensive amphibious, army aviation, and air assault operations.

The PLAA fields six amphibious combined arms brigades—four in the Eastern Theater Command (nearest Taiwan) and two in the Southern Theater Command. Despite COVID-19 mitigation efforts, extensive flooding in southern China, and conflict on the Indian border, PLAA units continued amphibious assault training as a single service and with joint service counterparts in 2020. Training events included nighttime loading, concealed landing, simulated sea crossing operations, and joint landing operations integrating PLAA aviation, Special Forces, EW, armor, and mechanized infantry. Press reports also claim extensive use of sea, air, and ground UAS in support of the amphibious assault operation. PLAA amphibious brigades reportedly conduct realistic, large-scale amphibious operations that are almost certainly aimed at supporting a Taiwan invasion scenario.

In addition to amphibious assault, PLAA aviation and air assault brigades will likely play a role in a large-scale amphibious assault. PLAA aviation and air assault brigades conducted significant training throughout 2020—some directly supporting a Taiwan scenario and others that improve skill sets necessary for a cross-sea invasion. Exercises included single-service operations and joint operations with the PLAN and PLAAF. In August 2020, PLAA helicopters left their land base, landed on PLAN ships, and then conducted an air assault mission. PLAA aviation units also completed "cross-sea [aerial] assault drills," using UAVs to target opposing forces for air strikes in support of ground forces. PLAA aviation assets also conducted an exercise attacking air and maritime assets in an open-sea environment. Army aviation and air assault units extensively trained on scenarios in a maritime environment that support joint force operations similar to those necessary for a Taiwan invasion.

China's Amphibious Capabilities

The PLA continues to make modest gains in amphibious warfare by developing additional capabilities to conduct amphibious landings and seize and defend small islands. The PLA has 12 units organized and equipped to conduct amphibious operations. Over the last five years, the PLAA and the PLA Navy Marine Corps (PLANMC) have fielded new equipment designed specifically for amphibious operations such as the ZBD-05 amphibious infantry fighting vehicle and the PLZ-07B amphibious self-propelled howitzer. The PLA has also made efforts to improve its ability to insert forces by air, restructuring the Airborne Corps and establishing Army air assault units, which would seize key terrain and interdict Taiwan counterattacks. Both PLAA and PLANMC units equipped for amphibious operations conduct regular company- to battalion-level amphibious training exercises, and the PLA continues to integrate aerial insertion training into larger exercises, to include dropping airborne troops from the Y-20 heavy-lift aircraft for the first time. The PLA rarely conducts amphibious exercises involving echelons above a battalion, although both PLAA and PLANMC units have emphasized the development of combined-arms battalion formations since 2012.

PLA Navy (PLAN). The PLAN is improving its anti-air, anti-surface, and anti-submarine warfare capabilities, developing an at-sea nuclear deterrent, and introducing new multi-mission platforms capable of striking Taiwan's naval forces in a cross-Strait conflict as well as conducting diverse missions in other contingency operations. New attack submarines and modern surface combatants with anti-air capabilities and fourth-generation naval aircraft entering the force are designed to achieve maritime superiority within the First Island Chain as well as to deter and counter any potential third-party intervention in a Taiwan conflict.

The PRC's amphibious ship fleet, however, has in recent years focused on acquiring a modest number of ocean-going amphibious platform docks (LPDs) and flat deck landing helicopter assault (LHAs) ships, indicating a near term focus on regional and eventually global expeditionary missions rather than the large number of landing ship transports and medium

landing craft that would be necessary for a large-scale direct beach assault. There is also no indication the PRC is significantly expanding its force of tank landing ships (LSTs) and medium sized landing craft at this time—suggesting a traditional large-scale direct beach—assault operation requiring extensive lift remains aspirational. Although the PLAN has not invested in the large number of landing ships and medium landing craft that outsiders believe the PLA would need for a large-scale assault on Taiwan, it is possible the PLA assess it has sufficient amphibious capacity and mitigated shortfalls through investments in other operational modalities able to bring forces onto Taiwan such as the PLA's rapidly expanding fleet of rotary-wing assets. The PLA may also have confidence in the PRC's shipbuilding industry's massive capacity to produce the necessary ship-to-shore connectors relatively quickly.

PLA Air Force (PLAAF). The PLAAF has maintained a force posture that provides a variety of capabilities for a Taiwan contingency. It has acquired a large number of advanced aircraft capable of conducting operations against Taiwan without requiring refueling, providing it with a significant capability to conduct air and ground-attack operations. A number of long-range air defense systems provide a strong layer of defense against attacks on key military installations or population centers on China's mainland. In addition, the PRC's development of support aircraft provides the PLAAF with improved ISR capability to support PLA operations in a contingency.

PLA Rocket Force (PLARF). The PLARF is prepared to conduct missile attacks against high-value targets, including Taiwan's C2 facilities, air bases, and radar sites, in an attempt to degrade Taiwan's defenses, neutralize Taiwan's leadership, or break the public's will to fight. PLARF nuclear units will likely be postured to conduct deterrence operations and in heightened readiness in preparation for rapid nuclear counterstrikes if called on.

Strategic Support Force (SSF). PLA doctrinal writings emphasize the importance of space and cyberspace domains in joint operations. The PRC's 2019 defense white paper states that its armed forces are accelerating the build-up of its cyberspace capabilities, specifically its cyber defenses and its ability to detect and counter network intrusions. PLA writings suggest that the SSF would be responsible for the use of EW and cyber operations during a Taiwan contingency, as one of the missions of the force is to seize and maintain battlefield information control in contemporary informatized warfare. The SSF 311 Base would also be responsible for political and psychological warfare, such as disseminating propaganda against Taiwan to influence public opinion and promote the PRC's interests. The SSF would also play a strategic information and communications support role, centralizing technical intelligence collection and management and providing strategic intelligence support to theater commands involved in a Taiwan contingency.

Joint Logistic Support Force (JLSF). The JLSF's primary goal is to provide joint logistics support to the PLA's strategic and campaign-level operations, such as a Taiwan contingency,

by conducting C2 of joint logistics, delivering materiel, and overseeing various support mechanisms.

TAIWAN'S DEFENSIVE CAPABILITIES

Key Takeaways

- The PRC's multi-decade military modernization effort continues to widen the capability gap between the PLA and Taiwan's military.
- To counter the PRC's improving capabilities, Taiwan is developing new concepts and capabilities for asymmetric warfare.

Taiwan is taking important steps to compensate for the growing disparities it has compared to the PLA, including building its war reserve stocks, growing its defense-industrial base, improving joint operations and crisis response capabilities, and strengthening its officer and noncommissioned officer corps. However, these improvements only partially address Taiwan's defense challenges. Taiwan's 2021 *Quadrennial Defense Review* reaffirms recent adjustments to the military's strategy for defending the island, placing emphasis on protecting its littorals and near-shore coastal areas in a multi-layered defense in depth. The modified strategy stresses enhanced asymmetric and joint capabilities, as well as suggesting greater reliance on Taiwan's Air Force and Navy through multi-domain deterrence measures.

Taiwan's armed forces are authorized to fill approximately 215,000 billets, including 188,000 active duty billets. Reservists and civil defense volunteers support the active duty forces. As of the end of 2020, the Ministry of National Defense accomplished its goal of filling 90 percent of the active duty billets, totaling approximately 169,000 personnel, with volunteers. Taiwan's military modernization program envisions a continued decrease in Taiwan's active duty force to approximately 175,000 personnel as part of a transition to an all-volunteer force. This transition has slowed due to severe difficulties recruiting volunteers. The cost savings from manpower reductions provides some margin to improve individual pay and benefits, housing, and incentive pay; however, these savings have been insufficient to cover the full increase in manpower-related costs needed to attract and retain personnel under the new system. The unanticipated magnitude of transition costs has led Taiwan to divert funds from foreign and indigenous defense acquisition programs, as well as near-term training and readiness. Taiwan also faces considerable equipment and readiness challenges.

Taiwan continues to increase its defense budget in order to support defense acquisition and reforms. In August 2019, Taiwan said it would increase the island's defense budget by 5.2 percent to NT $358 billion ($11.6 billion). In August 2020, the Tsai administration announced an additional 10% increase to the defense budget, increasing overall defense spending to more than 2% of gross domestic product and the highest level since the 1990's. Meanwhile, the PRC's official defense budget continues to grow, with much of it focused on developing the

military joint operations capability that could be used to unify Taiwan with the PRC by force. Recognizing the growing disparity between their respective defense expenditures, Taiwan has stated that it is working to develop new concepts and capabilities for asymmetric warfare. Some specific areas of emphasis include Electronic Warfare, cyber and information operations, fast attack maritime vessels, coastal defense missiles, rapid naval mining, unmanned aerial systems, and critical infrastructure protection.

The United States maintains its one-China policy, which is guided by the Taiwan Relations Act (TRA), the three Joint Communiques, and the Six Assurances. The United States is committed to deepening ties with Taiwan, which is a leading democracy and a critical economic and security partner. The United States will continue to support a peaceful resolution of cross-Strait issues, consistent with the wishes and best interests of the people on Taiwan.

Consistent with the TRA, the United States contributes to peace, security, and stability in the Taiwan Strait by providing defense articles and services to enable Taiwan to maintain a sufficient self-defense capability. In October 2019, Taiwan announced the purchase of F-16V fighter aircraft for $8 billion. In 2020, the frequency of arms sales to Taiwan increased with authorizations totaling more than $5 billion. Authorized weapons sales included advanced unmanned aerial systems, long range missiles and artillery, and the Harpoon Coastal Defense System. Since 2010, the United States has announced more than $23 billion in arms sales to Taiwan. In support of these efforts, the U.S. continues to maintain the capacity to resist any resort to force or other forms of coercion that would jeopardize the security, or the social or economic system, of the people of Taiwan.

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CHAPTER FOUR: THE PLA'S GROWING GLOBAL PRESENCE

Key Takeaways

- CCP leaders believe that the PRC's global activities, including the PLA's growing global presence, are necessary to create an international environment conducive to the PRC's "national rejuvenation."
- The CCP has tasked the PLA to develop the capability to project power outside China's borders and immediate periphery to secure the PRC's growing overseas interests and advance its foreign policy goals.

The CCP seeks to create international conditions that are conducive to the PRC's continued development and compatible with its aspirations for the PRC's s rejuvenation as a "great modern socialist country." CCP leaders believe that the PRC's global activities, including the PLA's growing global presence, contribute to creating a "favorable" international environment for the PRC's national rejuvenation. This evolving approach parallels the Party's view that the initial decades of the 21st century represent a "period of strategic opportunity" to focus on building the PRC's composite national power, though they may believe that the period is beginning to close.

The CCP has tasked the PLA to develop the capability to project power outside China's borders and immediate periphery to secure the PRC's growing overseas interests and advance its foreign policy goals. The PRC is focusing efforts to develop security relationships with key countries along its periphery. In addition to promoting the One Belt, One Road (OBOR) initiative, the PRC has begun to seek new cooperative security partnerships with foreign nations, including the expansion of the PLA's global military attaché presence and access, expansion of strategic partnerships, and ensuring more reliable, cost-effective, and diverse sources of energy and other strategic resources.

