

ANNUAL REPORT TO CONGRESS

Military and Security Developments Involving the People's Republic of China 2018

Office of the Secretary of Defense

Preparation of this report cost the Department of Defense a total of approximately $108,000 in Fiscal Years 2017-2018. This includes $13,000 in expenses and $95,000 in DoD labor.

Generated on 2018 May 16 RefID: 8-0F67E5F



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Annual Report to Congress:

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A Report to Congress Pursuant to the National Defense Authorization Act for Fiscal Year 2000

Section 1261, "Annual Report on Military and Security Developments Involving the People's Republic of China," of the National Defense Authorization Act for Fiscal Year 2018, Public Law 115-91, which amends the National Defense Authorization Act for Fiscal Year 2000, Section 1202, Public Law 106-65, 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."

Executive Summary



WHAT IS CHINA'S STRATEGY?

Since 2002, Chinese leaders – including President Xi Jinping – have characterized the 21st century's initial two decades as a "period of strategic opportunity." They assess that international conditions during this time will facilitate domestic development and the expansion of China's "comprehensive national power." The Chinese Communist Party (CCP) has distilled these objectives into President Xi's "China Dream of national rejuvenation" to establish a powerful and prosperous China.

GROWING REGIONAL AND GLOBAL PRESENCE

China's leaders increasingly seek to leverage China's growing economic, diplomatic, and military clout to establish regional preeminence and expand the country's international influence. "One Belt, One Road," now renamed the "Belt and Road Initiative" (BRI), is intended to develop strong economic ties with other countries, shape their interests to align with China's, and deter confrontation or criticism of China's approach to sensitive issues. Countries participating in BRI could develop economic dependence on Chinese capital, which China could leverage to achieve its interests. For example, in July 2017, Sri Lanka and a Chinese state-owned enterprise (SOE) signed a 99-year lease for Hambantota Port, following similar deals in Piraeus, Greece, and Darwin, Australia.

A COMPREHENSIVE APPROACH TO MANAGING REGIONAL DISPUTES

China seeks to secure its objectives without jeopardizing the regional stability that remains critical to the economic development that has helped the CCP maintain its monopoly on power. However, China is also willing to employ coercive measures – both military and non-military – to advance its interests and mitigate opposition from other countries. For example, in 2017, China used economic and diplomatic pressure, unsuccessfully, in an attempt to urge South Korea to reconsider the deployment of the Terminal High-Altitude Area Defense (THAAD) system.

In its regional territorial and maritime disputes, China continued construction of outposts in the Spratly Islands, but also continued outreach to South China Sea claimants to further its goal of effectively controlling disputed areas. China also maintained a consistent coast guard presence in the Senkakus. In June 2017, India halted China's efforts to extend a road in territory disputed with Bhutan near the India border, resulting in a protracted standoff lasting more than 70 days. In August, India and China agreed to withdraw their military forces from the vicinity of the standoff; however, both countries maintain a heightened military presence in the surrounding region.

BUILDING A MORE CAPABLE PEOPLE'S LIBERATION ARMY

In support of the goal to establish a powerful and prosperous China, the "China Dream" includes a commitment to developing military power commensurate with that of a great power. Chinese military strategy documents highlight the requirement for a People's Liberation Army (PLA) able to secure Chinese national interests overseas, including a growing emphasis on the importance of the maritime and information domains, offensive air operations, long-distance mobility operations, and space and cyber operations.

The PLA is undergoing the most comprehensive restructure in its history to become a force capable of conducting complex joint operations. The PLA strives to be capable of fighting and winning "informatized local wars" – regional conflicts defined by real-time, data-networked command and control, and precision strike. Reforms seek to streamline command and control structures and improve jointness at all levels. Personnel cuts likely targeted non-combat personnel and rebalanced the preponderance of forces away from the PLA Army (PLAA).

Training continued to focus on executing large-scale, complex joint operations. This included increasing exercise realism by evaluating unit performance during force-on-force confrontations against dedicated opposing-force units, strengthening strategic campaign training, and executing long-distance maneuvers and mobility operations. The CCP also continued vigorous efforts to root out corruption in the armed forces.

China's leaders continued to advance an ambitious military modernization and organizational reform agenda to achieve those requirements. China's military modernization targets capabilities with the potential to degrade core U.S. operational and technological advantages. To support this modernization, China uses a variety of methods to acquire foreign military and dual-use technologies, including targeted foreign direct investment, cyber theft, and exploitation of private Chinese nationals' access to these technologies. Several recent cases and indictments illustrate China's use of intelligence services, computer intrusions, and other illicit approaches to obtain national security and export-restricted technologies, controlled equipment, and other materials.

Additionally, as China's global footprint and international interests have grown, its military modernization program has become more focused on investments and infrastructure to support a range of missions beyond China's periphery, including power projection, sea lane security, counterpiracy, peacekeeping, humanitarian assistance/disaster relief (HA/DR), and noncombatant evacuation operations. In August 2017, China officially opened its first overseas military base in Djibouti, deploying a company of marines and equipment to the base. China likely will seek to

establish additional military logistics facilities in countries with which it has longstanding, friendly relationships.

CONTINUED POLITICAL AND SECURITY PREPARATIONS VIS-A-VIS TAIWAN

China's overall strategy continues to incorporate elements of both persuasion and coercion to hinder the development of political attitudes in Taiwan favoring independence. Taiwan lost an additional diplomatic partner in 2017, and international fora denied participation or observership to representatives from Taiwan. While China advocates for peaceful reunification with Taiwan, China has never repudiated the use of military force, and continues to develop and deploy advanced military capabilities needed for a potential military campaign. Taiwan's 2017 National Defense Report cited concerns that increased PLA military activity near Taiwan pose an "enormous threat to security in the Taiwan Strait."

THE U.S.-CHINA BILATERAL DEFENSE RELATIONSHIP IN CONTEXT

The *2017 National Security Strategy*, the *2018 National Defense Strategy*, and the *2018 Nuclear Posture Review* recognize the growing trend of military competition in a dynamic security environment. The United States will continue to seek areas of cooperation with competitors, while preserving the ability to compete successfully from a position of strength. The United States seeks a constructive and results-oriented relationship with China. U.S. defense contacts and exchanges conducted in 2017 were designed to support overall U.S. policy and strategy toward China. They are carefully tailored to clarify and develop areas of cooperation where it is in our mutual interest and to manage and reduce risk; contacts are also conducted in accordance with the statutory limitations of the National Defense Authorization Act for Fiscal Year 2000.

While the Department of Defense engages substantively with the People's Liberation Army, DoD will also continue to monitor and adapt to China's evolving military strategy, doctrine, and force development, and encourage China to be more transparent about its military modernization. The United States will adapt its forces, posture, investments, and operational concepts to ensure it retains the ability to defend the homeland, deter aggression, protect our allies and partners, and preserve regional peace, prosperity, and freedom.

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ANNUAL UPDATE

This chapter highlights new features in this year's report and summarizes significant developments in China's military and security activities over the past year with an emphasis on developments highlighted in section 1246 of the National Defense Authorization Act for Fiscal Year 2010 (P.L. 111-84).

NEW IN THE REPORT FOR 2017

Key takeaways in each chapter summarize trends and provide snapshots of notable events in 2017.

New **special topics**, located at the back of the report, address key developments that have military and security implications for the United States:

- In **Special Topic: China's Expanding Global Influence**, China intends to use the Belt and Road Initiative (BRI) to develop strong economic ties with other countries, shape their interests to align with China's, and deter confrontation or criticism of China's approach to sensitive issues. Some countries participating in BRI could develop economic dependencies from over-relying on Chinese capital. Some BRI investments could advance potential military advantages for China.
- In **Special Topic: China's Approach to North Korea**, China's relationship with North Korea has reached the lowest level in decades. China continues to advocate for a dual track approach towards North Korea that embraces both dialogue and pressure, believing that pressure alone is insufficient to compel North Korea to change its behavior. The PLA is also working to strengthen its ability to conduct joint operations near the Korean Peninsula, with particular emphasis on border defense.
- In **Special Topic: PLA Progress in Becoming a Joint Force**, reforms seek to enhance the PLA's ability to conduct joint operations; improve its ability to fight short-duration, high-intensity regional conflicts at greater distances from the Chinese mainland; and strengthen the CCP's control over the military.
- In **Special Topic: Overwater Bomber Operations**, the PLA has been developing strike capabilities to engage targets as far away from China as possible. Over the last three years, the PLA has rapidly expanded its overwater bomber operating areas, gaining experience in critical maritime regions and likely training for strikes against U.S. and allied targets.
- In **Special Topic: Xi Jinping's Innovation-Driven Development Strategy**, President Xi Jinping has emphasized the importance of science and technology (S&T) innovation, both for rejuvenating China and modernizing China's military. S&T advances in the commercial sector are increasingly influencing China's future military

modernization as Xi pushes greater military-civilian collaboration.

DEVELOPMENTS IN MILITARY STRUCTURE, DOCTRINE, AND TRAINING

KEY TAKEAWAYS

- ✓ China's leaders continued to advance an ambitious agenda of military modernization and organizational reforms.
- ✓ The PLA seeks to transform itself into a force capable of conducting advanced joint operations and fighting and winning "informatized local wars" – regional conflicts defined by real-time, data-networked command and control, and precision strike.

STRUCTURAL REFORM

KEY TAKEAWAYS

- ✓ The PLA is undergoing the most comprehensive force restructuring in its history.
- ✓ Reforms intend to enable lower echelon units to more independently execute combat missions.
- ✓ Personnel cuts likely targeted non-combat personnel and rebalanced the preponderance of forces away from the PLA Army (PLAA).

The PLA is undergoing the most comprehensive restructuring of forces in its history to fundamentally change the way Chinese forces fight. Reforms seek to reinforce the CCP's control of the military, improve the PLA's ability to perform joint operations, increase combat effectiveness, and curb corruption.

In late 2015, President Xi kicked off reforms with a series of changes to improve leadership, administration, and command of joint operations across the PLA by 2020. In 2017, additional reforms emphasized the restructuring of PLA forces and included:

- > *Streamlining the Central Military Commission (CMC).* In October 2017, China restructured the CMC, reducing its membership from 11 to 7. The changes further streamlined command and control through the Joint Staff Department (JSD), and further elevated anticorruption work, by adding the head of the Discipline Inspection Commission to the CMC.
- > *Cultivating Theater Commands.* After establishing five theater commands in 2016, the PLA continues to enhance theater command roles and operations. Theater commands appear to have assumed more operational control from the services, and probably commanded the PLA's responses to North Korea, India, and activities in the South China Sea. After unveiling the PLA's newly established CMC Joint Operations Command Center (JOCC) in 2016, the PLA established theater JOCCs. Like the CMC JOCC, each theater JOCC is probably staffed by the

Army, Navy, Air Force, and Rocket Force and equipped with a joint command system. The PLA also appointed its first Navy and Air Force theater commanders in the Southern and Central Theater, respectively. The appointment of Vice Admiral Yuan Yubai to the post of commander of the PLA's Southern Theater and the appointment of General Yi Xiaoguang to the post of commander of the Central Theater – the first PLA Navy (PLAN), PLA Air Force (PLAAF), and non-PLAA officers to assume such a position – signals the PLA's commitment to implementing genuine jointness as a central tenet of ongoing reforms.

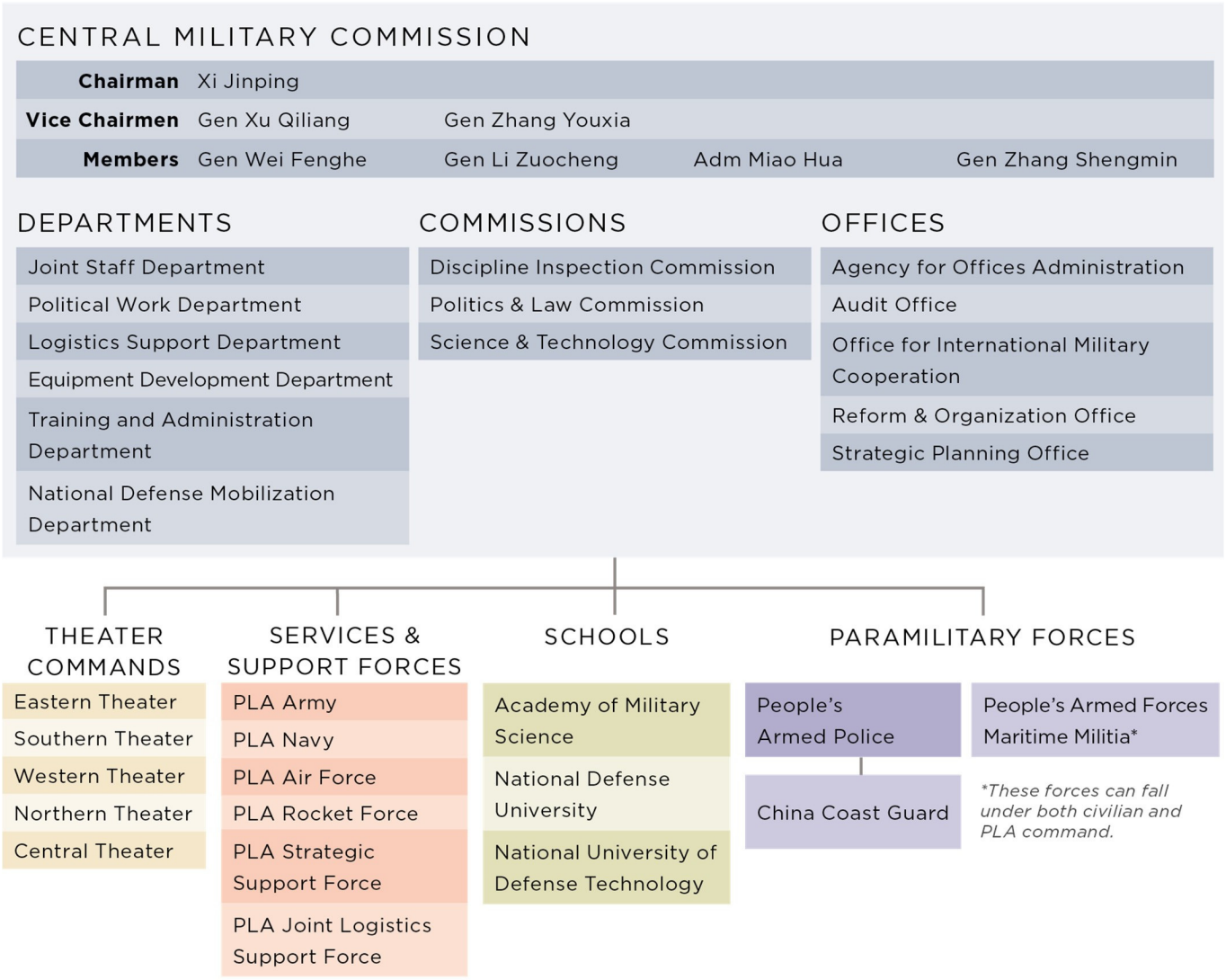
- *Building the Joint Logistics Support Force (JLSF).* The creation of the JLSF represents a significant step towards China's goal of developing a modern logistics structure. The integration of civilian-controlled assets for military operations and exercises increased, most notably with civilian ground transportation assets and civilian ships supporting joint exercises and civilian logistics firms providing supplies to mitigate logistics shortfalls. The JLSF also provided rapid supply support to HA/DR operations following the August 2017 Sichuan earthquake.
- *Flattening to Brigade Structure.* In April 2017, the PLA began restructuring its corps-level and below units, renaming and restructuring many units across the PLA. Most notably, the PLAA's 18 group armies were reorganized into 13 renamed group armies, dissolving 5 group armies and transitioning most of the units subordinate to the group armies into brigades. The PLAAF is also converting its fighter and ground attack divisions into brigades subordinate to air bases, and the PLAN is creating brigade-level frigate flotillas. The PLA probably expects that a more consistent brigade structure across the force will improve joint combat capabilities.
- *Demobilizing Personnel.* In 2017, the PLA largely completed cuts to reduce its force by 300,000 personnel. These cuts probably focused on non-combat personnel, such as those in arts and culture, administrative duties, or academic work, rather than the de-mobilization of combat personnel from dissolved group armies. China's official media also reported the cuts are rebalancing the proportion of forces among the services, increasing the relative size of the PLAN and PLAAF and reducing PLAA personnel to less than half of the PLA. The number of active-duty personnel in non-combat units was likely cut in half, and almost one-third of officers were also cut.