The PRC probably will continue to expand the PLA's global military presence through humanitarian assistance, naval escorts and port calls, UN peacekeeping operations (PKO), arm sales, influence operations, and bilateral and multilateral military exercises. Through these engagements, Beijing can strengthen and expand its diplomatic relationships to advance its foreign policy goals, to include shaping the international system to align with the PRC's interests, and allow the PLA to gain operational experience.

One Belt, One Road

Key Takeaways

- Beijing uses OBOR to support its strategy of national rejuvenation by expanding global transportation and trade linkages, which are intended to support its development and deepen economic integration with nations along its periphery and beyond.
- The PRC's overseas development and security interests under OBOR will drive the PRC towards expanding its overseas military footprint to protect those interests.

First announced in 2013, the PRC's OBOR initiative is a signature foreign and economic policy advanced by Xi Jinping. Beijing uses OBOR to support its strategy of national rejuvenation by seeking to expand global transportation and trade linkages to support its development and deepen its economic integration with nations along its periphery and beyond. The PRC implements OBOR by financing, constructing, and developing transportation infrastructure, natural gas pipelines, hydropower projects, digital connectivity, and technology and industrial parks worldwide. PRC leaders have touted the economic benefits of OBOR and invited foreign partners to join, promising wealth and prosperity to those nations that participate. Since its creation, as many as 140 countries have signed OBOR cooperation documents, up from 125 countries from last year. OBOR-related spending is difficult to estimate because there is no comprehensive list of projects. However, public reporting indicates a steady decline in OBOR lending since its estimated peak in 2016-2017.

In support of its national strategy, the PRC pursues a range of goals through OBOR to include strengthening its territorial integrity, increasing its energy security, and expanding its international influence. Given that the Party views the PRC's security and development interests as complementary, the PRC leverages OBOR to invest in projects along China's western and southern periphery to improve stability and diminish threats along its borders. Similarly, OBOR projects associated with pipelines and port construction in Pakistan seek to decrease the PRC's reliance on transporting energy resources through strategic choke points, such as the Strait of Malacca.

The PRC has continued to advance OBOR during the COVID-19 pandemic, while putting new emphasis on health as an area of engagement. The PRC conducted a virtual ministerial-level meeting in June with 25 other countries to discuss OBOR cooperation in a post–COVID-19 environment. The PRC has framed much of its pandemic support as part of its Health Silk Road, and offered financing to countries for medical equipment and technology.

The PRC attempts to use the economic influence it accrues through OBOR to encourage participating countries to support Beijing's priorities and objectives on a range of other matters. The PRC applies military, intelligence, diplomatic, and economic tools to counter

perceived threats to OBOR's long-term viability, although the party-state lacks the expertise necessary to assess comprehensive risks in most OBOR participating countries. China's leaders have tried to counteract negative perceptions of OBOR to attract potential investors as well as reduce suspicions of Beijing's intentions. In the wake of domestic and international criticism of OBOR, the PRC has attempted to appear more responsive to partner-country input, and open to wider participation. In April 2019, China hosted leaders from 37 countries and delegates from over 150 countries to the second Belt and Road Forum in Beijing. During the forum, PRC leaders attempted to respond to criticism and concerns over corruption, debt sustainability, environmental effects, and the CCP's underlying goals associated with OBOR.

As the PRC's overseas development and security interests expand under OBOR, the CCP has signaled that its overseas military footprint will expand accordingly to protect those interests, which the CCP recognizes may provoke pushback from other states. Some of OBOR's planned economic corridors would transit regions prone to violence, separatism, armed conflict, and instability, putting OBOR-related projects and PRC citizens working overseas at risk. OBOR activities have also generated local and popular concern about corruption, labor, and environmental issues, contributing to the security challenges. The PRC's defense and security outreach has sought to extend its ability to project military power to safeguard its overseas interests, including OBOR, by developing closer regional and bilateral counterterrorism cooperation, supporting host-nation security forces, and other means.

CHINA'S GLOBAL MILITARY ACTIVITIES

Key Takeaways

- The PRC has increasingly determined that its armed forces should take a more active role in advancing its foreign policy goals. In 2020, a revision to the National Defense Law tasked the PLA with defending "overseas development interests," further cementing the PLA's involvement in the PRC's global economic and diplomatic activities.
- As the PRC's overseas interests have grown over the past two decades, the Party's leaders have increasingly pushed the PLA to think about how it will develop the capabilities to operate beyond China's borders and its immediate periphery to advance and defend these interests. This has led to the PRC's greater willingness to use military coercion—and inducements—to advance its global security and development interests.
- In 2020, the PLA continued to normalize its presence overseas and build closer ties to foreign militaries, primarily through COVID-19 related aid.

As the PRC's overseas interests have grown over the past two decades, the Party's leaders have increasingly pushed the PLA to think about how it will operate beyond China's borders and its immediate periphery to advance and defend these interests. More recently, the PRC

has recognized that its armed forces should take a more active role in advancing its foreign policy goals and portray the PRC as a responsible global leader. This has led to the PRC's greater willingness to use military coercion—and inducements—to advance its global security and development interests. The PRC's 2019 defense white paper notably described its armed forces as responding, "faithfully to the call for a community of common destiny" and called on its military to "actively participate in the reform of global security governance system." In line with this direction, the PLA in 2020 continued to normalize its presence overseas and build closer ties to foreign militaries, primarily through COVID-19 related aid. The PLA is increasingly likely to couch the purpose of its external activities in terms of providing direct support to the PRC's foreign policy goals, such as advancing the PRC's strategic partnerships through greater military cooperation.

The PLA's Evolving Missions & Tasks. In 2004, one of the "new historic missions" given to the PLA by then-President Hu Jintao was to support the PRC's overseas interests and diplomacy. The PLAN's evolving focus—from "offshore defense" to "open seas protection"—reflects the PLAN's interest in a wider operational reach. The PLAAF's missions and tasks have similarly evolved towards conducting operations beyond China and its immediate periphery and supporting the PRC's interests by becoming a "strategic" air force. Additionally, the PLA has embraced its concept of non-war military activities (NWMA) as an effective way for it lend support to and safeguard the PRC's development, expand the PRC's global interests, and gain valuable operational experience.

The PLAN, PLAAF, PLAA, and SSF have deployed abroad for counterpiracy, humanitarian assistance and disaster relief (HA/DR), peacekeeping, training exercises, and space support operations. Within the PLA, the PLAN may have the most experience operating abroad due to its far seas deployments and counterpiracy missions, the PLAAF likely has the most experience conducting rapid response HA/DR operations abroad, and the PLAA has the most experience conducting PKO. The SSF runs tracking, telemetry, and command stations in Namibia, Pakistan, and Argentina. The SSF also has a handful of Yuan Wang space support ships to track satellite and intercontinental ballistic missile (ICBM) launches.

- Since 2008, PLAN ships have visited the Middle East, Europe, Africa, South Asia, Southeast Asia, Oceania, and Latin America. The PLAN has also conducted submarine deployments to the Indian Ocean, demonstrating its increasing familiarity with operating in that region and underscoring the PRC's interest in protecting sea lines of communication (SLOCs) beyond the South China Sea. In 2015, three PLAN ships from a Gulf of Aden naval escort task force evacuated 629 PRC citizens from Yemen to Djibouti and Oman.

- Since 2002, the PLAAF has delivered aid after natural disasters throughout Southeast Asia and South Asia, assisted with evacuation from Libya in 2015, and searched for Malaysian aircraft MH370 in 2014. In May 2020, the PLAAF delivered COVID-19 related medical supplies to countries throughout the region

including Afghanistan, Brunei, Burma, Indonesia, Kyrgyzstan, Malaysia, Nepal, Pakistan, Philippines, Sri Lanka, Tajikistan, Thailand, and Uzbekistan.

Military Cooperation

Recognizing the PLA's role in defending the PRC's overseas interests and supporting its foreign policy, the PRC's 2019 defense white paper noted that the PLA "promotes international security and military cooperation and refines relevant mechanisms for protecting the PRC's overseas interests." As the PRC's regional and international interests grow more complex, the PLA's international engagements will likely continue to expand, especially after the COVID-19 pandemic. For example, senior-level military visits and exchanges provide the PLA with opportunities to increase its officers' international exposure, advance the PRC's foreign policy goals through military assistance programs, and develop professional relationships. Expanding travel abroad for PLA officers enables the PLA to better observe and study foreign military command structures, unit formations, operational training and shape foreign approaches to shared security concerns. The COVID-19 pandemic significantly curtailed in-person engagements, however PRC Minister of National Defense General Wei Fenghe still attended the Russian Victory Day celebration in Moscow, and led delegations to Indonesia, Malaysia, Brunei, the Philippines, and Pakistan 2020.

The PRC continues to expand the PLA's participation in bilateral and multilateral military exercises, normalizing the PLA's presence overseas and establishing ties to foreign militaries. For example, in 2020, the PLA participated in Russia's national-level exercise KAVKAZ-20 along with forces from Armenia, Belarus, Pakistan, and Burma. Troops from the Western Theater Command were transported to Astrakhan by the new PRC Y-20 transport aircraft. For a list of selected PLA bilateral and multilateral exercises in 2020, see Appendix III.

In recent years, the PRC has expanded its efforts on global peacekeeping and increased contributions to multilateral organizations, particularly in Africa. The PRC provides support to African Union (AU)-sanctioned operations including the AU Mission in Somalia (AMISOM) to which it has provided equipment and $1.2 million in annual funding. The PRC also provided $100 million dollars of military equipment to the AU-supported African Standby Force's strategic stockpile at the Continental Logistics Base in Douala, Cameroon. In October 2020, the PRC and a number of African partners celebrated the 20th anniversary of the Forum on China-Africa Cooperation, and noted significant support from the PRC to Africa during the COVID-19 pandemic.

Peacekeeping Operations

In 2020, the PRC continued to contribute the largest number of forces among the permanent members of the United Nations (UN) Security Council. The PRCs participation in UN Peacekeeping Operations (PKO) supports the PRC's objectives of highlighting its role as a global actor and obtaining operational experience for the PLA. The PRC could use its role in

the UN PKOs to collect intelligence on other UN units, and supporting these missions demonstrates the PLA's ability to operate outside of China's borders. The PRC provides PLA forces and other personnel to several UN PKOs, primarily across Africa and in Lebanon. In 2020, the PRC pledged to take a bigger peacekeeping role in the Sahel and West Africa.

- In September 2020, the PRC released a white paper entitled "China's Armed Forces: 30 Years of UN Peacekeeping operations." This white paper stated that the PRC's armed forces will play a stronger role in UN PKOs in the future.
- Beijing provides personnel to UN operations in South Sudan, Lebanon, Mali, Sudan, Democratic Republic of the Congo, Central African Republic, Lebanon, and Cyprus. PRC personnel deployed to peacekeeping operations consist of troops, police, staff officers, and experts that include engineers, medical professionals, and logisticians.
- As of December 2020, the PRC was the ninth largest contributor to UN PKOs with approximately 2,548 personnel among nine UN PKO missions in Africa and the Middle East. The PRC's troop contributions have slightly increased from 2,521 personnel in September 2019 to 2,548 in October 2020. The PRC is the second largest contributor to UN PKOs and has funded 15 percent of the total $6 billion UN PKO budget.

Counterpiracy Efforts

In 2020, the PRC continued to conduct counterpiracy operations in the Gulf of Aden by deploying its 34th, 35th, and 36th naval escort task forces to the area since 2008. The 35th Task Force escorted 49 PRC-flagged ships and foreign ships during its deployment and set a new record for PLAN continuous operation time at sea, traveling over 100,000 nautical miles over 170 days. At the conclusion of deployments, these task groups usually conduct port calls and bilateral engagements with host country militaries and local Chinese-diaspora communities, providing additional opportunities for PLA military diplomacy. Restrictions associated with the COVID-19 pandemic probably limited the extent of these engagements in 2020.

PLA OVERSEAS BASING AND ACCESS

Key Takeaways

- The PRC is seeking to establish a more robust overseas logistics and basing infrastructure to allow the PLA to project and sustain military power at greater distances.
- Beyond its base in Djibouti, the PRC is pursuing additional military facilities to support naval, air, ground, cyber, and space power projection. The PRC has likely considered a number of countries, including Cambodia, Myanmar, Thailand,

Singapore, Indonesia, Pakistan, Sri Lanka, United Arab Emirates, Kenya, Seychelles, Tanzania, Angola, and Tajikistan, as locations for PLA facilities.

- A global PLA military logistics network and PLA military facilities could both interfere with U.S. military operations and support offensive operations against the United States as the PRC's global military objectives evolve.

The PRC is seeking to establish a more robust overseas logistics and basing infrastructure to allow the PLA to project and sustain military power at greater distances. Beijing may assess that a mixture of military logistics models, including preferred access to commercial infrastructure abroad, exclusive PLA logistics facilities with prepositioned supplies co-located with commercial infrastructure, and bases with stationed forces, most closely aligns with the PRC's overseas military logistics needs. Currently, the PRC uses commercial infrastructure to support all of its military operations abroad, including the PLA's presence in other countries' territories, such as at its base in Djibouti. Some of the PRC's OBOR projects could create potential military advantages, such as PLA access to selected foreign ports to pre-position the necessary logistics support to sustain naval deployments in waters as distant as the Indian Ocean, Mediterranean Sea, and Atlantic Ocean to protect its growing interests. As a means of creating numerous options, the PRC is attempting to develop access in multiple African countries on the continent's Atlantic, Indian Ocean, Red Sea, and Mediterranean coasts.

PRC official sources assert that military logistics facilities, to include its Djibouti base, will be used to provide international public goods like support to U.N. operations and HA/DR, and to secure the PRC's lines of communication, citizens, and assets abroad. Regardless, a global PLA military logistics network could both interfere with U.S. military operations and support offensive operations against the United States as the PRC's global military objectives evolve. Host nations can perform an essential role in regulating the PRC's military operations, as PRC officials very likely recognize that a stable long-term relationship with the host nation is critical to the success of their military logistics facilities.

  - PRC military academics assert that bases abroad can enable forward deployment of PLA forces and support military conflict, diplomatic signaling, political change, bilateral and multilateral cooperation, and training. They also suggest that a military logistics network could enable intelligence monitoring of the U.S. military.

  - In August 2017, the PRC officially opened its first PLA base in Djibouti. PLA Navy Marines stationed at the base are equipped with wheeled armored vehicles and artillery, but are currently dependent on nearby commercial ports due to the lack of an operational pier on base. The PRC continues to construct its own pier, which likely will be able to accommodate the PLA Navy's aircraft carriers, other large combatants, and submarines. PLA personnel at the facility have interfered

with U.S. flights by lasing pilots and flying drones, and the PRC has sought to restrict Djiboutian sovereign airspace over the base.

Beyond its base in Djibouti, the PRC is very likely already considering and planning for additional military bases and logistics facilities to support naval, air, and ground forces projection. The PLA's approach likely includes consideration of many different sites and outreach to many countries, but only some will advance to negotiations for an infrastructure agreement, status of forces or visiting forces agreement, and/or basing agreement. Critical organizations involved in planning and negotiating for military logistics facilities are the Central Military Commission (CMC) Joint Staff Department, CMC Logistic Support Department, and service headquarters. The PRC's overseas military basing will be constrained by the willingness of potential host nations to support a PLA presence.

- The PRC has likely considered Cambodia, Myanmar, Thailand, Singapore, Indonesia, Pakistan, Sri Lanka, United Arab Emirates, Kenya, Seychelles, Tanzania, Angola, and Tajikistan as locations for PLA bases or military logistics facilities. The PRC has probably already made overtures to Namibia. Known focus areas of PLA planning are along the SLOCs from China to the Strait of Hormuz, Africa, and the Pacific Islands.

- In September and October, Cambodia demolished two U.S.-funded facilities on Ream Naval Base after declining a U.S. offer to pay to renovate one of them, which suggests that Cambodia may have instead accepted assistance from the PRC to develop the base. If the PRC is able to leverage such assistance into a presence at Ream Naval Base, it suggests that the PRC's overseas basing strategy has diversified to include military capacity-building efforts. Cambodia has publicly denied having signed an agreement to provide the PLA exclusive access to Ream Naval Base.

THE PRC'S INFLUENCE OPERATIONS

Key Takeaways

- The PRC conducts influence operations, which target cultural institutions, media organizations, business, academic, and policy communities in the United States, other countries, and international institutions, to achieve outcomes favorable to its strategic objectives.
- The CCP seeks to condition domestic, foreign, and multilateral political establishments and public opinion to accept Beijing's narratives and remove obstacles preventing attainment of goals.
- CCP leaders probably consider open democracies, including the United States, as more susceptible to influence operations than other types of governments.

- The PLA has emphasized the development of its "Three Warfares" concept—comprised of psychological warfare, public opinion warfare, and legal warfare—in its operational planning since at least 2003. The PLA will likely continue to develop its digital influence capabilities by incorporating advancements in artificial intelligence (AI) to improve the quality and deniability of its messaging.

Since at least 2003, the PLA has been developing the "Three Warfares" concept to demoralize adversaries and influence foreign and domestic public opinion during conflicts. Psychological warfare uses propaganda, deception, threats, and coercion to affect the adversary's decision-making, while also countering adversary psychological operations. Public opinion warfare disseminates information for public consumption to guide and influence public opinion and gain support from domestic and international audiences. Legal warfare uses international and domestic laws to gain international support, manage political repercussions, and sway target audiences. The PRC views the cyber domain as an emerging and ideal platform providing opportunities for influence operations, and the PLA likely seeks to use digital influence activities to support its overall "Three Warfares" concept and to undermine an adversary's resolve in a contingency or conflict.

Consistent with this strategy, the PRC conducts influence operations to achieve outcomes favorable to its security and military strategy objectives by targeting cultural institutions, media organizations, business, academic, and policy communities of the United States, other countries, and international institutions. The CCP seeks to condition domestic, foreign, and multilateral political establishments and public opinion to accept the PRC's narrative surrounding its priorities such as promulgation of Beijing's "one China principle," OBOR, the CCP's political control over Hong Kong, and South China Sea territorial and maritime claims. PRC influence operations are coordinated at a high level and executed by a range of actors, such as the United Front Work Department, the Propaganda Department, and the Ministry of State Security (MSS).

A cornerstone of the PRC's strategy includes appealing to overseas PRC citizens or ethnic Chinese citizens of other countries to advance the Party's objectives through soft power engagements. The PRC also sometimes uses coercion or blackmail to manipulate overseas PRC citizens to conduct influence operations on behalf of the PRC, such as threatening ethnic Uyghurs living in the United States with imprisonment of their family members. PRC intelligence services often facilitate these operations. Additionally, the PRC targets ethnic Chinese citizens of other countries to support its foreign technology acquisition strategy; it's "Thousand Talents Program" targets people of ethnic Chinese descent or recent PRC emigrants whose recruitment the PRC government views as necessary to the PRC's scientific and technical modernization, especially with regard to defense technology.

Furthermore, the PRC harnesses academia and educational institutions, think tanks, and state-run media to advance its soft power campaign in support of Beijing's security interests. For example, PRC students abroad and academic organizations are used to spread the Party's

narrative on Tibet and the Dalai Lama. Chinese Students and Scholars Associations (CSSA) and Confucius Institutes organize events to support the PRC's sovereignty claims and lodge complaints and organize protests against academic institutions that conduct activities which fail to comport with Beijing's narrative. As of December 2020, Xinhua News Agency, the PRC's largest state-run media outlet and the Party's official mouthpiece, had not complied with the U.S. Department of Justice's request to register the agency's U.S. staff as foreign agents under the Foreign Agents Registration Act (FARA).

The PRC's foreign influence activities are predominately focused on establishing and maintaining influence with power brokers within foreign governments to promote policies that the PRC's views will facilitate its rise, despite Beijing's stated position of not interfering in foreign countries' internal affairs. The PRC's diplomatic outreach stresses building personal rapport with influential people, providing assistance, and emphasizing "win-win cooperation" through trade and diplomacy. This approach allows the PRC to offer expedited, small-scale accomplishments for partners abroad, often in exchange for seemingly symbolic gestures that support the PRC's long-term strategic goals. Some countries have begun to implement policy responses to the PRC's influence activities, including within the European Union, Australia, and New Zealand.

The PRC uses multilateral forums and organizations to generate new opportunities to pursue bilateral engagements with countries to expand its defense influence and security cooperation, strengthen its political influence, and limit outside interference in its initiatives. The PRC promotes strategic messaging portraying the PRC as a responsible global actor through organizations such as Brazil, Russia, India, China, and South Africa (BRICS), Shanghai Cooperation Organization (SCO), Association of Southeast Asian Nations (ASEAN), as well as forums such as the Forum on China Africa Cooperation, China-Arab States Cooperation Forum, and the Belt and Road Forum.

The PLA seeks to employ digital influence operations—overt and covert influence activities conducted through the Internet and social media platforms—during peacetime and wartime. During a conflict, the PRC could use digital influence activities to undermine enemy morale and confuse or deceive adversary decision makers. In wartime or peacetime, PLA goals for social media influence activities fall into three broad categories: promote a narrative favorable to the PRC, undermine adversary resolve, and shape foreign governments' policies in favor of Beijing's interests.

Since at least 2009, the PLA has expressed concern about the United States' perceived use of the Internet and social media to undermine CCP power in China. In response, the PLA has been conducting research into conducting digital influence operations and learning best practices from other countries, sending delegations to Russia, Israel, Belarus, and Germany to study how to use social media for military influence operations.

The PLA has a variety of public-facing social media accounts that it uses for overt messaging. These accounts are exclusively on PRC social media platforms, however, and have little to no international reach. Recently, PLA officials have discussed creating an official PLA account on Twitter, and other Western social media accounts. Although, due to rising popularity of PRC social media applications with Western audiences, the need for a PLA presence on traditional Western platforms may decline.

The PLA likely also conducts covert digital influence activities on social media to support public opinion warfare objectives. PLA analysts are studying how to use covert social media accounts to target users for political influence, and PLA SSF personnel may have conducted a covert social media campaign to support pro-PRC candidates and try to sway the outcome of the 2018 Taiwan election.

The PLA will likely continue to develop its digital influence capabilities by incorporating advancements in artificial intelligence (AI) to improve the quality and deniability of its messaging. The PLA has expressed interest in researching the technological requirements for the creation of deepfakes. In 2019, PLA personnel also suggested training AI algorithms to autonomously create content and coordinate influence activity between different fake accounts.