The PLA continues to build towards an expeditionary capability by increasing the number of army aviation and marine units. These changes will require significant revisions

to PLA doctrine in the coming years to meet the PLA's modernization goals for 2020.

The People's Armed Police (PAP) may also undergo a comprehensive restructuring of its forces, after coming under the sole authority of the CCP's CMC at the end of 2017. The PAP previously was subject to the dual authorities of the CMC and the People's Republic of China's (PRC) State Council.

China's Military Leadership



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

CHINA'S MILITARY LEADERSHIP

KEY TAKEAWAYS

- ✓ The PLA's highest decision-making body, the CMC, is a CCP Central Committee department.
- ✓ Following the 19th Party Congress, the Central Military Commission composition and membership changed.

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. From 2004 until the PLA reforms initiated in 2015, the ex officio membership of the CMC included several vice chairs, the Minister of National Defense – a position functionally unlike the U.S. Secretary of Defense – the three service commanders, and the directors of the four general headquarters departments. Following 2017's 19th Party Congress, the CCP's leadership transition held every five years, the CMC underwent further changes. The new membership consists of two vice chairs, retains only two of the four previous departments represented, and adds the head of the Discipline Inspection Commission and the Minister of National Defense.

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 China's top positions to an incoming leader in recent decades. Xi was reappointed to his Party positions at the 19th Party Congress and is expected to be reappointed president in spring 2018. In 2016, Xi was announced as the commander-in-chief of the CMC's Joint Operations Command Center 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. The younger Xi served as an aide to a defense minister early in his career and had regular interactions with the PLA as a provincial Party official. In meetings with U.S. officials, Xi has emphasized improving military-to-military relations between China and the United States.

Vice Chairman Xu Qiliang is the first career air force officer to be appointed China's top uniformed official. He 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 PLAAF commander, where he oversaw rapid force modernization and expanded the PLAAF's foreign engagement. He may have crossed paths with Xi Jinping earlier in their careers when both men served in Fujian Province. Xu was the first PLAAF officer to serve as deputy chief of the General Staff Department 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 Zhang Youxia is China's second most senior officer and former head of the Equipment Development Department (EDD). He gained rare experience as a combat commander during China's brief war with Vietnam in 1979. Zhang formerly commanded the Shenyang Military Region (MR), which shared a border with North Korea and Russia. Zhang is one of China's military "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 Wei Fenghe was appointed Minister of National Defense at the National People's Congress in March 2018. The Minister of National Defense 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. 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) predecessor, before being promoted in late 2010 to Deputy Chief of the General Staff – the first officer from the Second Artillery to do so. Wei most recently was the PLARF commander. Wei is serving a second term as a CMC member.

JSD Chief Li Zuocheng oversees PLA operations, a narrowing of the wider responsibilities held by the former General Staff Department 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 PLAA became a separate service in 2016. Li previously commanded the Chengdu MR, which was responsible for the sensitive area of Tibet.

Political Work Department Director Miao Hua oversees the PLA's political work including propaganda, organization, and education. Miao is a former PLAA officer who switched services to the PLAN in December 2014 when he became political commissar of the 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 also recently participated as the PLAN political commissar during the PLAN Belt and Road Initiative cruise conducted in mid-2017.

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

MILITARY STRATEGY AND DOCTRINE

KEY TAKEAWAY

- ✓ Recent military strategy documents highlight a requirement to secure expanding Chinese national interests overseas.

China's military strategy, as outlined in its 2015 White Paper of the same name and further delineated in the latest iteration of the PLA National Defense University's "Science of Strategy," is to build strong, combat-effective armed forces capable of winning regional conflicts employing integrated, real-time command and control networks. In early 2017, China promulgated a "White Paper on China's Policies on Asia Pacific Security Cooperation," placing this strategy in the context of China's development interests. It stresses the need for a PLA able to conduct expeditionary operations and other activities to defend and secure growing Chinese national interests overseas from "destabilizing and uncertain factors."

- > The 2015 White Paper also echoed themes from previous publications, reflecting a growing emphasis on the importance of the maritime domain, the PLAAF's shift towards more offensive operations, PLAA long-distance mobility operations, and the need for superiority in the information domain, including through space and cyber operations.
- > PLA doctrine for implementing this strategy is evolving with ongoing PLA reforms, and updated doctrine is likely in development and could be promulgated within the next few years. In 2017, the PLA began implementing revised Military Training Regulations and a new Outline of Military Training, focusing on realistic training for modern warfare and preparations for joint combat operations.

MILITARY EXERCISES AND TRAINING

KEY TAKEAWAYS

- ✓ The PLA trained to execute large-scale, complex joint operations by increasing realism and including dedicated opposition-force training, maneuver, and mobility.
- ✓ The PLA conducted its largest exercise of the year at Zhurihe in conjunction with the military parade for the PLA's 90th anniversary; Xi Jinping observed both.
- ✓ Theater command exercises focused on multi-service command and control, while exercises STRIDE 2017 and FIREPOWER 2017 tested brigade-level capabilities and readiness.

In 2017, the PLA continued to focus training to execute large-scale, complex joint operations. This included increasing the realism of exercises by evaluating PLA unit performance during force-on-force confrontations against dedicated opposing-

force units, strengthening strategic campaign training, and executing long-distance maneuvers and mobility operations.

- The PLA conducted its largest exercise of the year at Zhurihe in conjunction with the military parade for the PLA's 90th anniversary. President Xi Jinping observed large-scale war games involving land forces, aviation forces, the Rocket Force, and strategic support units, such as cyber and electronic warfare (EW) units. The PLAN also conducted a possibly related significant live-fire opposition-force exercise in late July in the Yellow Sea.

- Since 2016, the PLA theater commands organized joint exercises to improve multi-service command and control over their subordinate forces. Exercises in 2017 occurred between August to December, with the Southern Theater exercise emphasizing coordination of air and ground operations and the Eastern Theater training to incorporate ISR data from multiple services. In the Southern Theater exercise, PLAAF fighters and Army attack helicopters received targeting information from joint air firepower guidance teams.

- STRIDE 2017 was unique as the PLA held only one iteration, rather than the five iterations held in 2016. STRIDE 2017 featured a newly formed combined arms brigade participating for the first time and focused on testing the new brigade's readiness, combat capabilities, and on developing subsequent training for other PLA combined arms brigades.

- FIREPOWER 2017 continued the series' focus on air defense and artillery skills. In two iterations, one air defense brigade and one artillery brigade trained against simulated opposition forces. The last iteration consisted of a special operations force (SOF) vs. SOF brigade-level confrontation exercise. The FIREPOWER exercises also tested the brigades' capabilities following organizational changes under PLA reforms and subsequent development of new training.

- In early August 2017, the PLA held a large-scale, multi-fleet live-fire exercise simultaneously in the Yellow Sea and Bo Hai, with naval ships, submarines, aircraft and coastal defense units, as well as PLAAF participation. Both exercises were possibly tied to tensions on the Korean Peninsula.

The PLA also conducted significant training events not tied to serialized annual exercises, including the following notable operations at sea:

- In late 2016 and early 2017, the PLAN's aircraft carrier *Liaoning* and escort ships deployed to the South China Sea where the carrier conducted flight operations and task force operations that included transits of the Taiwan Strait and through the Philippine Sea. In July 2017, *Liaoning* made

a highly publicized port visit to Hong Kong and was open for public tours along with carrying out flight operations while underway. These deployments represent key developments in the PLAN's growing confidence in its sea-based aviation capabilities.

> In February 2017, a task force from the PLAN's South Sea Fleet conducted an extended deployment to the Indian Ocean and Western Pacific and engaged in opposing force exercises with forces from the East and North Sea Fleets.

ANTICORRUPTION CAMPAIGN

KEY TAKEAWAYS

- ✓ PLA anticorruption investigations are a component of a Party-wide effort to safeguard CCP legitimacy, root out corruption and personal fiefdoms, improve governance, and strengthen central control of the military.
- ✓ The CCP detained two senior-level PLA officers in September 2017.

The CCP continued its vigorous efforts to root out corruption in the armed forces in 2017. In September 2017, two former CMC members, the previous JSD chief, Fang Fenghui, and previous Political Work Department director, Zhang Yang, were reportedly detained for questioning in an anti-graft probe, a first in decades for sitting CMC officers. Fang was detained shortly after Chairman of the Joint Chiefs of Staff General Dunford's visit to China. In November 2017, Zhang committed suicide while under house arrest.

Anticorruption investigations in the PLA are a component of a Party-wide effort that President Xi initiated shortly after taking office to safeguard the legitimacy of the CCP, root out corruption and personal fiefdoms, improve governance, and strengthen central control. Military discipline inspectors have targeted individual power networks and sectors historically prone to corruption, such as officers connected to disgraced Vice Chairmen Xu Caihou and Guo Boxiong and those in the Logistics Support Department. The PLA is also revising its regulations to more effectively prevent abuse.

DEVELOPMENTS IN THE SECURITY SITUATION IN THE TAIWAN STRAIT

KEY TAKEAWAYS

- ✓ Relations between China and Taiwan remained cool through 2017.
- ✓ Bowing to Chinese pressure, Panama cut diplomatic ties with Taiwan.
- ✓ International fora, such as the World Health Assembly, INTERPOL General Assembly, and the International Civil Aviation Organization denied participation or observership to representatives from Taiwan.
- ✓ The PLA continued Taiwan Strait contingency preparations.

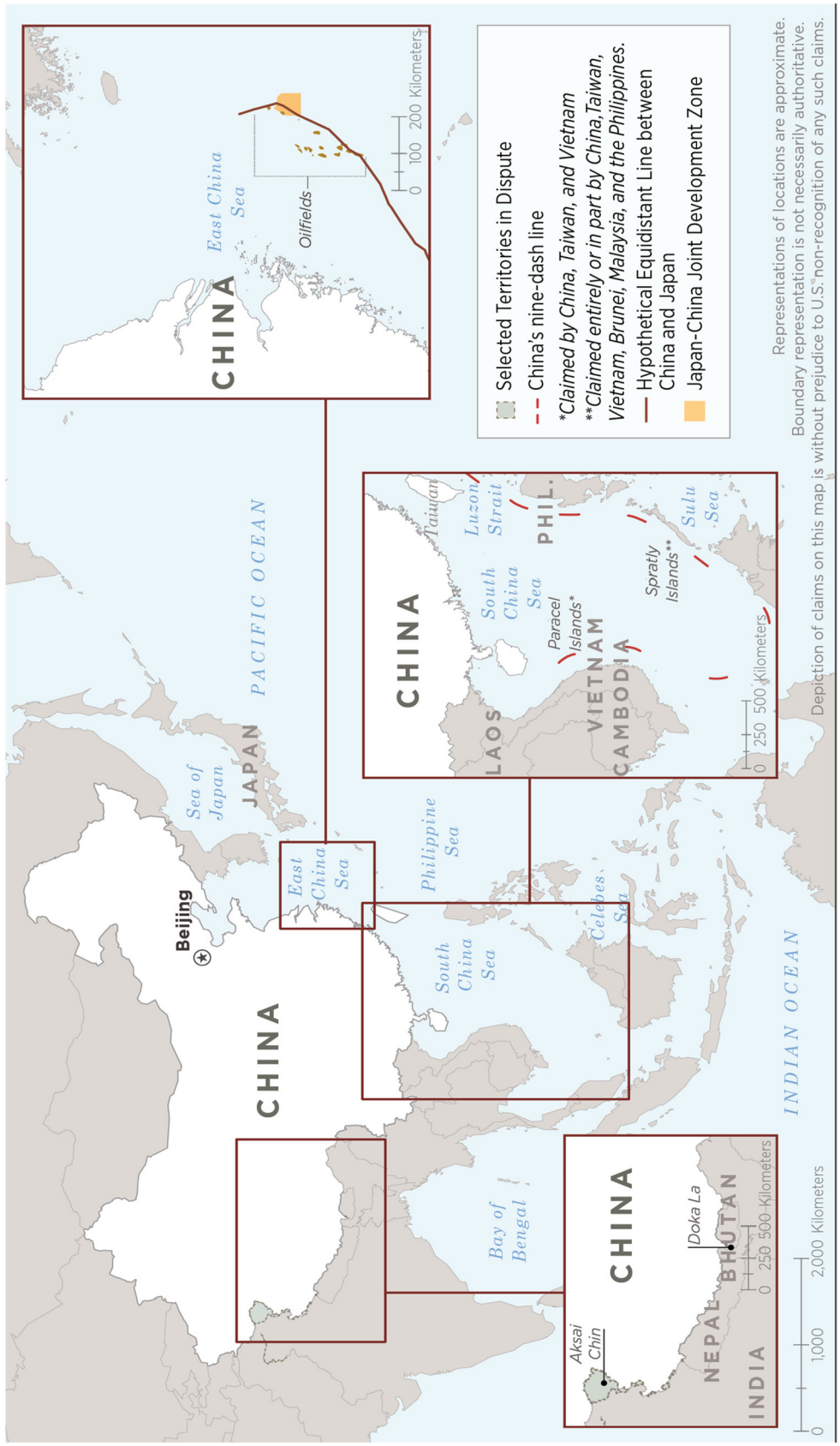
Relations between China and Taiwan remained cool through 2017. In January 2016, Taiwan voters elected Democratic Progressive Party (DPP) Chairwoman Tsai Ing-wen as Taiwan's president. China halted formal communication with Taiwan after Tsai's election and has repeatedly stressed that Taiwan must accept the "1992 Consensus" to restart formal engagement. Since November 2016, Chinese leaders have directly equated the "1992 Consensus" to "one China," which was reaffirmed by President Xi in the 19th Party Congress work report. Tsai, for her part, has pledged to maintain the status quo in cross-Strait relations and called for talks with China without preconditions. At the same time, she has not endorsed the "1992 Consensus" and has said that she wants to decrease Taiwan's economic reliance on China.

In May 2016, China suspended consultations between its Taiwan Affairs Office and Taiwan's Mainland Affairs Council that had begun in 2014. By the end of 2016, the number of Chinese tourists visiting Taiwan had also decreased by almost 20 percent from 2015 and visitor arrivals from China in the first eight months of 2017 were down 34 percent from the same period in 2016. In 2017, China continued to thwart Taiwan's efforts to participate in international organizations. For example, in 2017, the World Health Assembly denied an invitation to Taiwan as an observer for the first time since 2009; in 2016, the INTERPOL General Assembly denied Taiwan's first formal application to participate; and in 2016 Taiwan was denied an invitation to the International Civil Aviation Organization's triennial Assembly, despite being invited as an observer at the last Assembly meeting in 2013. Taiwan lost one more of its diplomatic partners when Panama switched recognition to the PRC in June 2017, an event that left Taipei with official recognition from 20 diplomatic partners at the close of the year.

Despite the stalled government-to-government consultations, the CCP continues to engage with the opposition Kuomintang (KMT) Party, and China continues to hold lower-level cross-Strait exchanges such as the municipal Shanghai-Taipei Twin City Forum.

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 China by force, while simultaneously deterring, delaying, or denying any third-party intervention on Taiwan's behalf. Taiwan's National Defense Report released in 2017 cited concern that increased PLA military activity near Taiwan pose an "enormous threat to security in the Taiwan Strait," and that Taiwan requires a "multiple deterrence strategy," including an emphasis on developing asymmetric warfare to counter PLA advances.