China's Digital Authoritarianism

The PRC seeks digital technologies to repress and disrupt opponents both domestically and abroad. These technologies consist of tools for digital and physical surveillance, censorship, and information control, wielded directly by PRC state institutions or indirectly through pressure on PRC public and private-sector entities. PRC leaders seek to leverage digital authoritarianism to ensure regime survival and to undermine strategic competitors, particularly democracies that believe in a free, open, and interoperable Internet fundamentally incompatible with China's repressive Internet environment. The PRC has steadily increased the scale and scope of its digital authoritarian regime as PRC leadership has become increasingly vocal about the centrality of the Internet in everyday life and the dangers of unchecked discourse. In a speech in 2013, Xi Jinping prioritized the growth of PRC technology companies that could be controlled by the PRC as alternatives to U.S. companies.

The PRC also aggressively exports its tools and techniques for digital authoritarianism to likeminded countries and advocates on the international stage for states to maintain "sovereign Internets" predicated on widespread censorship and pervasive surveillance. The PRC is likely to continue to advocate for "cyber sovereignty" and to seek to legitimize its domestic repression by influencing multilateral efforts at the United Nations to back Beijing's (and at times Russia's) preferred state-centric approach (versus a U.S. supported multi-stakeholder approach) to global internet governance.

PRC in the Arctic

The PRC has increased activities and engagement in the Arctic region since gaining observer status in the Arctic Council in 2013. In May 2019, the PRC hosted the Arctic Circle China Forum in Shanghai and PRC Officials highlighted Beijing's interest in expanding its partnership with countries along the Polar Silk Road. In January 2018, the PRC published its first Arctic strategy that promoted a "Polar Silk Road" and declared China to be a "near-Arctic State." The strategy identifies Beijing's interests as access to natural resources and sea lines of communication in Arctic affairs. The strategy highlights the PRC's icebreaker vessels and research stations as integral to implementation. During the 2019 Arctic Circle China Conference, PRC officials underlined the importance of China's role in protecting the Arctic environment.

The PRC maintains civilian research stations in Iceland and Norway and operates one Ukrainian-built icebreaking research vessel, the Xue Long, which in 2017 became the first PRC official vessel to traverse Canada's Northwest Passage. In September 2019, the Xue Long, completed the 10th Arctic expedition, which focused on research on the Arctic environment. In 2018, Beijing launched its second icebreaking research vessel, the Xue Long 2. The Xue Long 2 can break ice up to 1.5 meters thick, compared to the Xue Long's maximum of 1.2 meters. Furthermore, the Xue Long 2 is the first polar research vessel in the world that can break ice while moving forwards or backwards. In September 2020, the Xue Long 2 completed China's 11th Arctic expedition, during which researchers studied the ecosystem and new pollutants in Arctic waters. In November 2020, the Xue Long 2 embarked on China's 37th Antarctic expedition, where researchers planned to carry out hydrological, meteorological and environmental studies and monitor new pollutants such as microplastics and drifting garbage in the Antarctic Ocean.

The PRC's expanding Arctic engagement has created new opportunities for engagement between China and Russia. In April 2019, China and Russia established the Sino-Russian Arctic Research Center. The PRC and Russia plans to use this center to conduct a joint expedition to research optimal routes of the Northern Sea Route (NSR) and climate change were probably limited due to the COVID-19 pandemic.

Implementing a 2012 Russian federal law, in 2019, Russia passed regulations governing the passage along the Northern Sea Route, which requires foreign warships to give Moscow 45 days' notice of their intention to transit, to have a Russian pilot on board, and reserves Moscow the right to refuse passage. If followed, these regulations would restrict the PLAN's ability to operate independently in vicinity of the Northern Sea Route in the future. Apart from this potential bilateral friction, the PRC and Russia support further cooperation on commercial issues, energy development, and infrastructure projects such as the Yamal LNG project in north-central Siberia and LNG 2, a notional second natural gas plant which Russia and the PRC signed agreements for in 2018.

CHINA'S HYDROCARBON STRATEGY

Key Takeaway

- The PRC's interest in ensuring reliable, cost-effective, and diverse hydrocarbon sources to support its economic growth drives its overseas energy investments. The PRC relies on maritime routes that transit the South China Sea and Strait of Malacca for most of its hydrocarbon deliveries.

The PRC's interest in ensuring reliable, cost-effective, and diverse fuel sources to support and sustain its economic development has led it to import oil and gas from more than 40 countries. In 2020, China imported 10.9 million barrels per day of crude oil, which met approximately 73 percent of its needs. As of late 2019, the PRC held about 80 days' worth of crude oil imports in its strategic petroleum reserves (SPR) and continued to build its reserves in 2020 when global oil demand and prices dropped. Historic import levels in 2020 led China to stockpile crude and work towards its goal of building a 90-day supply in its SPR. The PRC met about 42 percent of its natural gas demand with imports in 2020, and industry analysis estimates the PRC's natural gas imports will increase about 18 percent in 2021. In 2020, most of the PRC's oil and natural gas imports came from the Persian Gulf, Africa, Russia, and Central Asia. The PRC's investments in transport networks for oil and gas could help diversify its supply and reduce dependency on strategic chokepoints such as the Strait of Malacca.

The PRC relies on maritime routes that transit the South China Sea and Strait of Malacca for most of its hydrocarbon deliveries. Approximately 84 percent of the PRC's oil imports and 61 percent of its total natural gas imports transited the South China Sea and Strait of Malacca. Despite the PRC's efforts to diversify energy suppliers, the sheer volume of oil and natural gas imported from the Middle East and Africa will make securing strategic maritime routes a priority for Beijing for at least the next 15 years.

Crude oil pipelines from Russia and Kazakhstan to China demonstrate the PRC's interest in increasing overland fuel supply. In 2019, the PRC imported 600,000 barrels per day of Russian crude oil via the East Siberia-Pacific Ocean pipeline, which has total designed capacity of 1.6 million barrels per day. The PRC also imports crude oil from Middle Eastern—primarily Saudi Arabia—and African suppliers via a crude oil pipeline across Burma. This 440,000-barrels-per-day pipeline bypasses the Strait of Malacca by transporting crude oil from Kyaukpyu, Burma, to Yunnan Province in China and reduces shipping time by more than a third.

In 2020, approximately 20 percent of the PRC's natural gas imports came from Turkmenistan via a pipeline that runs through Kazakhstan and Uzbekistan. This pipeline can transport 55 billion cubic meters per year, with Turkmenistan and the PRC planning to expand it to 80 billion cubic meters per year. A natural gas pipeline connecting the PRC to Burma can deliver 12 billion cubic meters per year, but only 4.1 billion cubic meters of gas were shipped in 2019.

In December 2019, the north section of the Power of Siberia pipeline came online, delivering nearly 4 billion cubic meters of natural gas from Russia to the PRC in its first year. In early December 2020, the middle section of the China-Russia East natural gas pipeline—which is connected to the Power of Siberia pipeline—began operations, which will increase gas supply to 27 million cubic meters per day. The pipeline is projected to reach an annual capacity of 38 billion cubic meters per year by 2025.

China-Russia Relations

Throughout the COVID-19 pandemic, Russia and the PRC maintained frequent high-level communication and stressed close strategic cooperation on global security and health issues. For the third year in a row, the PLA participated in a Russian strategic command and staff exercise, KAVKAZ-2020, held in the Russian Southern Military District. The PRC and Russia likely perceive further cooperation between the two militaries, including joint defense technology development, exercises, and other military modernization initiatives, as advantageous to their respective interests. Despite continued military cooperation, the PRC and Russia have denied any intent to enter into a formal alliance, apparently viewing the strategic effects of their current cooperation (such as joint bomber patrols) as sufficient to accomplish their goals.

Military Attaché Presence

The PRC manages its day-to-day overseas military diplomacy work using PLA officers assigned as military attachés in over 110 offices worldwide. The PRC's military attaché presence has grown around the world, which reflects the PRC's increasing global interests. The PRC's military attachés serve as military advisors to the ambassador, support Ministry of Foreign Affairs and PLA foreign policy objectives, and perform a variety of duties tied to PLA military and security cooperation, including counterpart exchanges with host-nation and third-country personnel. Military attachés also conduct clandestine and overt intelligence collection on their countries or areas of assignment. Although the general function of an attaché office is the same worldwide, some attaché offices probably prioritize specific missions or diplomatic priorities due to close bilateral relations or other factors.

The PRC's military attaché offices vary in size, generally ranging from two to ten PLA officers. Most offices consist of just a few accredited officers; however, offices in countries considered important to the PRC's strategic interests are often considerably larger, potentially including multiple assistant attachés, dedicated naval or air force attachés, and support staff.

China's Arms Exports

The PRC is the world's fifth-largest arms supplier, and sells major systems such as UAVs, submarines, and fighter aircraft to customers like Saudi Arabia, the UAE, and Pakistan.

- **Armed UAVs.** The PRC has supplied its strike-capable Caihong or Wing Loong families of UAVs to at least Pakistan, Iraq, Saudi Arabia, Egypt, the UAE, Algeria, Serbia, and Kazakhstan.

- **Precision-Strike Weapons.** As of 2017, the PRC had sold export variant ballistic missile systems, including the M20, BP-12, and Joint Attack Rocket and Missile System (JARM), as well as long-range satellite-guided rocket systems. Although China typically does not disclose the countries purchasing these types of arms, as of 2017, Qatar displayed a JARM TEL.

- **Naval Combatants.** The PRC is a major supplier of naval vessels, highlighted by Pakistan's purchase of eight Yuan-class submarines for more than $3 billion. Thailand also purchased one Yuan class submarine in 2017 and is interested in purchasing two more. As of December 2020, the PRC has not delivered any Yuans, though it delivered two Ming class submarines to Bangladesh in 2016. In September 2019, the PRC agreed to its first-ever sale of an LPD-class amphibious ship to Thailand.

The PRC's arms sales operate primarily through state-run export organizations such as the Aviation Industry Corporation of China (AVIC) and North Industries Corporation (NORINCO). Arms transfers also are a component of the PRC's foreign policy, used in conjunction with other types of assistance to complement foreign policy initiatives undertaken as part of the PRC's One Belt, One Road initiative.

Many developing countries buy PRC weaponry because they are less expensive than other comparable systems. Although some potential customers consider arms made by the PRC to be of lower quality and reliability, many of the PRC's systems are offered with enticements such as donations, and flexible payment options, which make them appealing options for buyers.

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CHAPTER FIVE: RESOURCES & TECHNOLOGY FOR FORCE MODERNIZATION

Key Takeaways

- The PRC's long-term goal is to create an entirely self-reliant defense-industrial sector—fused with a strong civilian industrial and technology sector—that can meet the PLA's needs for modern military capabilities.
- The PRC has mobilized vast resources in support of its defense modernization, including the implementation of its Military-Civil Fusion (MCF) Development Strategy, as well as espionage activities to acquire sensitive, dual-use, and military-grade equipment. The PRC has substantially reorganized its defense-industrial sector to improve weapon system research, development, acquisition, testing, evaluation, and production.
- In 2021, the PRC announced its annual military budget would increase by 6.8 percent, continuing more than 20 years of annual defense spending increases and sustaining its position as the second-largest military spender in the world. The PRC's published military budget omits several major categories of expenditures and its actual military-related spending is higher than what it states in its official budget.

In spite of forecast difficulties for the PRC's economic growth in the 2020s, the Party has the political will and fiscal strength to sustain a steady increase in defense spending over the next decade. This will help support PLA modernization, develop a fused military-civilian defense industry, and explore new technologies with defense applications. The PRC draws from diverse sources to support PLA modernization, including domestic defense investments, domestic defense-industrial development, a growing R&D and S&T base, dual-use technologies conveyed in part through its MCF strategy, and the acquisition of foreign technology and expertise.

The PRC's long-term goal is to create an entirely self-reliant defense-industrial sector—fused with a strong civilian industrial and technology sector—that can meet the PLA's needs for modern capabilities. However, the PLA still looks to import foreign equipment, technologies, and knowledge to fill some critical, near-term capability gaps and accelerate its modernization. The PRC leverages foreign investments, commercial joint ventures, mergers and acquisitions, academic exchanges, the foreign experience that students and researchers from the PRC gain from studying in foreign nations, and state-sponsored industrial and

technical espionage, and the manipulation of export controls for the illicit diversion of dual-use technologies to increase the level of technologies and expertise available to support military research, development, and acquisition.

Military Expenditures Trends

In 2021, the PRC announced a 6.8 percent annual military budget increase to $209 billion, which is approximately 1.3 percent of gross domestic product. This year's budget continues more than 20 years of annual defense spending increases and sustains the PRC's position as the second-largest military spender in the world after the United States. The PRC's defense budget has nearly doubled during the past 10 years—data from 2012 through 2021 indicates the PRC's official military budget grew 7 percent annually. Based on its official defense spending figures, which omit several major categories of expenditures, the PRC can support continued growth in defense spending for at least the next five to ten years, based on economic data and growth projections.

The PRC: Official Defense Budget, 2012–2021

The PRC's Estimated Military Expenditures. The PRC's published military budget omits several major categories of expenditures, including R&D and foreign weapons procurement. In 2021, according to public research institutions, the PRC's actual military-related spending could be 1.1 to 2 times higher than stated in its official budget. However, actual military expenses are difficult to calculate, largely because of the PRC's lack of transparency.

The PRC's Estimated Defense Budget Growth. If the PRC's official defense budget increases annually by an average of 7 percent, growing as high as $270 billion by 2023, the PLA can dedicate more money for training, operations, and modernization considering the reduction of the PLA's size by 300,000 people. Economic forecasters project that the PRC

economic growth will slow during the next 10 years, which could slow future defense spending growth. However, this presumes the PRC maintains current interests to balance national development with defense spending. Assuming accurate economic projections and a steady defense burden, the PRC will remain the second-largest spender after the United States.

Regional Comparison of Official 2021 Defense Budgets

	Defense Budget (In Billions, USD)
PRC (Official Defense Budget)	$209
India	$64.8
Japan	$55
Russia (National Defense Budget)	$66.8
South Korea	$48
Taiwan	$15.4

DEVELOPMENTS AND TRENDS IN CHINA'S DEFENSE SYSTEM

Key Takeaways

- The PRC has substantially reorganized its defense-industrial sector to improve weapon system research, development, acquisition, testing, evaluation, and production.
- The PRC's Military-Civil Fusion (MCF) Development Strategy is a key part of its defense sector reform.

MILITARY INDUSTRIAL BASE TRENDS

Key Takeaways

- Many of the PRC's missile programs are comparable to other international top-tier producers; the PRC may try to use aspects of the S-400 surface-to-air missile (SAM) system it began receiving from Russia in 2018 to reverse-engineer capabilities it lacks.
- The PRC is the top ship-producing nation in the world by tonnage and has the capability to produce naval gas turbine and diesel engines as well as shipboard weapons and electronic systems, which makes it nearly self-sufficient for all shipbuilding needs.
- In 2020, the PRC fielded its first missile with a hypersonic glide vehicle and advanced its scramjet engine development, which has applications in hypersonic cruise missiles.

Missile and Space Industry. Most of the PRC's missile systems, including its ballistic and cruise missile systems, are comparable in quality to systems of other international top-tier producers. The PRC produces a wide range of missiles—ballistic, cruise, air-to-air, and surface-to-air—for the PLA and for export. During 2020, the PRC fielded its first missile with a hypersonic glide vehicle and advanced its scramjet engine development, which has applications in hypersonic cruise missiles. The PLA Navy revealed during its 70th anniversary celebration in April 2019 that its new guided-missile cruiser can employ long-range land attack cruise missiles. Within the past 2 years, Beijing made its first sale of a surface-to-air-missile system to a European nation, Serbia. The PRC is developing a ramjet-powered air-to-air missile in addition to the beyond-visual-range PL-15, which was featured at the 2018 airshow in Zhuhai.

The PRC's space industry, historically managed by the PLA, is rapidly expanding its intelligence, surveillance, reconnaissance, navigation, and communication satellite constellations. A third lunar mission and the completion of the PRC's global navigation satellite services during 2020 demonstrated the industry's continued progress. The PRC's domestic space market is dominated by state-run enterprises; however, increased investment has created private space companies, which have achieved successful orbital launch attempts during the past two years. During 2020, the PRC launched its first satellites for a new space-based Internet-of-things project with container monitoring and maritime communications applications and continued developing a spaced-based broadband Internet network.

Naval and Shipbuilding Industry. The PRC, the top ship-producing nation in the world by tonnage, is increasing its shipbuilding capacity and capability for all naval classes, including submarines, warships, and transport and amphibious ships. The PRC domestically produces naval gas turbine and diesel engines, as well as almost all shipboard weapons and electronic systems for its shipbuilding sector, making the sector nearly self-sufficient for all shipbuilding needs.

Armaments Industry. The PRC's production capacity is improving in nearly every category of PLA ground systems, including armored personnel carriers, assault vehicles, air defense artillery systems, artillery systems and pieces, and main and light battle tanks. Notably, the PRC began testing unmanned Type 59 tanks in November 2018. The PRC can produce ground weapon systems at or near world-class standards; however, quality deficiencies persist with some exported equipment, which is inhibiting its ability to expand its export markets.

Aviation Industry. The PRC is advancing its domestic aviation industry through two major state-owned aircraft corporations, the AVIC and the Commercial Aircraft Corporation of China (COMAC). AVIC designs and produces the PRC's military aircraft including the J-20 fifth-generation fighter, the Y-20 large transport, and the future H-20 flying wing stealth bomber. COMAC produces large passenger aircraft and aims to compete in the commercial airliner market. COMAC is producing the ARJ21 regional jet, flight-testing the C919 airliner, and working with Russia to develop the CR929 wide-body airliner. China is the second-largest exporter of UAVs. However, the PRC's aviation industry is unable to produce reliable high-performance aircraft engines and relies on Western and Russian engines, such as the Franco-American CFM Leap 1C that powers the COMAC C919 and the Russian D-30 that powers the Y-20 and H-6K and H6-N variants. The PRC is developing the CJ-1000, AEF3500, and WS-20 high-bypass turbofan engines to power the C919, CR929, and Y-20, respectively.

S&T GOALS IN SUPPORT OF MILITARY MODERNIZATION

Key Takeaways

- The PRC has continued its aggressive, top-level push to master advanced technologies and become a global innovation superpower. The PRC seeks to dominate technologies associated with the Fourth Industrial Revolution; this push directly supports the PLA's ambitious modernization efforts and its goal of becoming a "world-class" military capable of "intelligentized" warfare.
- The PRC continues its pursuit of leadership in key technologies with significant military potential, such as AI, autonomous systems, advanced computing, quantum information sciences, biotechnology, and advanced materials and manufacturing. As evidenced by the country's recent accomplishments in space exploration and other fields, China stands at, or near, the frontier of numerous advanced technologies.
- The 14th Five-Year Plan maintains the PRC's focus on technological independence and indigenous innovation in fields associated with the Fourth Industrial Revolution.
- As of 2020, the PLA has funded multiple AI projects that focus on applications including machine learning for strategic and tactical recommendations, AI-enabled wargaming for training, and social media analysis.

Drive to Dominate Strategic S&T Sectors. The PRC aspires to be an innovation superpower that is largely non-reliant on foreign technology and that serves as a global center for high-tech industries. The country's long-term focus on rapid, state-led S&T development—and its specific stress on indigenous innovation over the last fifteen years—has positioned the PRC at, or near, the lead of numerous scientific fields, to include AI, quantum communications, high-performance computing, 5G mobile networks, biotechnology, and advanced materials and manufacturing. China also excels at high-speed railways, electric vehicles, and numerous aspects of the digital ecosystem, such as big data analytics and cloud computing. The 14th Five-Year Plan is the major policy document that will guide the PRC's technological developments, among others, through the year 2025. While the full plan was not available at the time of this document's writing, reports indicate it will maintain the PRC's focus on technological independence and indigenous innovation in fields associated with the Fourth Industrial Revolution.

- The 14th Five-Year Plan prioritized an array of key emerging technologies, to include advanced semiconductors, AI, quantum technology, 5G technology, and new energy vehicles.

- The 2017 National Artificial Intelligence Plan describes steps for the PRC to become the "world's major AI innovation center" by 2030 and calls for the country to accelerate the integration of AI throughout the economy, society, and national defense. In 2020, the CCP reaffirmed its commitment to "intelligentization," the PRC's concept of future warfare based emerging and disruptive technologies, particularly AI.

- In 2020, the PRC's Ministry of Science and Technology planned to allocate approximately $85 million to fund AI research. It identified 22 research tasks including brain-inspired software and hardware, human-machine teaming, swarming, and decision making.

- The PRC has a 2,000 km quantum-secure communication ground line between Beijing and Shanghai and plans to expand the line across China. The PRC also plans to have a satellite-enabled, global quantum-encrypted communications capability operational by 2030.

While Beijing has muted its references to the *Made in China 2025 (*MIC 25) plan in response to international criticism, the PRC continues to implement this plan at the national, provincial, and local levels. Focused on smart manufacturing, and launched in 2015, MIC 25 seeks to achieve major scientific breakthroughs and to build globally competitive companies in ten core technologies. The plan stresses the need to replace imported technology with domestically produced technology, a goal that corresponds with China's desire to reduce its reliance on other nations and develop a fully indigenous defense sector. In addition to presenting an economic challenge to nations that export high-tech products, the plan directly

supports the PRC's military modernization goals by stressing proprietary mastery of advanced dual- use technologies.

- Supported by massive funding, an advantageous regulatory framework, and the PRC's aggressive tech transfer efforts, MIC25 focuses particularly on next-generation information and communication technologies, such as big data and cloud computing, and advanced materials.

- MIC25 seeks to reform state-owned enterprises, establish regional innovation clusters, and leverage private sector capabilities in order to leapfrog foreign technological competitors and create a superior innovation ecosystem.

Leveraging Private Sector Capabilities. The commercial sector increasingly drives breakthroughs in advanced dual-use technologies, and major PRC companies have significant research efforts aimed at generating breakthroughs in key fields. PRC state investment funds established to support priority industries have marshalled an estimated hundreds of billions of dollars in capital. Under Beijing's MCF strategy, the PLA seeks to exploit China's private sector achievements to further its force modernization plans.