Selected Chinese Territorial Claims



DEVELOPMENTS IN CHINA'S TERRITORIAL AND MARITIME DISPUTES

KEY TAKEAWAYS

- ✓ China remains ambiguous about the nature and scope of its territorial and maritime claims in the South China Sea.
- ✓ China maintains persistent coast guard presence near the Senkaku Islands in the East China Sea.
- ✓ Following a protracted border standoff near the Doka La Pass, China and India agreed to withdraw forces; however, both maintained a heightened military presence in the region.

China has resolved land border and maritime boundary disputes in the past, but several persist – including the ongoing territorial and maritime disputes in the East China Sea, South China Sea, and along the China-India border. Some of these disputes involve U.S. allies with whom there exist long-standing cooperation and security treaty commitments or strategic partners with whom there is a rapidly growing security relationship. China's actions in the South China Sea in 2017 focused on political and economic overtures to diminish regional concern over China's infrastructure buildup on and intention to control disputed areas in the South China Sea effectively. China ultimately wants to settle its claims with each claimant through bilateral frameworks to achieve the most favorable terms for China.

SOUTH CHINA SEA

KEY TAKEAWAYS

- ✓ No substantial Chinese land reclamation occurred in the South China Sea in 2017, but infrastructure development on reclaimed features continued.
- ✓ China continued outreach to South China Sea claimants to further its goal of effectively controlling disputed areas.

In 2009, China enunciated an ambiguous maritime claim depicted in a map containing a nine-dash line that encompasses most of the waters in the South China Sea. China remains ambiguous about the coordinates, meaning, or legal basis for its claims. Brunei, Malaysia, the Philippines, Taiwan, and Vietnam all contest aspects of China's territorial and maritime claims in the South China Sea. Indonesia does not view itself as a South China Sea claimant as it does not claim sovereignty over any contested outposts, although its exclusive economic zone (EEZ) overlaps with China's nine-dash line.

In 2017, China continued increased outreach to the Philippines, Vietnam, and Brunei to maintain momentum toward its goal of effectively controlling disputed areas in the South China Sea. These overtures follow the July 2016 arbitration ruling in the case brought by the Philippines against China under the 1982 Law of the Sea Convention (LOSC). This ruling included findings that China violated the Philippines' sovereign rights within the

Philippines' EEZ; that China has no basis on which to claim historic rights within the nine-dash line to the extent that any claim exceeds maritime entitlements China could claim under the LOSC; and that Mischief Reef, Subi Reef, Second Thomas Shoal, and Reed Bank do not generate maritime entitlements. The tribunal did not rule on sovereignty claims to land features. In response to the ruling, China continued to claim historic rights in the South China Sea, and made a separate assertion of a right to "internal" waters within entire island groups (rather than from individual features as set out in the LOSC). This likely references China's unlawful straight baseline claims around the Paracel Islands and potential drawing of similarly unlawful straight baselines around three other South China Sea island groups claimed by China.

Since the arbitration ruling, China has managed tensions with regional claimants and largely continued its operations and activities in the region as it had prior to the ruling. In August 2017, China and the Association of Southeast Asian Nations (ASEAN) decided on a framework for a code of conduct after years of negotiations, and conducted a combined maritime exercise in November 2017 following the 11th ASEAN Defense Ministers' Meeting. China's relationship with Philippines President Rodrigo Duterte continues to improve, likely facilitating the omission of China's reclamation or militarization of features in the South China Sea from an official ASEAN statement in May 2013. China has resumed senior-level meetings and discussed trade integration issues with Vietnam after threatening Vietnam over drilling operations in contested maritime areas in July 2017.

No substantial Chinese land reclamation occurred in the South China Sea in 2017, but infrastructure development on reclaimed features continued. Although China's land reclamation and artificial islands do not strengthen China's territorial claims as a legal matter, and artificial islands do not generate territorial sea entitlements, China will be able to use infrastructure on reclaimed features to enhance its presence in the South China Sea and improve the PLA's ability to enforce China's maritime claims.

Both China and the Philippines – as well as Taiwan – claim sovereignty over Scarborough Reef, and tensions remain between China and the Philippines at Second Thomas Shoal. Throughout 2017, China Coast Guard (CCG) ships maintained a presence at Scarborough Reef, sustaining operations that began in 2012. Since April 2017, China has reportedly allowed access to the reef area for Philippines-registered fishing boats. China also maintains a continuous CCG presence at Second Thomas Shoal, and the Philippines stations military personnel aboard a tank landing ship (LST), the *Sierra Madre*, grounded there since 1999.

Other disputed areas include the Luconia Shoals, Reed Bank, and the Paracel Islands. The Luconia Shoals are disputed by China, Taiwan, and Malaysia and may contain extensive oil and natural gas reserves, as well as

productive fishing grounds. Reed Bank is claimed by China, Taiwan, and the Philippines. In the Paracel Islands, which are disputed with Vietnam and Taiwan, China in 2017 for the first time offered tourism cruises to the area and continued to develop civilian infrastructure to try to help bolster its claim to the islands.

The United States does not take a position on sovereignty over disputed land features in the South China Sea, but recognizes that China's reclamation activities have far surpassed that of all other claimants. The United States opposes further militarization of disputed land features and calls for all claimants to avoid unilateral, coercive changes.

EAST CHINA SEA

KEY TAKEAWAYS

- ✓ China continues to use maritime law enforcement ships and aircraft to patrol near the Japan-administered Senkaku Islands, entering within 12 nm of the islands once every ten days, on average.
- ✓ China and Japan conducted the seventh senior official discussion on maritime affairs.

China claims sovereignty over the Japan-administered Senkaku Islands in the East China Sea; this territory is also claimed by Taiwan. The United States does not take a position on sovereignty of the Senkaku Islands, but recognizes Japan's administration of the islands and therefore maintains that Article 5 of the U.S.-Japan Mutual Security Treaty applies to them. In addition, the United States opposes any unilateral actions that seek to undermine Japan's administration of the islands. China continues to use maritime law enforcement ships and aircraft to patrol near the islands.

During 2017, China maintained a presence in the Senkaku Islands usually with 4 CCG ships, and entered within 12 nm of the islands an average of once every 10 days with multiple CCG ships. In late June 2017, China and Japan conducted the seventh iteration of a senior official discussion on maritime affairs requisite to establishing a line of communication to de-conflict air and maritime traffic in the East China Sea, and finally agreed to establish a hotline in December 2017.

CHINA-INDIA-BHUTAN BORDER

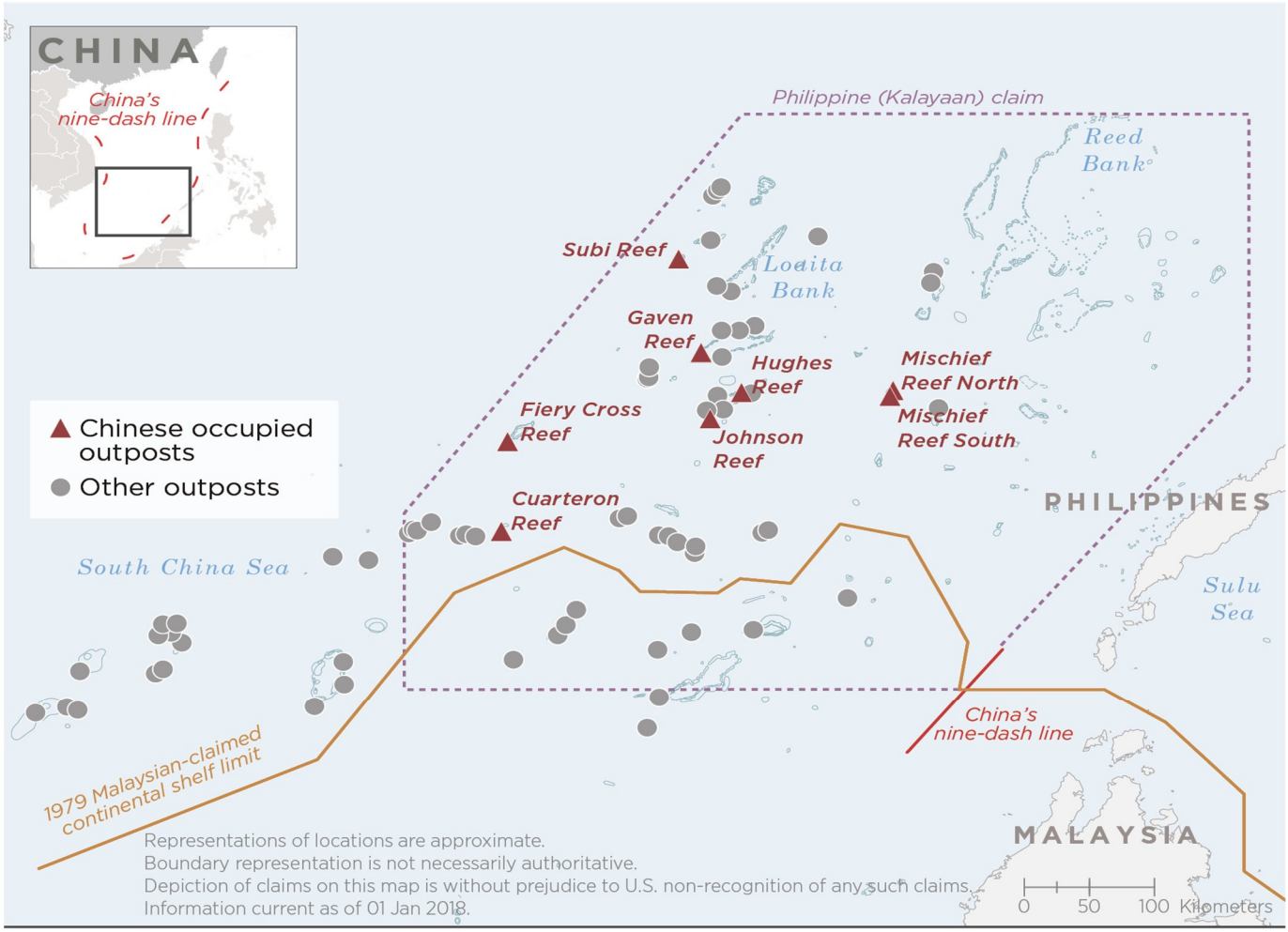
KEY TAKEAWAYS

- ✓ In June 2017, India halted China's efforts to extend a road in territory administered by Bhutan near the Bhutan, China and India border, resulting in a standoff lasting more than 70 days.
- ✓ In August 2017, both China and India agreed to withdraw forces from the vicinity of the standoff, but both maintain a heightened military presence in the surrounding region.

Tensions persist along disputed portions of the Sino-Indian border, where both countries patrol with armed forces. In June 2017, India

halted China's efforts to extend a road near the Doka La Pass in Doklam, territory administered by Bhutan, near the Bhutan, China, and India border, resulting in a protracted standoff lasting more than 70 days. In August 2017, India and China agreed to withdraw their military forces from the vicinity of the standoff; however, both countries maintain a heightened military presence in the surrounding region. In December, an Indian unmanned aerial vehicle (UAV) crashed in Chinese territory along the Line of Actual Control in the Sikkim section of the Sino-Indian border, near the standoff location. China and India have resumed border personnel meetings, though India halted another Chinese road construction effort in disputed territory in Arunachal Pradesh in December 2017.

Outposts in the Spratly Islands



CHINA'S USE OF LOW-INTENSITY COERCION IN MARITIME DISPUTES

KEY TAKEAWAYS

- ✓ The PLAN, CCG, and People's Armed Forces Maritime Militia (PAFMM) form the largest maritime force in the Indo-Pacific.
- ✓ PLAN, CCG, and PAFMM sometimes conduct coordinated patrols.

China continues to exercise low-intensity coercion to advance its claims in the East and South China Seas. During periods of tension, official statements and state media seek to portray China as reactive. China uses an opportunistically timed progression of incremental but intensifying steps to attempt to increase effective control over disputed areas and avoid escalation to military conflict. China also uses economic incentives and punitive trade policies to deter opposition to China's actions in the region. In 2017, China extended economic cooperation to the Philippines in exchange for taking steps to shelve territorial and maritime disputes. Conversely, a Chinese survey ship lingered around Benham Rise in the spring after the Philippines refused several requests from China to survey the area. Later in the spring, CCG boats reportedly fired warning shots over Philippine fishing boats near Union Bank. In August 2017, China used PLAN, CCG, and PAFMM ships to patrol around Thitu Island and planted a flag on Sandy Cay, a sandbar within 12 nm of Subi Reef and Thitu Island, possibly in response to Manila's reported plans to upgrade its runway on Thitu Island. China probably used coercion to pressure Vietnam to suspend joint Vietnam-Spain drilling operations in a disputed oil block in the South China Sea over the summer of 2017.

SHORE-BASED INFRASTRUCTURE CONSTRUCTION CONTINUES IN THE SOUTH CHINA SEA

KEY TAKEAWAYS

- ✓ China ceased substantial South China Sea land reclamation; however, it continued to build infrastructure at three outposts.
- ✓ Outposts may be capable of supporting military operations, but no permanent large-scale air or naval presence has been observed in the Spratly Islands.

China's Spratly Islands outpost expansion effort is currently focused on building out the land-based capabilities of three large outposts – Fiery Cross, Subi, and Mischief Reefs – after completion of four smaller outposts early in 2016. No substantial land has been reclaimed at any of the outposts since China completed its artificial island creation in the Spratly Islands in late 2015 after adding over 3,200 acres of land to the seven features it occupies in the Spratlys. Construction of aviation facilities, port facilities, fixed-weapons positions, barracks, administration buildings, and communication facilities at each of the three outposts was underway throughout 2017. The outposts may be capable of supporting military operation in the Spratly Islands and throughout the region, but no permanent large-scale air or naval presence has been observed.

China has completed shore-based infrastructure on four small outposts in the Spratly Islands: Johnson, Gaven, Hughes, and Cuarteron Reefs. Administrative buildings, weapons stations, sensor emplacements, and other facilities remain under construction on the outposts.

China has stated these projects are mainly for improving the living and working conditions of those stationed on the outposts, safety of navigation, and research. However, China could be attempting to bolster its *de facto* control by improving military and civilian infrastructure in the South China Sea. The airfields, berthing areas, and resupply facilities will allow China to maintain a more flexible and persistent coast guard and military presence in the area. This would improve China's ability to detect and challenge activities by rival claimants or third parties, widen the range of capabilities available to China, and reduce the time required to deploy them.

China's plans to power these islands may add a nuclear element to the territorial dispute. In 2017, China indicated development plans may be underway to power islands and reefs in the typhoon-prone South China Sea with floating nuclear power stations; development reportedly is to begin prior to 2020.

DEVELOPMENTS IN CHINA'S FOREIGN MILITARY ENGAGEMENTS

KEY TAKEAWAYS

- ✓ PLA international engagement continues to expand, including combined exercises and peacekeeping operations (PKO).
- ✓ Senior PLA foreign official engagement and professional military education exchanges are also growing.
- ✓ China's arms exports, which support its broader foreign policy goals, remain strong.

China uses PLA engagements with foreign militaries to enhance its presence and influence abroad, bolster its image, shape shared responses to security issues, and assuage other countries' concerns about its rise. These engagements also assist PLA modernization by facilitating the acquisition of advanced weapon systems and technologies, increasing its operational experience throughout and beyond the Indo-Pacific, and giving the PLA access to foreign military practices, operational doctrine, and training methods. Bilateral and multilateral exercises provide a political benefit to China and opportunities for the PLA to improve capabilities in areas such as counterterrorism, mobility operations, and logistics.

MILITARY COOPERATION

KEY TAKEAWAYS

- ✓ The PLA conducted at least twenty bilateral and multilateral exercises.
- ✓ China continued to contribute more peacekeeping forces than any other UN Security Council permanent member, supporting national objectives of improving China's image abroad, gaining PLA operational experience, and gathering intelligence.
- ✓ China deployed four naval escort task forces in continuation of its Gulf of Aden counterpiracy operations, and sent submarines to the Indian Ocean, ostensibly in support of counterpiracy patrols.

As China's regional and international interests grow more complex, the PLA's international engagement will continue to expand, especially in the areas of PKO, counterpiracy, HA/DR, counterterrorism, and joint exercises. In January 2017, Chinese peacekeeping troops in Mali carried out the first joint military medical exercise with troops from multiple countries in Joint Rescue 2017.

Combined Exercises. The PLA's participation in international military exercises continued to expand in 2017 as the PLA exercised with countries outside of the Indo-Pacific region. The PLA conducted at least twenty bilateral and multilateral exercises with foreign militaries last year. Many of these exercises

focused on counterterrorism, border security, PKO, and disaster relief; however, some included conventional ground, maritime, and air warfare training.

- China conducted naval exercises with Russia in the Baltic Sea in July and in the Sea of Japan and the Sea of Okhotsk in September 2017. The two navies exercised submarine rescue, joint air defense, and anti-submarine operations. This was the PLA's sixth naval exercise with Russia since 2012 and the first to occur in the Baltic Sea.
- China hosted the sixth iteration of the SHAHEEN exercise series with Pakistan in September 2017. The exercise included live-fire target practice, night warfare, close air support training, and, for the first time, participation by PLAN aircraft.
- Chinese military personnel participated in a bilateral exercise with Nepal for the first time in April 2017. The exercise focused on counterterrorism operations and was preceded by a visit by China's Minister of Defense, the first visit by a Chinese defense minister to Nepal in 15 years.

SELECTED BILATERAL AND MULTILATERAL EXERCISES IN 2017

Exercise Name	*Type of Exercise*	*Participants*
Unnamed	Counterterrorism	Nepal
Unnamed	Maritime	Cambodia
International Army Games	Miscellaneous	Hosted by multiple countries (28 countries participated)
SHAHEEN VI	Air	Pakistan
FRIEND 2017	Maritime	Pakistan
Unnamed	Counterterrorism	Vietnam
Unnamed	Maritime	Vietnam
FALCON STRIKE 2017	Air	Thailand
JOINT SEA 2017 (MARITIME COOPERATION 2017)	Maritime	Russia
COOPERATION 2017	Counterterrorism	Russia
AIRSPACE SECURITY 2017	Missile Defense	Russia
AMAN 2017	Maritime	Hosted by Pakistan (37 countries participated)
Unnamed	Disaster Relief	Malaysia
Unnamed	Border Security	Tajikistan
UNITED SHIELD 2017	Counterterrorism	Belarus
Unnamed	Maritime	Burma
Unnamed	Maritime	Iran
Unnamed	Counterterrorism	Kyrgyzstan
KHAAN QUEST 2017	Peacekeeping	Hosted by Mongolia (26 countries participated)
Unnamed	Maritime	Thailand, the Philippines, Cambodia, Myanmar, Laos, and Brunei
Unnamed	Counterterrorism	Hosted by China (Shanghai Cooperation Organization countries participated)
Unnamed	Disaster Relief	United States
IMMSAREX	Maritime	Hosted by Bangladesh (32 countries participated)
Unnamed	Peacekeeping	Organized by African Union-United Nations Mission in Darfur

Peacekeeping Operations. In 2017, China continued to contribute the largest number of forces among the permanent members of the UN Security Council. China's participation in United Nations PKO supports various national objectives – including improving China's international image, obtaining operational experience for the PLA, and providing opportunities to gather intelligence. These operations also reflect the PLA's expanding role beyond China's borders. China provides civilian police, military observers, engineers, logistical support specialists, and medical personnel to UN PKO missions.

- China maintains approximately 2,654 personnel in Africa and the Middle East in ten of the fifteen UN PKO missions. After the United States, which provides 28.47 percent of UN PKO budget, China is the second largest financial contributor, pledging 10.25 percent of the total $6.8 billion budget for the period from July 2017 to June 2018.
- In September 2017, China registered a standby peacekeeping force of 8,000 personnel as part of the UN Peacekeeping Capability Readiness System. China's standby force consists of infantry troops, helicopter pilots, logisticians, and intelligence, surveillance, and reconnaissance (ISR) personnel.
- In June 2017, the PLA's first peacekeeping helicopter unit began arriving in Sudan to join the UN African Union mission in Darfur. In October 2017, the PLA peacekeeping helicopter unit completed its UN equipment verification process, allowing it to operate in PKOs.

Counterpiracy Efforts. In 2017, China continued counterpiracy operations in the Gulf of Aden by deploying its 25th, 26th, 27th, and 28th naval escort task forces to the area since 2008. In April 2017, Chinese special forces, under the cover of an Indian naval helicopter, boarded a hijacked cargo ship and rescued the crew. China also continued to send submarines to the Indian Ocean, ostensibly in support of its counterpiracy patrols. Chinese attack submarines conducted port calls in Seppangar, Malaysia and Karachi, Pakistan, but they were denied a port call in Colombo by Sri Lanka. These submarine patrols demonstrate the PLAN's emerging capability both to interdict key sea lines of communication (SLOC) and to increase China's power projection into the Indian Ocean.

MILITARY DIPLOMACY

KEY TAKEAWAYS

- ✓ Expanded PLA travel abroad enables officers to study foreign military command structures, unit formations, and operational training.
- ✓ PLA senior leaders actively shape how China expresses its security concerns during PLA participation in multilateral coordination mechanisms.

Senior-level visits and exchanges provide China with opportunities to increase military officers' international exposure, and to advance foreign relations through military assistance programs and the development of personal relationships. Expanded PLA travel abroad enables PLA officers to observe and study foreign military command structures, unit formations, and operational training. Furthermore, PLA senior leaders are beginning to actively shape the methods by which shared security concerns are addressed during their participation in multilateral coordination mechanisms. In August 2016, for example, then Chief of the JSD Fang Fenghui participated in the inaugural meeting of the Quadrilateral Cooperation and Coordination Mechanism, a military counterterrorism pact between Afghanistan, China, Pakistan, and Tajikistan.

Professional military education exchanges are another tool of Chinese military diplomacy. For example, many Latin American and Caribbean countries send officers to the strategic-level College of Defense Studies at the National Defense University; some of these countries also send officers to the PLAA and PLAN command schools.

MILITARY ATTACHÉ PRESENCE

KEY TAKEAWAY

- ✓ PLA officers serve as military attachés in more than 110 offices worldwide, advancing China's overseas military diplomacy work.

China advances its day-to-day overseas military diplomacy work using PLA officers assigned as military attachés in more than 110 offices worldwide. In recent years, China's military attaché presence has grown around the world, reflecting China's increasing global interests. China'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 collect intelligence 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.

China's military attaché offices vary in size, generally ranging from 2 to 10 PLA officers. Most offices consist of just a few accredited officers; however, offices in countries considered important to China'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

KEY TAKEAWAY

- ✓ Arms exports, which support China's broader foreign policy goals, remain strong, particularly arms sales to Pakistan and demand for Chinese armed UAVs.

From 2012 through 2016, China was the fifth largest arms supplier in the world, completing more than $20 billion in sales. Of these sales, military equipment worth $8 billion went to Indo-Pacific countries, primarily Pakistan. The Middle East and North Africa region was China's second largest regional arms market, probably because of the demand for armed UAVs – a niche area where China is one of the few suppliers. China's ability to remain among the world's top five global arms suppliers largely hinges on continued strong sales to Pakistan and demand for its armed UAVs.

- > In 2015, China signed an agreement with Pakistan for the sale of eight YUAN-class submarines; the first four submarines will be built in China and the remaining four in Pakistan. Other major Indo-Pacific customers of Chinese military equipment include Bangladesh and Burma. China delivered two MING-class diesel-powered attack submarines (SS) to Bangladesh in late 2016 and continues to market a variety of export submarine options at international trade shows.

- > China has sold armed UAVs to several states in the Middle East and North Africa, including Iraq, Saudi Arabia, Egypt, and the United Arab Emirates. China faces little competition for sale of such systems, as most countries who produce them are restricted in selling the technology as signatories of the Missile Technology Control Regime and/or the Wassenaar Arrangement on Export Controls for Conventional Arms and Dual-Use Goods and Technologies.

China conducts arms sales via state-run export organizations that primarily seek to generate profits and offset defense-related research and development costs. Arms transfers are also a component of China foreign policy, used in conjunction with other types of military and economic aid and development assistance to support broader foreign policy goals. These include securing access to natural resources and export markets, promoting political influence among host country elites, and building support in international forums.

Most of China's arms recipients are developing countries that prefer Chinese arms because they are less expensive than those offered by the top international arms suppliers. Chinese arms are also of lower quality and reliability, but many still have advanced capabilities. These arms generally come with fewer end-use restrictions, which is attractive to those customers who may not have access to other sources of arms for political or economic reasons.

CURRENT CAPABILITIES OF THE PEOPLE'S LIBERATION ARMY

KEY TAKEAWAYS

- ✓ The PLA continued the most comprehensive restructuring in its history as it began to transition its core operational unit from the division to the brigade.
- ✓ PLAN and PLAAF force modernization and structural reforms continued, and the PLARF advanced plans to enhance its "strategic deterrence capability."
- ✓ Increased public focus on the Strategic Support Force (SSF) indicates growing prominence for the SSF in the PLA and the priority of its assigned missions, which include controlling complex electromagnetic environments.

In 2017, the PLA continued the most comprehensive restructuring in its history, as it began to transition its core operational unit from the division to the brigade. In April 2017, China announced changes to corps-level units across the PLA, which resulted in the reorganization and redesignation of units across the force. A number of PLAA group army headquarters were eliminated and much of the force was restructured into combined arms brigades, PLAAF divisions and regiments were realigned under corps-level bases, the Marine Corps tripled in size, and all PLARF bases were renamed. Redesignation of units across the force was likely intended in part to communicate internally the PLA's transition into a forward-looking organization that has better integrated combat capabilities and can operate as a joint force for a range of future operations.

The PLA also appointed new commanders of all its services in 2017. The new appointees probably reinforced improvements to joint command and other leadership goals that the PLA has been emphasizing since 2015, including the so-called the "five unable" problem – leaders who are unable to analyze a situation, understand the higher echelon's intent, make a decision on a course of action, deploy forces, or handle unexpected situations.

PLA ARMY

KEY TAKEAWAYS

- ✓ The PLAA dissolved 5 of its 18 group army headquarters.
- ✓ The PLAA is finalizing changing core operational units from divisions and regiments to brigades and battalions.
- ✓ The PLAA continued its two major exercise series in 2017 and introduced new, force multiplying systems that improve combat power.

Starting in April 2017, the PLAA, the largest standing ground force in the world, undertook a massive transformation of operational and tactical units as part of its structural reforms. The purpose of these reforms is to create a

more mobile, modular, lethal ground force capable of being the core of joint operations and able to meet Xi Jinping's directive to "fight and win wars." The PLAA dissolved the headquarters of 5 of its previous 18 group armies and re-numbered the remaining 13. The units subordinate to these reformed group armies consist almost entirely of brigades, finalizing the structural change of core operational units from the old divisions and regiments to brigades and battalions. The flattening of the corps-level command structure, in concert with 2016's theater command reforms, should produce faster communications both horizontally among joint force elements and vertically up the command chain.

Each group army now consists of multiple combined arms brigades, an artillery brigade, an air defense brigade, a SOF brigade, an army aviation brigade, an engineer and chemical defense brigade, and a service support brigade. The subordinate service support brigades provide group armies an integrated ability to set up a command network and organize battlefield transportation and equipment repair for their tactical units.

In late August 2017, the commander of the Central Theater, General Han Weiguo, became PLAA commander. General Han was the youngest of the theater commanders and has risen quickly with three promotions since 2015. He commanded the PLA's 90th Anniversary military parade. Descriptions of General Han as a loyal, skilled, and well-rounded officer reflect the type of officer envisioned at all levels of the PLAA to advance the PLA's reform program, especially as all 13 group armies received new commanding officers. The PLAA is also placing non-commissioned officers in positions traditionally held by officers or assigning civilians to take over some duties in an effort to alleviate the new command stresses created by the ongoing major force reorganization.

Despite the major overhaul to the operational units, the PLAA still conducted its two major exercise series in 2017: STRIDE 2017 for the new combined arms brigades and FIREPOWER 2017 for air defense and artillery brigades. The organization of these exercises was shared between the army headquarters in each theater command and the service-level headquarters in Beijing. Although on a smaller scale than previous years, the exercises, which include a professional opposing force unit, were important to train the current crop of officers and soldiers to create a more joint PLAA. The STRIDE series in particular is a focal point for exercising air-to-ground firepower coordination between the PLAAF and the PLAA.

The PLAA also continued to modernize in 2017, emphasizing systems that act as force multipliers and improve combat power. The year saw increases and improvements in air defense, artillery, sustainment support, engineers, and chemical defense systems at all

echelon levels. This selective modernization enables the shift to the brigade and battalion as the main operational echelons by giving their commanders critical organic force protection, firepower strike, reconnaissance, and sustainment capabilities. The elimination of five group army headquarters and the restructure and redistribution of their units and equipment should contribute to a modest overall improvement in modernization across the force, as only the most capable equipment and units from these disbanded corps will likely be integrated with the remaining group armies, reducing the amount of Soviet-era systems in the process.

Major Ground Units



PLA NAVY

KEY TAKEAWAYS

- ✓ The PLAN is the largest navy in the region by number of ships (more than 300), and both force modernization and structural reforms continued.
- ✓ The PLANMC expanded; it will consist of seven brigades and will be capable of overseas expeditionary operations.

The PLAN is the region's largest navy, with more than 300 surface combatants, submarines, amphibious ships, patrol craft, and specialized types. It is also an increasingly modern and flexible force. The PLAN is rapidly replacing obsolescent, generally single-purpose platforms in favor of larger, multi-role combatants featuring advanced anti-ship, anti-air, and anti-submarine weapons and sensors. This modernization aligns with China's growing emphasis on the maritime domain, with increasing demands on the PLAN to conduct operational tasks at expanding distances from the Chinese mainland using multi-mission, long-range, sustainable naval platforms that have robust self-defense capabilities.

In 2017, the PLAN continued to implement structural reforms that began in late 2015 and early 2016. The new arrangements focus the service more on organizing, manning, training, and equipping naval forces rather than conducting operations. In 2017, the PLAN also appointed Vice Admiral Shen Jinlong as the new PLAN commander, and assigned new commanders for all three fleets. The PLAN also appears to be converting some of its units to a base-operational unit structure, similar to the Air Force.

One of the most significant PLAN structural changes in 2017 was the expansion of the PLAN Marine Corps (PLANMC). The PLANMC previously consisted of 2 brigades, approximately 10,000 personnel, and was limited in geography and mission (amphibious assault and defense of South China Sea outposts). By 2020, the PLANMC will consist of 7 brigades, may have more than 30,000 personnel, and will expand its mission to include expeditionary operations on foreign soil, as PLANMC forces are already operating out of the PLA's base in Djibouti. A newly-established Marine Corps headquarters is responsible for manning, training, and equipping the expanded Marine Corps and, for the first time, the PLANMC has its own commander, although it is still subordinate to the PLAN. The PLANMC may also incorporate an aviation brigade, which could provide an organic helicopter transport and attack capability, increasing its amphibious and expeditionary warfare capabilities.

Submarines. Modernization of China's submarine force remains a high priority for the PLAN. It currently operates 4 nuclear-powered ballistic missile submarines (SSBN), 5 nuclear-powered attack submarines (SSN), and

47 diesel-powered attack submarines. By 2020, this force will likely grow to between 69 and 78 submarines.