- The PRC has designated 15 companies as the country's official "AI Champions," which include Alibaba, Baidu, Huawei, SenseTime, and Tencent. This designation tasks these companies to facilitate industry-wide coordination with the PRC government. Each champion is responsible for a specific AI focus area, including autonomous vehicles, smart cities, and cybersecurity.

- Tech giants Alibaba, Baidu, and Tencent have been researching quantum computing since 2018, with Alibaba offering one of the world's few quantum computing clouds services. The PRC has two leading quantum communications start-up companies, Quantum CTek and Anhui Qasky. Quantum CTek, which had its initial public offering in June 2020, is becoming one of the largest manufacturers in the commercial quantum-communications technology sector.

- The 2017 National Intelligence Law requires PRC companies, such as Huawei and ZTE, to support, provide assistance, and cooperate in the PRC's national intelligence work, wherever they operate.

Potential Military Applications. The PRC's pursuit of an innovation-driven economic model directly supports its goal of building a "modern and specialized military capable of fighting and winning wars in the information age." The PLA is pursuing a number of advanced military capabilities with disruptive potential such as autonomous systems, hypersonic weapons, electromagnetic railguns, directed energy weapons, and counterspace capabilities. Many technologies associated with the Fourth Industrial Revolution—such as AI, smart sensors, 3D printing, Internet of Things platforms, and wearable electronics—hold significant

promise for battlefield applications. The PLA has reorganized a key military think tank—the Academy of Military Science (AMS)—and reasserted this organization's leadership of military science research programs. The revamped AMS is tasked with driving defense innovation and ensuring that the PLA's warfighting theory and doctrine fully capitalize on disruptive technologies like AI and autonomous systems. Given China's willingness to deploy emerging technologies rapidly and at massive scale as well as the PRC's focus on MCF, the PLA would likely quickly benefit from any domestic scientific breakthroughs with military utility.

- As of 2020, the PLA has funded multiple AI projects that focus on applications including machine learning for strategic and tactical recommendations, AI-enabled wargaming for training, and social media analysis.
- The PRC is developing unmanned systems in all domains and has tested unmanned air, ground, and maritime systems with limited AI capabilities.

Potential military applications of some emerging technologies include:

- *AI and Advanced Robotics*: enhanced data exploitation, decision support, manufacturing, unmanned systems, and C4ISR.
- *Semiconductors and Advanced Computing*: enhanced cyber operations and weapons design, and shortened R&D cycles.
- *Quantum Technologies*: secure global communications, enhanced computing and decryption capabilities, enhanced position, navigation, and timing (PNT) capabilities.
- *Biotechnology*: precision medicine, biological warfare, enhanced soldier performance, human-machine teaming.
- *Hypersonic and Directed Energy Weapons*: global strike and defeat of missile-defense systems, and anti-satellite, anti-missile, and anti-unmanned aircraft system capabilities.
- *Advanced Materials and Alternative Energy*: improved military equipment and weapon systems.

Foreign Technology Acquisition. The PRC uses imports, foreign investments, commercial joint ventures, mergers and acquisitions, and industrial and technical espionage to help achieve its military modernization goals. In 2020, the PRC continued to supplement its national S&T and industrial modernization by obtaining foreign technologies and knowledge through a variety of licit and illicit means. The PRC is investing in and seeking to acquire technologies that will be foundational for future commercial and military innovations

including AI, robotics, autonomous vehicles, quantum information sciences, augmented and virtual reality, financial technology, and biotechnology. The line demarcating products designed for commercial versus military use is blurring with these technologies.

Activities Supporting the PRC's Military Modernization. The PRC is actively pursuing an intensive campaign to obtain foreign technology through foreign direct investment, talent recruitment, and R&D and academic collaborations. The PRC uses a variety of licit means to acquire foreign technology and knowledge to supplement its S&T and military-industrial base. These efforts include:

- *Foreign Direct Investment.* The PRC invests in or outright purchases foreign companies that have technology, facilities, and people working in key technology areas.

- *Talent Recruitment.* The PRC uses various incentive strategies to attract foreign personnel to work and manage strategic programs and fill technical knowledge gaps. For example, Beijing's "Thousand Talents Program," recruits individuals from PRC diaspora populations, persons with familiar ties or ties of affection in the PRC, recent emigrants from the PRC, and foreign national experts whose recruitment the PRC views as necessary to its scientific and technical modernization.

- *Research and Development and Academic Collaborations.* The PRC actively seeks partnerships with private, government, and academic research labs to gain exposure to cutting-edge technology and researchers. These partnerships also provide the PRC with the technical expertise to run, manage, and organize such facilities.

Espionage Activities Supporting the PRC's Military Modernization. Multiple U.S. criminal indictments since 2015 involve PRC nationals, naturalized U.S. citizens or permanent resident aliens from the PRC, and U.S. citizens, procuring and exporting controlled items to China, according to a U.S. Department of Justice summary of major U.S. export enforcement, economic espionage, and sanctions-related criminal cases. The PRC's efforts to acquire sensitive, dual-use, or military-grade equipment included radiation hardened integrated circuits, monolithic microwave integrated circuits, accelerometers, gyroscopes, naval and marine technologies, syntactic foam trade secrets, space communications, military communication jamming equipment, dynamic random access memory, aviation technologies, and ASW. In 2020, the FBI opened a new PRC-related counterintelligence case about every 10 hours. FBI Director Christopher Wray also stated that "of the nearly 5,000 active FBI counterintelligence cases currently underway [in 2020], almost half are related to the PRC." In addition, the FBI has seen economic espionage cases with a link to the PRC increase by approximately 1,300% over the past decade.

Recent cases include:

- In September 2020, a PRC national pled guilty to conspiring to fraudulently export maritime raiding craft and engines to China. The U.S. military uses these vessels and multi-fuel engines because they can be launched from a submerged submarine, or dropped into the ocean by an aircraft. No comparable engine is manufactured in China.

- In June 2020, a PRC national was sentenced to 36 months in federal custody for attempting to send to China an export controlled radio, which is designated as a defense article due to its certification by the National Security Agency for Top Secret wire and data communications.

- In October 2019, a PRC national was sentenced to 40 months in prison for conspiring to export military- and space-grade technology illegally from the United States to China. The PRC national worked with other individuals in China to purchase radiation-hardened power amplifiers and supervisory circuits used for military and space applications.

CHAPTER SIX: U.S.-PRC DEFENSE CONTACTS AND EXCHANGES

Key Takeaways

- DoD's defense contacts and exchanges with the PRC in 2020 prioritized crisis prevention and management, risk reduction, and limited cooperation in areas where national interests aligned, in order to advance a constructive, stable, results-oriented defense relationship with the PLA.

U.S. defense contacts and exchanges conducted in 2020 supported overall U.S. policy and strategy toward the PRC. The 2017 *National Security Strategy*, the 2018 *National Defense Strategy*, the 2018 *Nuclear Posture Review*, and the 2019 *Missile Defense Review* recognize the growing trend of military competition in a dynamic security environment. In 2020, DoD contacts and exchanges with the PRC were limited, and focused to prevent and manage crisis; reduce operational risk; and cooperate in limited areas. U.S. defense contacts and exchanges with the PRC are conducted in accordance with the statutory limitations of the National Defense Authorization Act for Fiscal Year 2000, as amended.

The pace and scope of the PLA modernization and expansion provides opportunities as well as challenges for U.S.-PRC defense relations. As the PLA develops and expands its reach globally, the risk of an accident or miscalculation also increases, putting a premium on risk reduction efforts and highlighting the need to ensure the safety of U.S. forces operating in close proximity. This evolving condition has further emphasized the importance of establishing timely communications during a crisis, and to maintaining regular communication channels to prevent crisis and conduct post crisis assessments.

In 2020, U.S. defense contacts and exchanges with the PRC focused on three interconnected priorities: (1) challenge the PRC's behaviors inconsistent with the free and open international order; (2) promote risk reduction and risk management to limit the potential for misunderstanding or miscalculation that could escalate into crisis; and (3) build the structures and habits necessary to manage crises and prevent incidents from spiraling into conflict.

Defense Contacts and Exchanges in 2020

Key Takeaways

- High-level contacts enabled U.S. leaders to challenge PRC behaviors that are inconsistent with the free and open international order; gain insight into China's strategic intent; manage differences; and cooperate in limited areas where national interests align.
- COVID-19 protocols and travel restrictions limited in-person defense engagement with the PLA in 2020 and contributed to the postponement of some agreed-to events under the 2020 plan for U.S.-PRC defense contacts and exchanges.
- In 2020, U.S.-PRC defense relations focused on building a framework with the PLA to advance DoD's objective to build a constructive, stable, and results-oriented defense relationship with the PLA. The Policy Dialogue System framework sought greater stability by prioritizing policy dialogue channels and strengthening mechanisms to prevent and manage crisis and reduce operational risk.

2020 defense contacts and exchanges with the PRC, including recurring events, that advanced DoD priorities of risk reduction, crisis management, and limited cooperation where national interests align. A complete list of U.S. defense contacts and exchanges with the PRC in 2020 is provided in Appendix II.

High-Level Contacts and Exchanges. High-level contacts between the U.S. and PRC are an important means to exchange views on the international security environment, to manage differences, and to facilitate common approaches to shared challenges. While COVID protocols and travel restrictions prevented international travel and meetings, U.S. and PRC leaders were able to connect by telephone and video teleconference. In 2020, the U.S. made several requests to the PLA for the use of the Defense Telephone Link (DTL) or Video Teleconference (VTC). The Secretary of Defense and the PLA's Minister of National Defense conducted two DTLs. In addition, the Chairman of the Joint Chiefs of Staff conducted three DTLs with the PLA's Chief of the Joint Staff Department. The Deputy Assistant Secretary of Defense for China conducted two DTLs with the Deputy Director of the PLA's Office for International Military Cooperation.

Recurring Exchanges. Recurring exchanges serve as regularized mechanisms for dialogue to advance priorities related to crisis prevention and management, and reduce of operational risk. The following is a list of recurring exchanges that took place in 2020:

The Military Maritime Consultative Agreement (MMCA) Working Group is an operational safety dialogue between U.S. and PLA naval and air forces. The MMCA Working Group was held in May 2020. The PLA declined to participate in the MMCA Working Group and Plenary, scheduled for December 14-16, 2020.

The Defense Policy Coordination Talks (DPCT) is an annual Deputy Assistant Secretary of Defense level policy dialogue. The 2019 DPCTs were held in January 2020.

2020 saw the inauguration of the annual Crisis Communications Working Group (CCWG), a working-level policy dialogue established to advance the crisis prevention and management mechanisms between DoD and the PLA. The CCWG was convened by the U.S. in October 2020 and conducted by video teleconference to discuss with the PLA concepts of crisis communications, crisis prevention, and crisis management. The meeting provided an opportunity to build mutual understanding between the U.S. military and the People's Liberation Army (PLA) on principles to prevent and manage crisis and reduce risk to forces. The two sides agreed on the importance of establishing mechanisms for timely communication during a crisis, as well as the need to maintain regular communication channels to prevent crisis and conduct post-crisis assessment.

The U.S. proposed holding the Asia-Pacific Security Dialogue (APSD), an Assistant Secretary of Defense level policy dialogue, in 2020 to discuss risk reduction and regional issues. The PLA declined the dates proposed by the U.S. side and indefinitely postponed the dialogue. The APSD did not take place in 2020.