China continues to increase its inventory of advanced anti-ship cruise missile (ASCM)-capable conventional submarines. Since the mid-1990s, the PLAN has purchased 12 Russian-built KILO-class SS units, 8 capable of launching ASCMs. During these years, Chinese shipyards have delivered 13 SONG- class SS units (Type 039) and 17 YUAN-class diesel-electric air-independent power attack submarines (SSP) (Type 039A), with a total of 20 YUANs projected for production by 2020.

Over the past 15 years, the PLAN has constructed 10 nuclear submarines – 2 SHANG I-class SSNs (Type 093), 4 SHANG II-class SSNs (Type 093A), and 4 JIN-class SSBNs (Type 094). Equipped with the CSS-N-14 (JL-2) submarine-launched ballistic missile (SLBM), China's four operational JIN-class SSBNs represent China's first credible, sea-based nuclear deterrent. China's next-generation Type 096 SSBN, reportedly to be armed with the follow-on JL-3 SLBM, will likely begin construction in the early-2020s.

By the mid-2020s, China likely will build the Type 093B guided-missile nuclear attack submarine. This new SHANG-class variant would enhance the PLAN's anti-surface warfare capability and could also provide a more clandestine land-attack option.

Surface Combatants. The PLAN also remains engaged in a robust surface combatant construction program, producing new guided-missile destroyers (DDG) and guided-missile frigates (FFG) that will provide a significant upgrade to the PLAN's air defense, anti-ship, and anti-submarine capabilities. These assets will be critical as the PLAN expands operations into distant seas beyond the range of shore-based air defense systems. In 2017, three more LUYANG III-class DDGs (Type 052D) entered service, bringing the operational total to seven, with at least six more in various stages of construction or outfitting. The LUYANG III-class DDG has a multipurpose vertical launch system capable of launching ASCMs, surface-to-air missiles (SAMs), and anti-submarine missiles. China is also constructing the larger RENHAI-class guided-missile cruiser (CG), called the Type 055 by the PLAN. China continues to produce the JIANGKAI II-class FFG (Type 054A), with 24 or more ships currently in the fleet and several more in various stages of construction. The PLAN is augmenting its littoral warfare capabilities, especially in the South China Sea and East China Sea, with high-rate production of the JIANGDAO-class corvettes (FFL) (Type 056). More than 35 had entered service by the end of 2017. The latest FFLs are anti-submarine warfare (ASW) variants with a towed-array sonar. China may build more than 60 of this class, ultimately replacing older PLAN frigates and missile-armed patrol combatants. China also has 60 HOUBEI-class wave-piercing

catamaran guided-missile patrol boats (Type 022) built for operations in China's "near seas."

The PLAN continues to emphasize anti-surface warfare. Frigates and corvettes, as well as some modernized older combatants carry variants of the YJ-83 ASCM (65 nm, 120 km), while newer surface combatants such as the LUYANG II-class DDG are fitted with the YJ-62 (120 nm, 222 km). The LUYANG III-class DDG and RENHAI-class CG will be fitted with a variant of China's newest ASCM, the YJ-18 (290 nm, 537 km), while a few modernized destroyers have been fitted with the powerful and supersonic YJ-12 ASCM. Eight of China's 12 KILO-class SS are equipped with the Russian-built SS-N-27 ASCM (120 nm, 222 km). Chinese SONG-class SS, YUAN-class SSP, and SHANG-class SSN boats will field China's newest indigenous submarine-launched YJ-18 and its variants, which constitute an improvement over the SS-N-27 ASCM.

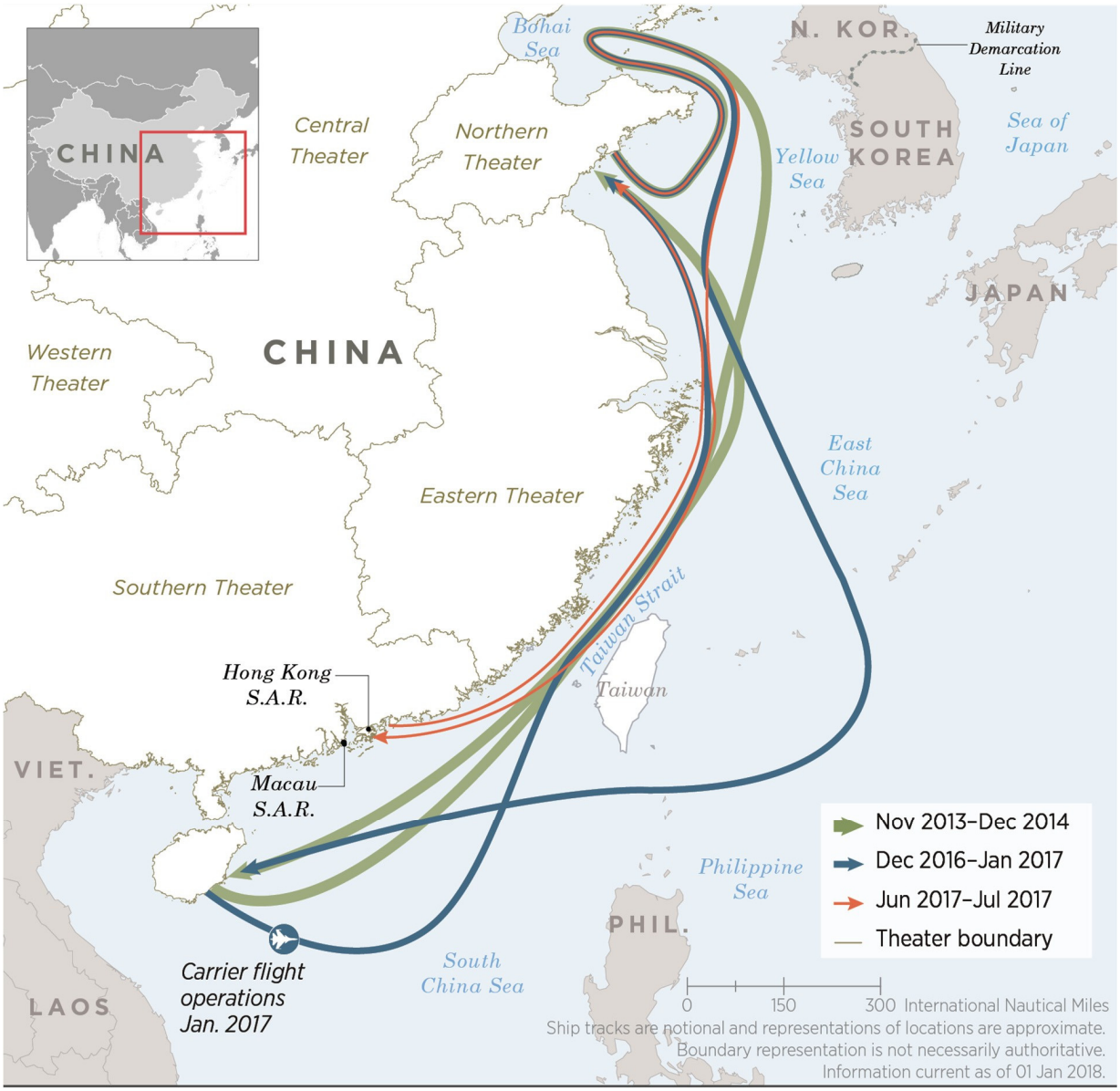
The PLAN recognizes that long-range ASCMs require a robust, over-the-horizon targeting capability to realize their full potential. China is investing in reconnaissance, surveillance, command, control, and communications systems at the strategic, operational, and tactical levels to provide high-fidelity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

Amphibious Warfare Ships. China's investments in its amphibious ship force signal its intent to develop expeditionary warfare, HA/DR, and counterpiracy capabilities. The PLAN has four large YUZHAO-class (Type 071) amphibious transport docks (LPD), with two more under construction during 2017. The YUZHAO LPD provides a greater and more flexible capability for long-range operations than the PLAN's older landing ships. It can carry several of the new YUYI-class air-cushion medium landing craft and four or more helicopters, as well as armored vehicles and PLAN Marines for long-distance deployments. The PLAN probably will continue YUZHAO LPD construction, even as it pursues development of a follow-on amphibious assault ship that is not only larger, but also incorporates a full flight deck for helicopters. During 2017, no landing ships were completed.

Aircraft Carrier. In 2017, the PLAN's first aircraft carrier, *Liaoning*, concluded its second training deployment to the South China Sea, its first with embarked J-15 fighter aircraft, and conducted its first port visit in Hong Kong. China continued operations with *Liaoning*, during 2017, with its first nighttime flight operations, incorporating additional J-15 fighter aircraft and pilots joining the order of battle and operating off the ship. Though *Liaoning* has substantially less capability than a U.S. Navy carrier, it provides extended air defense coverage for at-sea task groups and is being used to develop further China's carrier pilots, deck crews, and tactics. In addition, China's first domestic aircraft carrier was launched in 2017 and will likely join the fleet by

2019. The new carrier is a modified version of *Liaoning*, but is similarly limited in its capabilities due to its lack of catapult and a smaller flight deck than U.S. carriers. However, China is expected to begin construction on its first catapult-capable carrier in 2018, which will enable additional fighter aircraft, fixed-wing early-warning aircraft, and more rapid flight operations.

Map of Liaoning Deployments



Major Naval Units



PLA AIR FORCE AND PLA NAVY AVIATION

KEY TAKEAWAYS

- ✓ The PLAAF is the largest air force in the region and the third largest in the world. It is working to become a "strategic" air force capable of long-range power projection.
- ✓ The PLAAF is closing the gap with the U.S. Air Force across a spectrum of capabilities, gradually eroding longstanding U.S. technical advantages.
- ✓ The PLAAF continues to modernize with the delivery of indigenous manned aircraft and a wide range of UAVs.

The PLAAF is the largest air force in the region and the third largest in the world, with more than 2,700 total aircraft (not including UAVs) and 2,000 combat aircraft (including fighters, strategic bombers, tactical bombers, and multi-mission tactical and attack aircraft). 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 continues to modernize and is closing the gap with the U.S. Air Force across a broad spectrum of capabilities, gradually eroding the United States' longstanding significant technical advantage.

In 2017, PLA reorganization significantly affected the force structure of the PLAAF. Changes include establishing at least six new air bases and restructuring their previously subordinate regiments into brigades under the newly established bases by disbanding its fighter and fighter-bomber divisions. Reform may have similarly affected PLAN Aviation, as some PLAN Aviation fighter units restructured to brigades. The PLAAF also relocated or re-subordinated some units to different theater commands and completely reorganized the 15th Airborne Corps, which was officially re-designated as the "PLA Airborne Corps."

Fighters. The PLAAF continues to field fourth-generation aircraft (now about 600) and probably will become a majority fourth-generation force within the next several years. The PLAAF is still developing fifth-generation fighters, including the J-20 and FC-31, and in late 2016 began importing 24 Su-35 advanced fourth-generation fighters from Russia. In July 2017 during the PLA's 90th anniversary parade, the PLAAF publicly conducted high-profile flybys of its J-20 fifth-generation fighters and debuted its J-16 and J-10C advanced fourth-generation fighters armed with the latest weapons.

Bombers. China's bomber force is composed of variants of the H-6 BADGER bomber, and China has worked to maintain and enhance the operational effectiveness of these aircraft. The latest variant, the H-6K which China is fielding in greater numbers, integrates standoff weapons and features more

efficient turbofan engines in redesigned wing roots. This extended-range aircraft has the capability to carry six land-attack cruise missiles (LACMs), giving the PLA a long-range standoff precision strike capability that can range Guam. PLAN Aviation fields the H-6G, with four weapons pylons for ASCMs to support maritime missions. In addition, the PLAAF is seeking to extend its reach with the development of a refuelable bomber and a new, stealth strategic bomber. Former PLAAF commander General Ma Xiaotian publicly announced the stealth bomber program in 2016, and the new platform could debut sometime around 2025. The H-6 and future stealth bomber could both be nuclear capable. The PLA is also upgrading its aircraft with two new air-launched ballistic missiles, one of which may include a nuclear payload.

Special Mission Aircraft. China uses a modified version of the H-6, known as the H-6U, as well as a small number of IL-78 MIDAS purchased from Ukraine, to conduct aerial refueling operations for some of its indigenous fighter aircraft, increasing their operational ranges.

The service is also integrating airborne early warning and control aircraft (AEW&C) – such as KJ-2000 MAINRING, KJ-200 MOTH, and KJ-500 – to detect, track, and target threats in varying conditions, in larger volumes, and at greater distances. These aircraft help to extend the range of China's integrated air defense system (IADS) network.

China's aviation industry continues to advance with the initial delivery of its domestic Y-20 large transport aircraft and the first flight of the world's largest seaplane, the AG-600. The new transports will supplement and eventually replace China's small fleet of strategic airlift assets, which currently consists of a limited number of Russian-made IL-76 aircraft. The large transports are intended to support airborne command and control (C2), logistics, paradrop, aerial refueling, strategic reconnaissance operations, and HA/DR missions.

Unmanned Aerial Vehicles. China's development, production and deployment of domestically-developed reconnaissance and combat UAVs continues to expand. In 2017, Chinese defense industry representatives claimed to be developing long-range stealthy and near-space UAVs, and the PLA may soon begin receiving the long-range, high-altitude Xianglong UAV. In May 2017, military enthusiasts published purported photographs of the new Yunying reconnaissance/strike UAV undergoing flight tests in western China.

Air and Missile Defense. The PLAAF possesses one of the largest forces of advanced long-range SAM systems in the world, consisting of a combination of Russian-sourced SA-20 (S-300PMU1/2) battalions and domestically produced CSA-9 battalions. China has contracted with Russia for the S-400/Triumf SAM system, as a follow-on to the SA-20 and CSA-9, to improve strategic long-

range air defenses; delivery could take place by the end of the decade. China is also developing its indigenous HQ-19 to provide the basis for a ballistic missile defense capability.

Major Air Units



PLA ROCKET FORCE (PLARF)

KEY TAKEAWAYS

- ✓ The PLARF advanced plans to enhance its "strategic deterrence capability."
- ✓ China displayed new ballistic missiles during the PLA's 90th anniversary parade.
- ✓ ICBMs debuting or under development represent a significant improvement in China's nuclear-capable missile forces.