Functional and Academic Exchanges. Functional engagements focus on advancing channels for risk reduction, understanding, and communication to promote operational deconfliction and coordination. Similarly, academic exchanges focus on building mutual understanding. COVID restrictions prevented the execution of U.S. and PRC military academic institution exchanges planned for 2020, with the exception of the U.S. National Defense University's virtual meeting with the PLA's National Defense University in December 2020.

In November 2020, PLA and U.S. Army soldiers participated in the annual Disaster Management Exchange (DME) through video teleconference. U.S. Army Pacific Commander, General Paul LeCamera, conducted a video call with Lieutenant General Lin Xiangyang, Commander of the PLA Eastern Theater Command Army. The 2020 DME focused on the exchange of lessons learned in humanitarian assistance, disaster relief, and pandemic response operations.

U.S-PRC Defense Contacts and Exchanges in 2021

The annual exchange between the Defense POW/MIA Accounting Agency (DPAA) and the PLA Archives, was an agreed upon event in the 2020 U.S.-PRC plan for defense contacts and exchanges. This event, designed to locate U.S. service members missing from past conflicts, was delayed to February 2021 due to COVID restrictions. During the meeting, DPAA and the PLA Archives discussed 16 cases.

For 2021, the U.S. prioritizes holding the following exchanges: Defense Policy Coordination Talks, Crisis Communications Working Group, and the Military Maritime Consultative Agreement Working Group.

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SPECIAL TOPIC: THE PRC's EFFECTIVE CONTROL CONCEPT AND PLA ESCALATION MANAGEMENT VIEWS

Effective Control. PLA strategists describe "effective control (有效控制)" as a multi-faceted effort to set a favorable strategic posture and to guide military operations with precise control across the full peace-to-war continuum. They argue the international system is increasingly defined by crises rather than war and that despite the inherent uncertainty and complexity of crisis and conflict, decision makers can ultimately ascertain their internal logic and guide them to a satisfactory outcome.

- Since the mid-2000s, PRC leaders have placed greater emphasis on crisis management and peacetime use of military forces, diversifying key PLA tasks to include non-war military activities (NWMA) in addition to deterrence and wartime operations. Historically, PLA texts focused on deterrence and combat operations, often ignoring peacetime activities.
- Developed during the past decade, the PLA concept of effective control calls for PRC leaders to create a favorable posture during peacetime, prevent and control crises, and control and win wars. Comprehensive planning is critical to this approach, including for a wide array of contingencies during peacetime and using military and nonmilitary tools to establish a "strategic situation" conducive to internal stability and external expansion.
- If a crisis occurs, the effective control concept attempts to minimize risk and achieve limited strategic aims by leveraging all elements of national power, including deterrence and non-war military activities. Effective control during crisis is meant to prevent war, exploit opportunities, and prepare the PLA for potential escalation.

In the event of war, PLA commanders should have the capability to set a favorable strategic posture across domains to "control" the war's objectives; targets; operational parameters; warfighting techniques; pace, rhythm, and intensity; and conclusion, according to PLA writings. Wartime effective control entails seizing the initiative, paralyzing the adversary's operational system, and laying the groundwork for war termination.

Escalation Management. PRC views of conflict escalation suggest a confidence in the controllability of conventional conflict and willingness to conduct offensive operations to demonstrate Beijing's resolve, seize the initiative, and exploit adversary weaknesses. Similar to their Western counterparts, PLA strategists broadly define escalation as an increase in the intensity or scope of military activities to achieve explicit goals. Escalation can include an increase in actual

military operations against an adversary or preparations for military operations, such as an increase in the readiness of one's nuclear forces.

- The PLA judges that aggressive, asymmetric actions against perceived U.S. political, military, and psychological weaknesses are effective counterbalances to U.S. military superiority in traditional domains.
- PLA views on escalation are informed by the notion that contemporary "informationized" conflict, enabled by modern C4ISR capabilities, provides leaders with sufficient battlefield awareness to calibrate military effects and elicit a desired adversary response. PLA strategists view warfare as a science, discounting the possibility of inadvertent escalation and the effects of the "fog of war."

PRC strategists are particularly concerned with horizontal escalation, or "chain-reaction" warfare, during a major conflict, such as a Taiwan contingency, during which Beijing worries that regional powers or the United States could instigate conflicts around China while the PLA is preoccupied in the Taiwan Strait.

SPECIAL TOPIC: PRC'S EVALUATION OF THE 13TH FIVE YEAR PLAN

Five Year Plans (FYPs), serve as the CCP's principal planning mechanism for steering the PRC's economic, social, and military development in line with the CCP's long-term strategy and milestones of national rejuvenation. FYPs serve as guideposts, and the end of a FYP period prompts Beijing to evaluate progress and reflect on what to emphasize for the next FYP. As the 13th FYP (2015-2020) ended in 2020, the CCP Central Committee convened in the Fifth Plenum in October 2020 to evaluate its successes and failures and deliberate the 14th FYP (2021-2025). The evaluation of the PRC's FYP is an important messaging tool for the CCP to a domestic audience which aims to validate the Party's leadership and legitimize the trajectory of the PRC's national development. While the PRC acknowledged shortfalls, the 13th FYP set a baseline for future research and development that will inform the PRC's science and technology milestones. The PRC's confidence in the progress made during the 13th FYP has compounding effects, reflected in the ambitious goals set in the 14th FYP, with a vision to achieve their objectives out to 2035.

Economic Development

In December 2020, General Secretary Xi Jinping lauded the 13th FYP as a success, declaring an end to absolute poverty in China, reflecting Beijing's perception that it has met a key achievement for improving the livelihoods of PRC citizens, a key goal of the 13th Five Year Plan (FYP). Other than notable achievements on GDP per capita growth and urban relocation, Beijing also claimed it had met pollution control targets from the 13th FYP. Xi also lauded progress of his One Belt, One Road initiative.

Xi also reflected growing concerns regarding "new contradictions and challenges brought about by the complex international environment," as the PRC faces a depressed import market, increasingly restricted technology markets, and limited access to critical technologies. CCP leaders did not shy away from emphasizing the need to embrace a "struggle spirit" to prevail in an economic "protracted war" with the "strong enemy" and push for domestic innovation, especially in fields of "choke point" technologies, such as semiconductors.

Overall, while CCP leaders see an increasingly uncertain economic future, they maintain confident that the 13th FYP put them in a good place to compete economically and begin a "new stage in development" towards a high-end manufacturing and consumption-driven economy.

Military Modernization

Throughout 2020, key Party and military leaders assessed the PLA's progress in implementing the various reforms and modernization goals formulated at the start of the 13th FYP. In line with the priorities listed in 2015 and 2017 reforms, Party evaluations of PLA progress centered on strengthening Party loyalty, implementing doctrinal reforms, accelerating military modernization, and improving warfighting readiness.

The PLA also noted progress in increasing its warfighting readiness. Party publications often state that preparing for winning wars is the logical starting point of the PLA's reforms, and they praised the PLA for strengthening troop training and preparations. They cited improvements in key competencies such as mobilizing to support China's responses to the COVID-19 outbreak and floods in central China, and successes in military-civil fusion, particularly in delivering logistics during mobilization and deterrence exercises along the Indian border in 2020. It is important to note the emphasis on military-civil fusion, the implementation of which was a key priority of the 13th FYP.

While Party outlets had much to praise at the conclusion of the 13th FYP, Party and military leadership also reflected on what remains to be addressed in the 14th FYP. As elucidated after the fifth Plenum of the 19th Party Congress in October 2020, the PLA hopes to continue its emphasis on "adhering to the party's absolute leadership over the people's army," and accelerating "informatization" and "intelligentization." Of note, PLA planners will likely seek to further implement Military-Civil Fusion, as PLA mouthpieces emphasized that the "development of strength of national defense and economy should go together."

Examining the PLA's progress in implementing the 13th FYP in the context of its ambitious goals set out for the 14th FYP, it is clear that the 13th FYP will have served as an important stepping stone. As the PLA embarks on a quest to modernize its military in the "new era" and strives to achieve its long-term 2035 and 2049 goals, the completion of the 13th FYP at the very least set a baseline for the development of a highly informatized, battle-ready, and increasingly global military.

SPECIAL TOPIC: PRC-INDIA BORDER STANDOFF

The Current State of Play. As of June 2021, the PRC and India continue to maintain large-scale deployments along the LAC and make preparations to sustain these forces while disengagement negotiations have made limited progress. Beginning in May 2020, the PLA launched incursions into customarily Indian-controlled territory across the border and has concentrated troops at several standoff locations along the LAC. In addition, a substantial reserve force from the Tibet and Xinjiang Military Districts were deployed to the interior of Western China to provide a rapid response. The June 2020 skirmish in Galwan Valley, which led to the deaths of 20 Indian soldiers, marked the first loss of life on the LAC since 1975. In February 2021, the Central Military Commission (CMC) announced posthumous awards for four PLA soldiers, though the total number of PRC casualties remains unknown.

Corps Commander Negotiations and Limited Disengagement. As of April 2021, PLA and Indian Army (IA) representatives have held eleven rounds of Corps-level negotiations since the beginning of the standoff in May 2020, consisting of meetings between the commanders of the PLA's South Xinjiang (Nanjiang) Military District and the Indian Army's 14th Corps. The negotiations have yielded limited disengagement at specific areas along the LAC. In addition to military negotiations, on 10 September, the PRC's Minister of Foreign Affairs, Wang Yi, met with India's Minister of External Affairs, Subrahmanyam Jaishankar, on the sidelines of the Shanghai Cooperation Organization Foreign Ministers' meeting in Moscow. The two ministers released a plan, which has yet to be carried out, for resolving the dispute and expressed a desire to resolving the standoff peacefully while maintaining dialogue.

Competing Perceptions of the Crisis. Despite the ongoing diplomatic and military dialogues to reduce border tensions, the PRC has continued taking incremental and tactical actions to press its claims at the LAC. Sometime in 2020, the PRC built a large 100-home civilian village inside disputed territory between the PRC's Tibet Autonomous Region and India's Arunachal Pradesh state in the eastern sector of the LAC. These and other infrastructure development efforts along the India-China have been a source of consternation in the Indian government and media. In contrast, PRC has attempted to blame India for provoking the standoff through India's increased infrastructure development near the LAC. Asserting that its deployments to the LAC were in response to Indian provocation, Beijing has refused to withdraw any forces until India's forces have withdrawn behind the PRC's version of the LAC and ceased infrastructure improvements in the area.

The PRC's Current Objectives in the Standoff. As the standoff continues, the PRC has expressed its aim to prevent the standoff from worsening into a wider military conflict. Additionally, Beijing has voiced its intent to return bilateral relations with New Delhi to a state of economic and diplomatic cooperation it had perceived to be improving since the 2017 Doklam standoff. PRC state-controlled media forcefully asserted China's intent to refuse any territorial concessions demanded by India. PRC officials, through official statements and state media, had also sought unsuccessfully to prevent India from deepening its relationship with the United States during and subsequent to the standoff, while accusing India of being a mere "instrument" of U.S. policy in the region.

APPENDIX I: PRC AND TAIWAN FORCES DATA

The data in this year's report applies a new methodology that may result in significantly different numbers than shown in previous reports, but does not necessarily reflect a sudden change in capability.