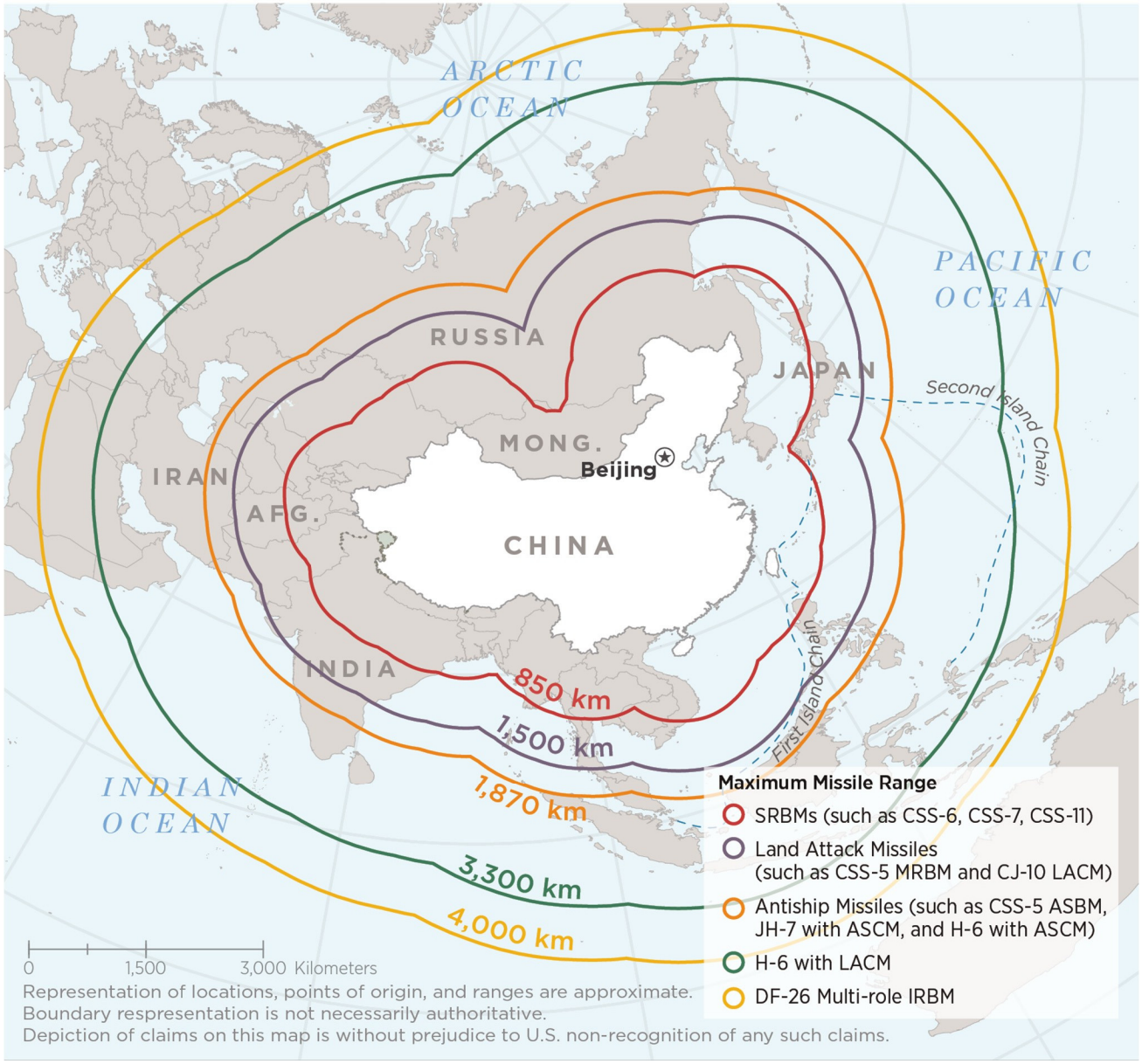
The PLARF trains, equips, and operates China's land-based nuclear and conventional missiles. In 2017, it advanced long-term modernization plans to enhance its "strategic deterrence capability," a theme President Xi echoed during a visit to PLARF headquarters in September 2016 where he called for accelerating the PLARF's pace of development and "breakthroughs . . . in strategic deterrence capability." The service is developing and testing several new variants of missiles and developing methods to counter ballistic missile defenses. In September 2017, LTG Zhou Yaning took command of the PLARF, replacing Wei Fenghe, who became Minister of Defense in March 2018.

China's conventional missile force includes the CSS-6 short-range ballistic missile (SRBM) with a range of 725-850 km; CSS-7 SRBM with a range of 300-600 km; CSS-11 SRBM with a range of over 700 km; land-attack and anti-ship variants of the CSS-5 medium-range ballistic missile (MRBM); the DF-26 intermediate-range ballistic missile (IRBM); and the CJ-10 ground-launched cruise missile (GLCM). China's conventionally-armed CSS-5 Mod 5 anti-ship ballistic missile (ASBM) gives the PLA the capability to attack ships, including aircraft carriers, in the western Pacific Ocean. During the PLA's 90th anniversary parade in July 2017, China displayed a new MRBM designated the DF-16G, which China claims features high accuracy, short preparation time, and an improved maneuverable terminal stage that can better infiltrate missile defense systems. China also displayed the DF-26 IRBM during the PLA's 90th anniversary parade. First fielded in 2016, this system is capable of conducting conventional and nuclear precision strikes against ground targets and conventional strikes against naval targets in the western Pacific and Indian Oceans and the South China Sea.

The PLARF also continues to enhance its silo-based intercontinental ballistic missiles (ICBMs) and is adding more survivable, mobile delivery systems. China's ICBM arsenal to date consists of 75-100 ICBMs, including the silo-based CSS-4 Mod 2 (DF-5A) and multiple independently targeted reentry vehicles-(MIRV)-equipped Mod 3 (DF-5B); the solid-fueled, road-mobile CSS-10 Mod 1 and 2 (DF-31 and DF-31A); and the shorter range CSS-3 (DF-4). The CSS-10 Mod 2, with a range in excess of 11,200 km, can reach most locations within the continental United States. During the 90th anniversary parade, China displayed the DF-31AG, described as an enhanced version of the DF-31A ICBM that also uses a transporter-erector-launcher to increase its

mobility and survivability. Development of the CSS-X-20 (DF-41), a new MIRV-capable and road-mobile ICBM, continued in 2017. China appears to be considering additional DF-41 launch options, including rail-mobile and silo basing.

Conventional Strike Capabilities



Nuclear Ballistic Missiles



STRATEGIC SUPPORT FORCE (SSF)

KEY TAKEAWAYS

- ✓ The SSF centralizes the PLA's space, cyber, and EW missions.
- ✓ Increased public focus on the SSF indicates its growing prominence in the PLA and the priority of its assigned missions.
- ✓ China successfully launched 16 of 18 space launch vehicles (SLVs), orbiting some 31 spacecraft, including communications, navigation, ISR, and test/engineering satellites.

The PLA likely established the SSF in 2015 to centralize the military's space, cyber, and EW missions. Although details remain limited, the PLA's 90th anniversary parade in July 2017 featured an SSF electronic reconnaissance formation, which reportedly provides highly mobile, integrated, flexible, multi-domain information warfare capabilities. The unit's mission reportedly is seizing and maintaining battlefield information control. This focus on the SSF and one of its premier units indicates the PLA is raising the priority and prominence of the SSF and its assigned missions to tackle its own deficiencies in controlling the complex electromagnetic environment.

Space and Counterspace Capabilities. China's space program continues to mature rapidly. The PLA, which has historically managed the effort, continues to invest in improving its capabilities in space-based ISR, satellite communication, satellite navigation, and meteorology, as well as human spaceflight and robotic space exploration. China has built an expansive ground support infrastructure to support its growing on-orbit fleet and related functions including spacecraft and SLV manufacture, launch, command and control, and data downlink. Additionally, China is developing multiple counterspace capabilities to degrade and deny adversary use of space-based assets during a crisis or conflict.

In 2017, China launched 18 SLVs, of which 16 were successful, orbiting some 31 spacecraft, including communications, navigation, ISR, and test/engineering satellites. Other activities included:

- > ***Space Launch Failures.*** In 2017, China suffered two SLV failures within two weeks, creating significant delays in China's national space program, according to key government officials. A Long March (LM)-3B partially failed due to faulty guidance, navigation, and control. A LM-5 launch then catastrophically failed due to a manufacturing defect. The LM-5 is to become China's new heavy-lift SLV, launching up to 25,000 kg into low Earth orbit and will play an important role in the assembly of the Chinese Space Station starting around 2018.
- > ***Commercial Launch.*** In January 2017, China's Expace Technology Co, Ltd. successfully launched its first Kuaizhou-1 (KZ-1A) commercial SLV delivering three

small satellites to sun synchronous orbit. Expace, a commercial launch company subsidized by the China Aerospace and Science Industry Corporation (CASIC), is the provider of the KZ-1A and is developing a larger version, the KZ-11. The KZ-1A is a light-lift quick response SLV owned and operated by Expace for commercial use, but it is often misidentified as the KZ-1, CASIC's military version of SLV, as it shares many aspects of its design and concepts of operations.

- ***Space Station.*** China launched its first resupply spacecraft, Tianzhou-1 (TZ-1), to dock with and transfer fuel to Tiangong-2, testing technologies necessary for long-term maintenance and operation of a future Chinese space station. China also used the TZ-1 to simulate rapid docking, similar to that of the Russian Soyuz docking with the International Space Station. China is expected to bring on orbit assembly of its own space station in 2019.

The PLA is acquiring a range of technologies to improve China's counterspace capabilities. In addition to the development of directed-energy weapons and satellite jammers, China is also developing direct-ascent and co-orbital kinetic kill capabilities and has probably made progress on the anti-satellite missile system it tested in July 2014. China is employing more sophisticated satellite operations and is probably testing dual-use technologies in space that could be applied to counterspace missions.

Although China has not publicly acknowledged the existence of any new programs since it confirmed it used an anti-satellite missile to destroy a weather satellite in 2007, Chinese defense academics often publish on counterspace threat technologies. These scholars stress the necessity of "destroying, damaging, and interfering with the enemy's reconnaissance . . . and communications satellites," 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."

Cyber Capabilities. The PLA in recent years has emphasized the importance of cyberspace as a new domain of national security and an arena for strategic competition. China's 2015 defense white paper identified cyberspace as one of four "critical security domains." PLA scholars continue to explore new concepts, such as deterrence in cyberspace.

PLA writings distinguish between peacetime and wartime cyber operations. In peacetime, PLA cyber missions include "defending electromagnetic space and cyberspace," because of China's increasing reliance on the information economy. These writings suggest that China is prepared to use cyber operations to manage the escalation of a conflict, as they view cyber operations as a low-cost deterrent and can demonstrate capabilities and resolve to an adversary. During wartime, cyber

capabilities can "help the PLA understand the enemy's trend, help the troops plan the combat operations, and ensure victory on the battlefield."

The establishment of the SSF may represent the first step in developing a cyber force that creates efficiencies by combining cyber reconnaissance, attack, and defense capabilities into one organization. PLA writings acknowledge the benefits of unifying leadership, centralizing cyber resource management, and combining offensive and defensive cyber capabilities in one military organization, and cite U.S. Cyber Command as accomplishing such a consolidation.

2

UNDERSTANDING CHINA'S STRATEGY

STRATEGIC OBJECTIVES

KEY TAKEAWAYS

- ✓ Chinese leaders view the 21st century's first two decades as a "period of strategic opportunity."
- ✓ President Xi's "China Dream" encapsulates the long-standing national aspiration to establish a powerful and prosperous China.
- ✓ China increasingly seeks to leverage its growing economic, diplomatic, and military clout to advance national objectives and expand its international influence.

Since 2002, China's leaders – including President Xi Jinping – have characterized the initial two decades of the 21st century as a "period of strategic opportunity." They assess that during this time international conditions will facilitate domestic development and the expansion of China's "comprehensive national power," which outside observers believe will serve what they assess to be the CCP's overriding strategic objectives:

- > Perpetuate CCP rule;
- > Maintain domestic stability;
- > Sustain economic growth and development;
- > Defend national sovereignty and territorial integrity;
- > Secure China's status as a great power and, ultimately, reacquire regional preeminence; and
- > Safeguard China's interests abroad.

The CCP has distilled these objectives into President Xi's "China Dream of national rejuvenation." The concept, first articulated by Xi shortly after the 2012 leadership transition, encapsulates a long-standing national aspiration of establishing a powerful and prosperous China. President Xi and other leaders also link the China Dream to two high-profile centenary goals: achieving a "moderately prosperous society" by the 100th anniversary of the CCP in 2021, and building a "prosperous, strong, democratic, civilized, harmonious, and beautiful modernized socialist strong country" by the 100th anniversary of the establishment of the PRC in 2049. At the 19th Party Congress in October 2017, President Xi also enumerated objectives for the "basic realization of socialist modernization" by 2035, which included China becoming one of the most "innovation-oriented" countries, significant enhancement of the country's soft power, and continued economic prosperity.

The China Dream also includes a commitment to develop military power commensurate with that of a great power. China's leaders increasingly seek ways to leverage its growing economic, diplomatic, and military clout to establish regional preeminence and expand the country's international influence. China seeks

to secure these objectives without jeopardizing the regional stability that remains critical to the economic development that has helped the CCP maintain its monopoly on power.

CHINA'S NATIONAL SECURITY MANAGEMENT

China is modernizing CCP, military, and state institutions to ensure greater coherence in the conduct of China's national security policy. These efforts address long-standing concerns that China's legacy system of stove-piped organizations is ill-equipped to meet the growing challenges that China faces as its interests and capabilities expand.

- Over the past three years, the National People's Congress passed a suite of laws meant to address complex national security concerns, including counterterrorism, cybersecurity, and foreign non-government organization activities. In addition, an expansive 2015 National Security Law appeared to group these and other issues under a wide concept of national security and to strengthen the role of central authorities in its protection.

- By 2015, the CCP had adopted China's first national security strategy outline and established a new National Security Commission (NSC). Official media noted that the strategy is intended to unify efforts by various departments under the central leadership's guidance.

At the NSC's first meeting, President Xi called on it to "establish a centralized and unified, highly authoritative state security system." The NSC advises the Politburo, oversees the coordination of national security issues across the government, and manages crises, according to academics. The Commission's purview appears to encompass domestic stability and external security, a much wider scope than the U.S. National Security Council. The NSC's mission, sprawling definition of national security, and powerful leaders suggests that the NSC may claim broad authority over time.

- The NSC is led by China's top three Party leaders, currently Xi Jinping, Li Keqiang, and probably Li Zhanshu, who was named to replace National People's Congress chairman, Zhang Dejiang, in October 2017. The head of its general office is likely Politburo member and CCP General Office Director Ding Xuexiang, who probably had little experience with international affairs during his decades-long career in provincial-level government and Party positions.

MILITARY STRATEGY

KEY TAKEAWAYS

- ✓ China's leadership continues to direct the PLA to be capable of fighting and winning "informatized local wars" with an emphasis on "maritime military struggle."
- ✓ China also employs coercive tactics short of armed conflict to advance China's interests.
- ✓ China officially opened its first military base in Djibouti, highlighting the PLA's growing overseas presence.

The PLA is pursuing an ambitious modernization program that aligns with China's two centenary goals. China's military leaders want to achieve mechanization and to make "major progress" toward informatization by 2020, ahead of the first centenary goal. They also seek to reach a goal of "basic modernization" by 2035, and become a world-class military, which could be interpreted as "peer capability" with the U.S. military, by the second centenary goal in the middle of this century.

Military Strategic Guidelines. In 2015, China's leadership directed the PLA to be capable of fighting and winning "informatized local wars" with an emphasis on "maritime military struggle," adjusting its guidance on the type of war the PLA should be prepared to fight. China promulgated this revision through its "military strategic guidelines," the top-level directives that prescribe concepts, assess threats, and set priorities for planning, force posture, and modernization. This update indicates that China expects significant elements of a modern conflict to occur at sea.

- > China's leadership has adjusted its national military strategic guidelines two other times since the fall of the Soviet Union. In 1993, Jiang Zemin directed the PLA to prepare for conflict under modern, high-tech conditions after observing U.S. military operations in the Gulf War. In 2004, Hu Jintao ordered the military to focus on winning "local war under informatized conditions."
- > Taiwan remains the PLA's main "strategic direction," one of the geographic areas the leadership identifies as having strategic importance. Other focus areas include the East China Sea, the South China Sea, and China's borders with India and North Korea. PLA reforms appear to have oriented each new theater command toward a specific set of contingencies.
- > In 2015, China outlined eight "strategic tasks," or types of missions the PLA must be ready to execute: safeguard the sovereignty of China's territory; safeguard national unification; safeguard China's interests in new domains such as space and cyberspace; maintain strategic deterrence; participate in international security cooperation; maintain China's political security and social stability; and conduct

emergency rescue, disaster relief, and "rights and interest protection" missions.

- China's military leaders also want to achieve mechanization, make "major progress" toward informatization, and a "great rise" in strategic capability by 2020. The concept of "informatization" figures prominently in PLA writings and is roughly analogous to the U.S. military's concept of "net-centric" capability: a force's ability to use advanced information technology and communications systems to gain operational advantage over an adversary. PLA writings highlight the benefit of near real-time shared awareness of the battlefield in enabling quick and unified effort to seize tactical opportunities.