Taiwan Strait Military Balance, Ground Forces

	China		Taiwan
	Total	***Taiwan Strait Area***	***Total***
Total Ground Force Personnel	1,040,000	416,000	88,000
Group Armies/Army Corps	13	5	3
Combined Arms Brigades	78	30 (6 Amphibious)	NA
Mechanized Infantry Brigades	N/A		3
Motorized Infantry Brigades			6
Armor Brigades			4
Army Aviation/Air Assault Brigades	15	5	4
Artillery Brigades	15	5	3
Airborne Brigades	7	7	0
Marine Brigades	8	5	2
Tanks	6,300	.	800
Artillery Pieces	7,000	.	1,100

Note: For the purposes of this document, the "Taiwan Strait Area" includes the PLA's Eastern and Southern Theaters.

Taiwan Strait Military Balance, Naval Forces

	China		Taiwan
	Total	***Eastern and Southern Theater Navies***	***Total***
Aircraft Carriers	2	1	0
Cruisers	1	0	0
Destroyers	32	21	4
Frigates	48	41	22
Corvettes	51	34	0
Tank / Medium Landing Ships Amphibious Transport Dock	57	49	14
Diesel Attack Submarines	56	33	2
Nuclear Attack Submarines	9	2	0
Ballistic Missile Submarines	6	4	0
Coastal Patrol (Missile)	86	68	44
Coast Guard Ships	223	N / A	23

Note: The PLAN has the largest force of principal combatants, submarines, and amphibious warfare ships in Asia. In the event of a major Taiwan conflict, the Eastern and Southern Theater Navies would participate in direct action against the Taiwan Navy. The Northern Theater Navy (not shown) would be responsible primarily for protecting the sea approaches to China, but could provide mission-critical assets to support other fleets. In conflict, the PRC may also employ CCG and CMM ships to support military operations.

Taiwan Strait Military Balance, Air Forces

	China		Taiwan
	Total	***Eastern and Southern Theater***	***Total***
Fighters	1,600 (2,800*)	700 (800*)	400 (500*)
Bombers/Attack	450	250	0
Transport	400	20	30
Special Mission Aircraft	150	100	30

Note: This chart displays estimated totals of military aircraft from both PLAAF and PLAN aviation. However, the PLAAF may supplement its military transports with civilian aircraft in a combat scenario.

*The totals in parentheses include fighter trainers.

China's Rocket Force

System	Launchers	Missiles	Estimated Range
ICBM	100	150	>5,500km
IRBM	200	300	3,000-5,500km
MRBM	250	600	1,000-3,000km
SRBM	250	1000	300-1,000km
GLCM	100	300	>1,500km

APPENDIX II: DEFENSE CONTACTS AND EXCHANGES

U.S.-China Military-to-Military Exchanges in 2020

RECURRENT EXCHANGES	
Military Maritime Consultative Agreement Working Group	May
Crisis Communications Working Group	October
ACADEMIC EXCHANGES	
U.S. and PLA National Defense University Meeting	December
FUNCTIONAL EXCHANGES	
Disaster Management Exchange	November

APPENDIX III: SELECTED PLA BILATERAL AND MULTILATERAL EXERCISES IN 2020

Selected PLA Bilateral and Multilateral Exercises in 2020		
Exercise Name	**Type of Exercise**	**Participants**
SEA GUARDIAN 2020	Naval Exercise	Pakistan
KAVKAZ 2020	Multinational joint exercise	Russia
International Army Games 2020	Multinational competition-based training	Russia
Cobra Gold 2020	HADR field training exercise	Thailand
Coast Guard exercise	Joint maritime exercise	Philippines
Golden Dragon-2020 Blue	Joint exercise	Cambodia
Shaheen IX	Air exercise	Pakistan

APPENDIX IV: CHINA'S TOP CRUDE OIL SUPPLIERS IN 2020

China's Top Crude Suppliers 2020

Country	Volume (1,000 barrels per day)	Percentage of Imported Crude Oil
Saudi Arabia	1,669	16
Russia	1,555	15
Iraq	1,037	10
Angola	949	9
Brazil	804	8
Oman	678	7
Kuwait	454	4
United Arab Emirates	306	3
Iran	296	3
Colombia	263	3
Others	2,120	21
Total	**10,131**	**100**

Table Percentages have been rounded, and may not sum to 100.

APPENDIX V: ACRONYMS

3PLA	3rd Department
4PLA	4th Department
5G	fifth-generation
A2/AD	Anti-access/area-denial
AAM	air-to-air missile
ADIZ	air defense identification zone
AEW&C	airborne early warning and control
AGI	intelligence collection ship
AGOS	ocean surveillance ship
AH	hospital ship
AI	artificial intelligence
ALBM	air-launched ballistic missile
ALCM	air-launched cruise missile
AMS	Academy of Military Science
AOE	fast combat support ship
AOR	replenishment oiler
APT	Advanced Persistent Threat
ARH	Anti-radiation homing
ARS	salvage and rescue ship

ASAT	antisatellite
ASBM	Anti-ship ballistic missile
ASCM	Anti-ship cruise missile
ASEAN	Association of Southeast Asian Nations
ASF	Aerospace Force
ASM	air-to-surface missile
ASUW	Anti-surface warfare
ASW	antisubmarine warfare
AUV	autonomous underwater vehicle
AVIC	Aviation Industry of China
BAT	Baidu, Alibaba, and Tencent
BCI	brain-computer interface
BMD	ballistic missile defense
BRI	Belt and Road Initiative
BRICS	Brazil, Russia, India, China, and South Africa
C2	command and control
C3	command, control, and communications
C4I	command, control, communications, computers, and intelligence
C4ISR	command, control, communications, computers, intelligence, surveillance, and reconnaissance
CA	combined arms
CAATSA	Countering America's Adversaries Through Sanctions Act
CAS	China Academy of Sciences
CCG	China Coast Guard

CCIMCD	Central Commission for Integrated Military and Civilian Development
CCP	Chinese Communist Party
CCTV	closed-circuit television
CDC	cleared defense contractor
CDCM	coastal defense cruise missile
CDN	content delivery network
CEP	circular error probable
CG	guided-missile cruiser
CIS	Command Information System
CMC	Central Military Commission
COC	code of conduct
COMAC	Commercial Aircraft Corporation of China
COMSAT	communications satellite
CONUS	continental United States
CRBM	close-range ballistic missile
CSF	Cyberspace Force
CSS	Chinese Space Station
CSSA	Chinese Students and Scholars Association
CTDRSS	China Tracking and Data Relay Satellite System
DA ASAT	direct-ascent antisatellite
DDG	guided-missile destroyer
DIB	defense industrial base
DoD	Department of Defense

DRAM	dynamic random-access memory
DRC	Democratic Republic of Congo
EDD	Equipment Development Department
EEZ	exclusive economic zone
EO	electro-optical
EW	electronic warfare
FARA	Foreign Agents Registration Act
FFG	guided-missile frigate
FFL	corvette
FONOP	freedom of navigation operation
GAD	guards artillery division
GDP	gross domestic product
GEO	geosynchronous Earth orbit
GLCM	ground-launched cruise missile
GPS	Global Positioning System
GSD	General Staff Department
HA/DR	humanitarian assistance/disaster relief
HET	heavy equipment transporter
HGV	hypersonic glide vehicle
HQ	headquarters
I&W	indications and warning
IADS	integrated air defense system
IC	Intelligence Community
ICBM	intercontinental ballistic missile

ICP	Integrated Command Platform
ICT	information and communications technology
IEA	International Energy Agency
IFF	identification, friend or foe
IGSO	inclined geosynchronous orbit
IIR	imaging infrared
INDOPACOM	U.S. Indo-Pacific Command
INEW	integrated network and electronic warfare
INF	Intermediate-Range Nuclear Forces
IO	information operations
IOC	initial operational capability
IRBM	intermediate-range ballistic missile
ISR	intelligence, surveillance, and reconnaissance
JLSC	Joint Logistics Service Center
JLSD	Joint Logistic Sub-Department
JLSF	Joint Logistics Support Force
JSD	Joint Staff Department
LACM	land-attack cruise missile
LEO	low Earth orbit
LHA	amphibious assault ship
LOSC	Law of the Sea Convention
LOW	launch-on-warning
LPD	amphibious transport dock
LST	landing ship transport

M&A	mergers and acquisitions
MARV	maneuverable reentry vehicle
MB	missile brigade
MBT	main battle tank
MCF	military-civil fusion
MEO	medium Earth orbit
MIIT	Ministry of Industry and Information Technology
MIRV	multiple independently targetable reentry vehicle
MOOTW	military operations other than war
MPS	Ministry of Public Security
MRBM	medium-range ballistic missile
MSS	Ministry of State Security
MWIR	mid-wavelength infrared
NC2	nuclear command and control
NFU	No First Use
NORINCO	North Industries Corporation
NPC	National People's Congress
NSC	National Security Commission
NSFC	National Science Foundation of China
NWMA	Non-war military activities
OPFOR	opposing force
OPIR	overhead persistent infrared
OTH	over-the-horizon
PAFMM	People's Armed Forces Maritime Militia

PAP	People's Armed Police
PKO	peacekeeping operations
PLA	People's Liberation Army
PLAA	PLA Army
PLAAF	PLA Air Force
PLAN	PLA Navy
PLANMC	PLA Navy Marine Corps
PLARF	PLA Rocket Force
PLC	Politics and Law Commission
PNT	positioning, navigation, and timing
PRC	People's Republic of China
QRSLV	quick response space launch vehicle
R&D	research and development
RCEP	Regional Comprehensive Economic Partnership
RDATE&P	research, development, acquisition, testing, evaluation, and production
RF	radio frequency
RV	reentry vehicle
S&T	science and technology
SAM	surface-to-air missile
SAR	synthetic aperture radar
SASTIND	State Administration for Science, Technology, and Industry for National Defense
SATCOM	satellite communications
SATNAV	satellite navigation

SCO	Shanghai Cooperation Organization
SEAD	suppression of enemy air defenses
SIGINT	signals intelligence
SLBM	submarine-launched ballistic missile
SLOC	sea line of communication
SLV	space launch vehicle
SMA	special mission aircraft
SOE	state-owned enterprise
SOF	special operations forces
SOJ	standoff jammer
SOSI	space object surveillance and identification
SRBM	short-range ballistic missile
SRO	sensitive reconnaissance operation
SS	diesel-powered attack submarine
SSA	auxiliary submarine
SSBN	nuclear-powered ballistic missile submarine
SSF	Strategic Support Force
SSN	nuclear-powered attack submarine
SSP	air-independent-powered attack submarine
STC	Science and Technology Commission
SURTASS	surveillance towed array sensor system
TEL	transporter-erector-launcher
THAAD	terminal high-altitude area defense
TRA	Taiwan Relations Act

UAE	United Arab Emirates
UAV	unmanned aerial vehicle
UFO	ultrahigh frequency Follow-On
UGF	underground facility
UHF	ultrahigh frequency
UNSC	United Nations Security Council
USTR	U.S. Trade Representative
VHF	very-high frequency
VLS	vertical launch system
VPS	virtual private server
WGS	Wideband Global SATCOM
WTO	World Trade Organization
ZTE	Zhongxing Telecommunications Company Ltd.

DEPARTMENT OF DEFENSE
UNITED STATES OF AMERICA