Active Defense. China characterizes its military strategy as one of "active defense," a concept it describes as strategically defensive but operationally offensive. It is rooted in a commitment not to launch a strategic offensive but to respond robustly if an adversary challenges China's national unity, territorial sovereignty, or interests. According to this concept, defensive counterattacks can respond to an attack, or be launched to disrupt an adversary's preparations to attack. The PLA interprets active defense to include both de-escalation and seizing the initiative. Active defense is enshrined in 2015's National Security Law and is included in the PLA's major strategy documents. President Xi's speech during the 90th anniversary parade of the PLA further highlighted that China would never conduct "invasion and expansion," but would never permit "any piece of Chinese territory" to separate from China.

Coercive Approach. China's leaders use tactics short of armed conflict to pursue China's strategic objectives through activities calculated to fall below the threshold of provoking the United States, its allies and partners, or others in the Indo-Pacific region into open conflict. These tactics are particularly evident in China's pursuit of its territorial and maritime sovereignty claims in the South and East China Seas, and most recently at Doka La Pass, near the tri-border region of Bhutan, India, and China. China's construction in the Spratly Islands demonstrates China's capacity – and a newfound willingness to exercise that capacity to strengthen China's control over disputed areas, enhance China's presence, and challenge other claimants.

Growing Global Presence. China's maritime emphasis and attention to missions guarding its overseas interests have increasingly propelled the PLA beyond China's borders and its immediate periphery. The PLAN's evolving focus – from "offshore waters defense" to a mix of "offshore waters defense" and "open seas protection" – reflects the high command's expanding interest in a wider operational reach. China's military strategy and ongoing PLA reform reflect the abandonment of its historically land-centric mentality. Similarly,

doctrinal references to "forward edge defense" that would move potential conflicts far from China's territory suggest PLA strategists envision an increasingly global role. In August 2017, China officially opened its first military base in Djibouti.

Military Operations Other Than War (MOOTW). In recent years, the PLA has embraced MOOTW, revising doctrine and teaching materials, and incorporating MOOTW into its readiness and modernization plans. The PLA continues to prepare for MOOTW, including emergency response, counterterrorism, international rescue, HA/DR, PKO, and various other security tasks. In practice, the military shares many of these missions with the PAP, a domestically oriented paramilitary force.

CHINA'S INTERNAL SECURITY FORCES

China's national internal security forces consist primarily of the Ministry of Public Security (MPS), the Ministry of State Security (MSS), the PAP, and the PLA. China's leaders rely on these forces to address challenges ranging from protests over political, social, environmental, or economic problems to suspected terrorist attacks. In recent years, China has focused increasingly on protests perceived as being linked to foreign influences and, separately, the Turkestan Islamic Party, which China's leaders believe is a terrorist group connected to ethnic Uighur nationalists in the Xinjiang autonomous region. China blames Uighur "separatists" for terrorist attacks in China, and has imposed strict security in Xinjiang to curb potential attacks.

Ministry of Public Security. The MPS leads China's 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. The MSS is China's main civilian intelligence/counterintelligence service. The missions of the MSS are: to protect China's national security; to secure political and social stability; to implement the recently updated State Security Law and related laws and regulations; to protect state secrets; to conduct counterintelligence; and to investigate organizations or people inside China who carry out or direct, support, or aid other people in harming China's national security.

People's Armed Police. The PAP is a paramilitary component of China's armed forces whose primary mission is internal security and domestic stability. As part of PLA reforms, the PAP now falls solely under the authority of the CMC. Although the PAP has specialized units for a variety of functions, such as border security and firefighting, the most numerous are for internal security. PAP units are organized into contingents for each province, autonomous region, and centrally administered city, as well as a smaller number of mobile divisions available to deploy anywhere in the country in response to escalating internal crises.

People's Liberation Army. As the armed wing of the CCP, the PLA is the ultimate guarantor of the CCP's rule, giving it a role in domestic security in addition to its national defense mission. For example, the PLA may provide transportation, logistics, and intelligence to assist local public security forces with internal security, and is authorized under the 1997 National Defense Law to "assist in maintaining public order" directly when CCP leaders consider it necessary.

CHINA'S TERRITORIAL DISPUTES IN CONTEXT

China's use of force in territorial disputes has varied widely throughout its history. Some disputes led to war, as in border conflicts with India in 1962 and Vietnam in 1979. A contested border with the former Soviet Union during the 1960s raised the possibility of nuclear war. In more recent cases involving land border disputes, China has sometimes been willing to compromise with and even offer concessions to its neighbors. Since 1998, China has settled 11 land-based territorial disputes with 6 of its neighbors. In recent years, China has adopted a coercive approach to deal with several disputes that continue over maritime features and ownership of potentially rich offshore oil and gas deposits.

China and Japan have overlapping claims to both the continental shelves and the 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 China claims an extended continental shelf beyond the equidistant line to the Okinawa Trench. Japan has accused China of breaching a principled consensus reached in 2008 that both sides would respect an equidistant median line in the East China Sea for resource development while conducting joint development of oil and natural gas field in a delineated area to the north spanning the line. Japan is concerned that China has conducted oil and gas drilling on the Chinese side of the median line of the East China Sea since 2013. China continues to contest Japan's administration of the nearby Senkaku Islands.

The ***South China Sea*** plays an important role in security considerations across East Asia because Northeast Asia relies heavily on the flow of oil and commerce through South China Sea shipping lanes, including more than 80 percent of the crude oil to Japan, South Korea, and Taiwan. China claims sovereignty over the Spratly and Paracel Island groups and other land features within its 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 China. In 2009, China protested extended continental shelf submissions in the South China Sea made by Malaysia and Vietnam. In its protest to the UN Commission on the Limits of the Continental Shelf, China included its ambiguous "nine-dash line" map. China also stated in a 2009 *note verbale* that it has "indisputable sovereignty over the islands in the South China Sea and the adjacent waters, and enjoys sovereign rights and jurisdiction over the relevant waters as well as the seabed and subsoil thereof." In 2016, the arbitration ruling in the case brought by the Philippines against China under the LOSC determined that China has no legal basis to assert a maritime claim based on historic rights that would exceed entitlements it would enjoy under the LOSC. China did not participate in the arbitration and Chinese officials publicly voiced opposition to the ruling.

Tensions remain with India along the shared border over ***Arunachal Pradesh***, which China asserts is part of Tibet and therefore part of China, and over the ***Aksai Chin*** region at the western end of the Tibetan Plateau. China and India continue to accuse each other of frequent incursions and military build-ups along the disputed border. In the summer of 2017, India and Bhutan accused China of road construction in Doka La Pass, near the tri-border region of China, Bhutan, and India. When India responded by intervening in Chinese road construction and increasing its military posture in the region, China accused India of invading its territory.

FOREIGN POLICY

KEY TAKEAWAYS

- ✓ As China's foreign interests and power have expanded, it has become a more prominent player in the international community.
- ✓ China's economic initiatives, including those under its "Belt and Road Initiative," are designed to advance its interests and enhance its global role by integrating hard infrastructure development with trade and financial architecture.
- ✓ China's global trade and investment footprint is growing rapidly; Sri Lanka and a Chinese SOE signed a 99-year lease for the operation of Hambantota Port.

Chinese military diplomacy efforts support China's broader diplomatic goals. As China's foreign interests and power have expanded, it has become a more prominent player in the international community. In his speech to the CCP's 19th Party Congress in October 2017, President Xi advocated the construction of an international "community of common human destiny," highlighting China's willingness to work with the people of all countries while stressing that China will defend its core interests and territorial sovereignty and is not afraid to respond to provocations.

Xi's remarks underscore a trend in China's foreign policy in which it seeks a higher-profile role in existing regional and global institutions while selectively pursuing the establishment of new multilateral mechanisms and institutions. For instance, China launched the Asian Infrastructure Investment Bank (AIIB) in January 2016, with 57 founding members, to promote infrastructure building in the region. China's global trade and investment footprint is growing rapidly as Chinese state policy banks and Chinese firms have financed and implemented billions of dollars' worth of major infrastructure projects throughout the Indo-Pacific, Africa, Latin America, the Middle East, and parts of Europe since 2006. For example, in July 2017, Sri Lanka and a Chinese SOE signed a 99-year lease for the operation of Hambantota Port, following similar deals for ports in Piraeus, Greece, and Darwin, Australia.

Beginning in 2013, China has attempted to reconceptualize its overseas infrastructure investment under its "One Belt, One Road," now renamed the "Belt and Road Initiative."

These initiatives are indicative of China's intentions to use economic means to advance its interests and enhance its global role by integrating hard infrastructure development with trade and financial architecture. China continues to regard stable relations with its neighbors, and the United States, as key to its development. China sees the United States as the dominant regional and global actor with the greatest potential to support or disrupt China's rise. China seeks to depict itself as pursuing a peaceful development strategy in the region, conscious that if its neighbors view it primarily as a threat, they may try to more actively hedge against China's growing power. At the same time, China portrays itself as resolute in defending its territorial interests.

China's increasingly assertive efforts to advance its sovereignty and territorial claims, and its forceful rhetoric, continue to cause concern among countries in the region and have caused some to enhance their ties to the United States. China's simultaneous economic and diplomatic outreach to these countries complicates their willingness to directly challenge China. Nevertheless, concerns with China's behavior are likely to intensify as the PLA continues to modernize, especially in the absence of greater transparency.

DEVELOPMENTS IN CHINA'S ECONOMIC POLICY

KEY TAKEAWAYS

- ✓ China is non-compliant with some of its World Trade Organization (WTO) obligations.
- ✓ China restricts inbound investment, limits other countries' exports, and pursues state-guided investment overseas, including in strategic sectors.
- ✓ China also employs economic tools coercively during periods of political tensions with its neighbors.

The CCP places heavy emphasis on sustaining China's economic growth as a strategic objective. Economic growth remains a key topic in China's 13th Five-Year Plan, which was unveiled in 2016; China's senior leaders recently reaffirmed their commitment to CCP control over the state-led economic apparatus, including through state-directed investment and innovation. China's incomplete transition to a market economy has resulted in laws, regulations, and policies governing the tradable goods and services sectors, market access, and foreign direct investment that disadvantage foreign firms vis-à-vis their Chinese counterparts. On March 22, 2018, the Office of the U.S. Trade Representative released findings of an investigation under Section 301 of the Trade Act of 1974 that determined that the acts, policies, and practices of the Chinese

government related to technology transfer, intellectual property, and innovation are 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.

China is non-compliant with some of its WTO obligations, and China does not adhere to some of the agreed-upon rules and fundamental principles that undergird WTO agreements. This shapes the country's trade regime, which disadvantages foreign firms. Concerns include industrial policies that support domestic industries at the expense of foreign counterparts, subsidies to lower the cost of inputs, continued excess capacity in multiple industries, sector-specific limits on foreign direct investment, discriminatory cybersecurity and data transfer rules, insufficient intellectual property rights enforcement, inadequate transparency, and lack of market access particularly in the agriculture and service sectors. Market access remains challenging for foreign firms, as China's restriction of inbound investment results in persistent underperformance in other countries' services exports, particularly in the banking, insurance, Internet-related, professional, and retail services sectors.

Some recent Chinese laws seek further restrictions on foreign firms:

- *National Security Law*: Adopted in July 2015, the law limits foreign access to the information and communications technology (ICT) market in China on national security grounds.
- *Counterterrorism Law*: Adopted in December 2015, the law requires telecommunications operators and Internet service providers to provide information technical support assistance to public and state security organs "conducting prevention and investigation of terrorist activities."
- *Cybersecurity Law*: The law, which went into effect in June 2017, promotes development of indigenous technologies and restricts sales of foreign ICT. The law also mandates that foreign companies submit ICT for government-administered national security reviews, store data in China, and seek government approval before transferring data outside of China.

China additionally released an international cyberspace cooperation strategy in March 2017, which emphasizes the principle of state sovereignty in cyberspace and outlines China's approach to international engagement on global Internet governance. The strategy presents an alternative to the standing norms of Internet governance, emphasizing robust state control over the domestic Internet. The strategy also highlights the Chinese military's important role in defending China's sovereignty in cyberspace, and calls for the expedited development of a military "cyber force" as an important aspect of China's active defense strategy.

As China restricts inbound investment and limits other countries' exports to China, it also pursues state-directed investment overseas. Along with heavy investments in infrastructure and commodities to support its economic growth, China is investing in technologies that will be foundational for future innovations both for commercial and military applications. China obtains foreign technology through imports, foreign direct investment, industrial and cyberespionage, and establishment of foreign research and development (R&D) centers.

Recent government policies to promote innovation focus on strengthening domestic industry while placing additional restrictions on foreign firms.

- *Made in China 2025*: Announced in May 2015, the *Made in China 2025* plan sets targets for higher levels of domestic manufacturing in strategic industries by 2020 and 2025 with the goal of increasing indigenous innovation. China plans to award subsidies and strengthened protection of domestic industries, while increasing pressure on foreign firms to transfer technology in order to do business in China. The plan also seeks to favor domestic enterprises at the expense of foreign participants in China's markets.

China has additionally employed economic tools coercively during periods of political tensions with its neighbors. Following the collision of a Chinese-flagged fishing boat with a Japanese Coast Guard vessel near the Senkaku Islands, China halted exports to Japan in 2010 of rare earth elements used in high-tech industries. In 2012, China blocked banana imports from the Philippines, a global leader in banana production, following a protracted standoff at Scarborough Reef. China only lifted the ban in 2016. In 2017, China used economic and diplomatic pressure, unsuccessfully, in an attempt to urge South Korea to reconsider the deployment of the THAAD system.

CHINA'S ENERGY STRATEGY

KEY TAKEAWAYS

- ✓ China's interest in ensuring reliable, cost-effective, and diverse energy sources to support its economic growth drive its overseas energy investments.
- ✓ China hopes to diversify energy suppliers and transport options.

China's engagement, investment, and foreign construction related to energy remained active in 2017. China invests in energy projects in more than 40 countries. This ambitious investment in energy assets is driven primarily by China's interest in ensuring reliable, cost-effective, diverse energy sources to support its economic growth. This need heightens its interest in areas such as Central Asia and the Strait of Malacca that are critical to the transport of natural gas and oil. A number of Chinese companies, often working in concert with China's economic development goals, are also interested in gaining access to advanced technologies to try to improve efficiency, obtain and deploy clean energy technologies, and increase profits.

China hopes to diversify energy suppliers, types of energy, and transport options to ensure energy security. As a net importer of oil and natural gas (as it is the world's second largest consumer of crude oil and the third largest country consumer of natural gas), China heavily relies on trade and seeks to maintain a supply chain that is less susceptible to external disruption.

In 2017, China imported oil to meet approximately 67 percent of its need. This figure is projected to grow to approximately 80 percent by 2035, according to the International Energy Agency (IEA). Also in 2017, 34 percent of China's natural gas demand was met with imports, and is projected to grow to 46 percent by 2035, according to the IEA. China continues to look primarily to the Persian Gulf, Africa, and Russia/Central Asia to satisfy its growing oil and gas demand.

China is particularly reliant on unimpeded SLOCs like the South China Sea and Strait of Malacca to ensure hydrocarbon deliveries. In 2017, approximately 80 percent of China's oil imports and 13 percent of natural gas imports transited the South China Sea and Strait of Malacca. Despite China's efforts to diversify alternate supply routes, the sheer volume of oil and liquefied natural gas imported to China from the Middle East and Africa will continue to make strategic SLOCs important to China.

Separate crude oil pipelines from Russia and Kazakhstan to China illustrate efforts to increase overland supply. With completion of its expansion on January 1, 2018, China doubled the capacity of its pipeline to Russia from 300,000 to 600,000 barrels per day (b/d). In April 2017, the 440,000-b/d

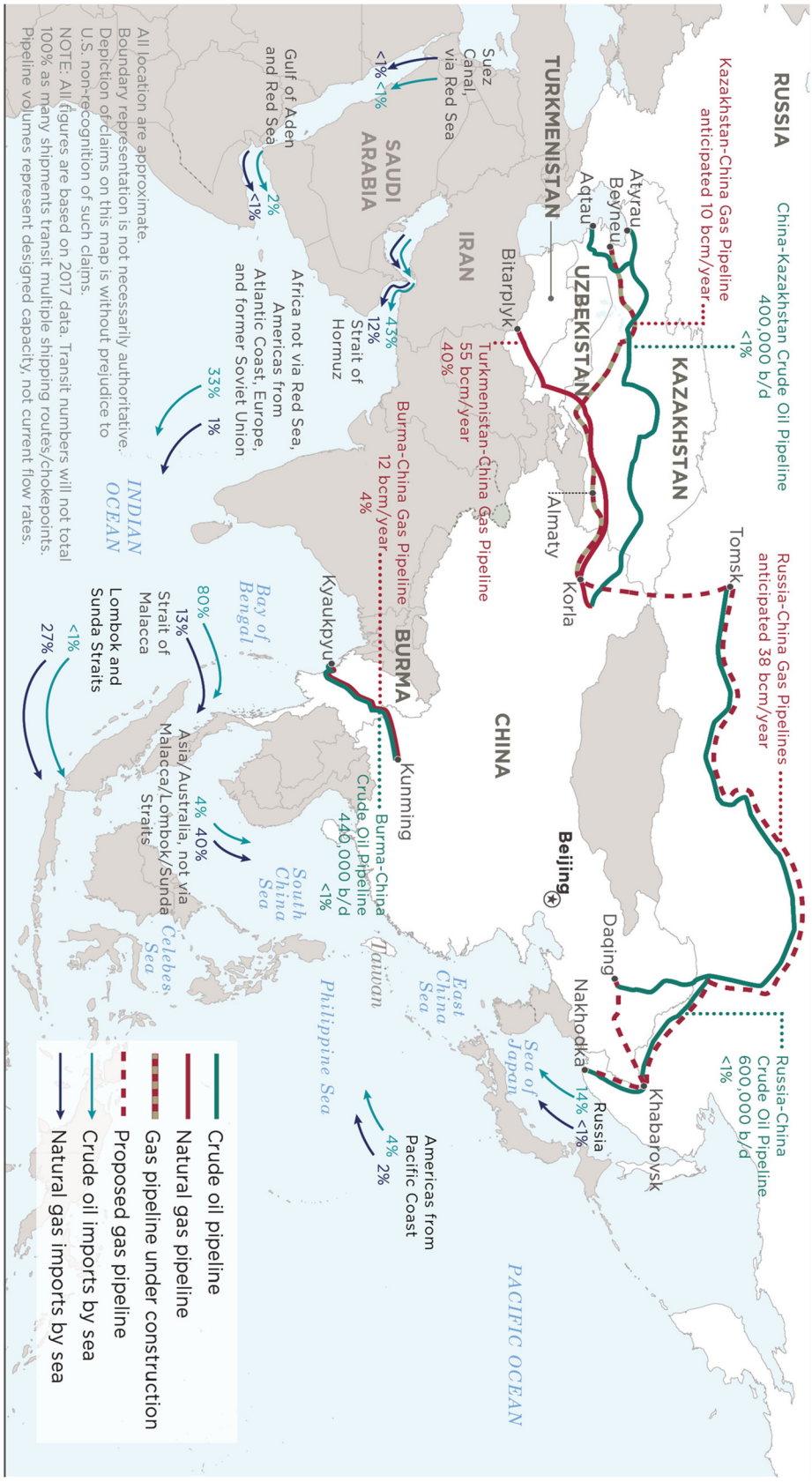
Burma–China oil pipeline was commissioned. This pipeline bypasses the Strait of Malacca by transporting crude oil from Kyaukpyu, Burma to Kunming, China. In June 2017, the pipeline successfully transported crude oil to its end node, the Kunming Refinery. Saudi Arabia and other Middle Eastern and African countries will supply the crude oil for the pipeline.

Approximately 40 percent of China's natural gas imports (37.9 billion cubic meters (bcm)) came from Turkmenistan by pipeline via Kazakhstan and Uzbekistan. This pipeline is designed to carry 55 bcm per year with plans to expand it to 80 bcm per year in 2020. A natural gas pipeline connecting China to Burma is designed to deliver 12 bcm per year, but only 3.4 bcm of gas shipped in 2017. The Russia-China natural gas pipeline is in the initial construction phase. The pipeline is expected to deliver up to 38 bcm of gas per year by 2035; initial flows are to start by 2019.

CHINA'S TOP CRUDE SUPPLIERS 2017

Country	*Volume (1,000 barrels/day)*	*Percentage of Imported Crude Oil*
Russia	1,198	14
Saudi Arabia	1,045	12
Angola	1,010	12
Iraq	738	9
Iran	624	7
Oman	621	7
Brazil	462	5
Venezuela	436	5
Kuwait	365	4
UAE	203	2
Others	1,776	21
Total	**8,478**	**98**

Numbers may not equal 100 as figures have been rounded.


China's Energy Import Transit Routes
RUSSIA
China-Kazakhstan Crude Oil Pipeline
400,000 b/d
<1%
Kazakhstan-China Gas Pipeline
anticipated 10 bcm/year
KAZAKHSTAN
Atyrau
Beyneu
Aqtau
UZBEKISTAN
TURKMENISTAN
Bitarplyk
Turkmenistan-China Gas Pipeline
55 bcm/year
40%
Almaty
Korla
Russia-China Gas Pipelines
anticipated 38 bcm/year
Tomsk
Daqing
Beijing
CHINA
Russia-China
Crude Oil Pipeline
600,000 b/d
<1%
Khabarovsk
Nakhodka
14%
<1%
Russia
Sea of Japan
PACIFIC OCEAN
Americas from
Pacific Coast
4%
2%
Taiwan
East China Sea
Philippine Sea
South China Sea
Celebes Sea
Bay of Bengal
INDIAN OCEAN
IRAN
Suez Canal, via Red Sea
<1%
<1%
SAUDI ARABIA
43%
12%
Strait of Hormuz
Gulf of Aden and Red Sea
2%
<1%
Africa not via Red Sea, Americas from Atlantic Coast, Europe, and former Soviet Union
33%
1%
Burma-China Gas Pipeline
12 bcm/year
4%
BURMA
Kyaukpyu
Kunming
Burma-China
Crude Oil Pipeline
440,000 b/d
<1%
80%
13%
Strait of Malacca
4%
40%
Asia/Australia, not via Malacca/Lombok/Sunda Straits
<1%
27%
Lombok and Sunda Straits
All location are approximate.
Boundary representation is not necessarily authoritative.
Depiction of claims on this map is without prejudice to U.S. non-recognition of such claims.
NOTE: All figures are based on 2017 data. Transit numbers will not total 100% as many shipments transit multiple shipping routes/chokepoints.
Pipeline volumes represent designed capacity, not current flow rates.
Crude oil pipeline
Natural gas pipeline
Gas pipeline under construction
Proposed gas pipeline
Crude oil imports by sea
Natural gas imports by sea

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3

FORCE MODERNIZATION GOALS AND TRENDS

China is advancing a comprehensive military modernization program aimed at making the PLA into a "world-class" military by 2049. This program includes improvements to military capabilities to conduct nuclear deterrence, anti-access/area denial (A2/AD), and power projection operations. China's military capabilities out to the first island chain are generally considered A2/AD; and as China expands its power projection capabilities beyond the first island chain into other regions, this concurrently enables expanding A2/AD capabilities out to the second island chain. The PLA also continues to develop capabilities to conduct cyberspace, space, and EW operations.

PLA CAPABILITIES IN DEVELOPMENT

ANTI-ACCESS/AREA DENIAL

KEY TAKEAWAYS

- ✓ China continues to develop capabilities to dissuade, deter, or if ordered, defeat potential third-party intervention during a large-scale theater campaign.
- ✓ In addition to strike, air and missile defense, anti-surface, and anti-submarine capabilities improvements, China is focusing on information, cyber, and space and counterspace operations.
- ✓ China seeks enhanced joint operations command and control and a real-time surveillance, reconnaissance, and warning system to bolster its warfighting capability.

China continues to develop capabilities 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 term these collective PLA capabilities as A2/AD. China's military modernization plan includes the development of capabilities to conduct long-range attacks against adversary forces that might deploy or operate within the western Pacific Ocean. These capabilities are currently most robust within the first island chain – the islands running from the Kurils, through Taiwan, to Borneo, roughly encompassing the Yellow Sea, East China Sea, and South China Sea –though China aims to strengthen its capabilities to extend further into the Pacific Ocean. These capabilities span the air, maritime, space, electromagnetic, and information domains.

Long-Range Precision Strike. Military modernization has resulted in the rapid transformation of the PLA's missile force. Today, China fields an array of conventionally armed short and medium-range ballistic missiles as well as ground- and air-launched land-attack cruise missiles. U.S. bases in Japan are in range of a growing number of Chinese MRBMs and LACMs. H-6K bomber flights into the Western Pacific Ocean demonstrate China's ability to range Guam with air-launched LACMs. The DF-26, which debuted publicly in 2015 and was paraded again in 2017, is capable of conducting precision conventional or nuclear strikes against ground targets that could include U.S. bases on Guam.

PLA writings see logistics and power projection assets as potential vulnerabilities in modern warfare – a judgment that accords with an expanding ability to target regional air bases, logistics and port facilities, communications, and other ground-based infrastructure.

Ballistic Missile Defense (BMD). China is working to develop ballistic missile defenses consisting of kinetic-energy exo-atmospheric and endo-atmospheric interceptors. In 2016, official media confirmed China's intent to move ahead with land- and sea-based mid-course missile defense capabilities. The HQ-19 mid-course interceptor was undergoing tests in 2016 to verify its capability against 3,000 km-class ballistic missiles, and an HQ-19 unit may have begun preliminary operations in western China. Indigenous radars including the JY-27A and JL-1A – the latter advertised as capable of the precision tracking of multiple ballistic missiles – reportedly provide target detection for the system.

The PLA's long-range SAM inventory also offers a limited capability against ballistic missiles. China's domestic CSA-9 (HQ-9) long-range SAM system is expected to have a limited capability to provide point defense against tactical ballistic missiles. China has fielded SA-20 PMU2 SAMs and future S-400 SAMs may have some capability to engage ballistic missiles depending on the interceptors and supporting infrastructure.

Surface and Undersea Operations. China continues to construct an array of offensive and defensive capabilities to enable the PLA to gain maritime superiority within the first island chain – the islands running from the Kurils, through Taiwan, to Borneo, roughly encompassing the Yellow Sea, East China Sea, and South China Sea – and grow toward projecting limited combat power at longer ranges. China's broad range of ASCMs and launch platforms, as well as submarine-launched torpedoes and naval mines, allow the PLAN to create an increasingly lethal, multi-access threat against an adversary approaching Chinese waters and operating areas. Additionally, China has fielded CSS-5 ASBMs specifically designed to hold adversary aircraft carriers at risk 1,500 km off China's coast, and has an ASBM variant of the longer-range DF-26 IRBM. The PLA is making gradual progress in the undersea domain as well but continues to lack a robust deep-water anti-submarine warfare capability. China is installing undersea monitoring systems that could improve China's knowledge of the undersea environment. It is unclear whether the PLA can collect accurate targeting information and pass it to launch platforms in time for successful strikes in sea areas beyond the first island chain.

Information Operations (IO). China assesses that controlling the information spectrum in the modern battlespace is a critical enabler, if not a fundamental prerequisite, of its ability to counter third-party intervention in a conflict. PLA authors often cite this capability – sometimes termed "information blockade"

or "information dominance" – as necessary to seize the initiative and set the conditions to gain air and sea superiority. This "information blockade" concept likely envisions combining military capabilities across space and cyber domains with non-military instruments of state power. China's investment in advanced EW systems, counterspace weapons, and cyber operations – combined with more traditional forms of information control such as propaganda and denial through opacity – reflect the priority the PLA places on information advantage.

Space and Counterspace. PLA strategists regard the ability to use space-based systems – and to deny them to adversaries – as central to modern warfare. The PLA continues to strengthen its military space capabilities despite its public stance against the militarization of space. Space operations are viewed as a key enabler of PLA campaigns aimed at countering third-party intervention, although PLA doctrine has not elevated them to the level of a separate "campaign." China seeks to enhance C2 in joint operations and establish a real-time surveillance, reconnaissance, and warning system and is increasing the number and capabilities of its space systems, including various communications and intelligence satellites and the Beidou navigation satellite system. China also continues to develop counterspace capabilities, including kinetic-kill missiles, ground-based lasers, and orbiting space robots, as well as to expand space surveillance capabilities that can monitor objects across the globe and in space and enable counterspace actions.

Cyber Operations. PLA researchers believe that building strong cyber capabilities is necessary to protect Chinese networks and advocate seizing "cyberspace superiority" by using offensive cyber operations to deter or degrade an adversary's ability to conduct military operations against China. Chinese writings suggest cyber operations allow China to manage the escalation of a conflict because they are a low-cost deterrent that demonstrate capabilities and resolve to an adversary. To support A2/AD, Chinese cyber attack operations aim to target critical military and civilian nodes to deter or disrupt adversary intervention, and retain the option to scale these attacks to achieve desired conditions with minimal strategic cost. China believes its cyber capabilities and personnel lag behind the United States and is working to improve training and bolster domestic innovation to overcome these perceived deficiencies and advance cyberspace operations.

Integrated Air Defense System (IADS). China 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. China is also placing radars and air defense weapons on outposts in the South China Sea, further extending its IADS. It also employs point defense primarily to defend strategic targets

against adversary long-range cruise missiles and airborne strike platforms.

China has increasing numbers of advanced long-range SAMs, including its indigenous CSA-9, 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, within the next few years China will take delivery of the Russian-built S-400 Triumf SAM system as a follow-on to the SA-20 and CSA-9. Compared to these other systems, the S-400s will feature a longer maximum range, improved missile seekers, and more sophisticated radars. China manufactures a variety of long-range air surveillance radars, including models claiming to support ballistic missile defense and others asserting the ability to detect stealth aircraft. Marketing materials also emphasize the 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 China's radar coverage to well past the range of its ground-based radars.

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 China's fourth-generation Russian-built Su-27/Su-30 and J-11A, and the indigenous J-10A/B/C, J-11B, and more advanced J-16 fighters. The J-20 and FC-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. A flight of J-20s performed a flyby at the July 2017 PLA 90th anniversary parade, and the J-20 may have begun active service in small numbers, possibly with a test and training unit. A modified FC-31 prototype made its first flight in late December 2016, although production may not begin until at least 2019. China is having difficulty with the engines and radars for these aircraft.

- Chinese engineers report successful testing of a solid-fuel ramjet missile engine and suggest this will enable the J-20 to carry future Mach 5, 300 km-range air-to-air missiles. China's continuing upgrades to its bomber fleet will give it the capability to carry new, longer-range cruise missiles, and China may add an aerial refueling capability to at least some H-6s, extending their range and loiter time.

- The PLAAF employs the medium-range H-6K bomber, which can carry up to six precision-guided CJ-20 air launched cruise missiles each, giving it the ability to engage U.S. forces as far away as Guam. Since 2016, the PLAAF has steadily increased H-6K operating areas into the Western Pacific Ocean and the South China Sea. The acquisition of three IL-78 MIDAS aerial refueling tankers from Ukraine probably allowed the PLAAF to extend the range of Su-30 fighter aircraft beyond the first island chain to support H-6K bombers.

- Similarly, the acquisition and development of longer-range UAVs is increasing China's ability to conduct long-range ISR and strike operations. The PLAAF was slated to take initial deliveries of the long-range, high-altitude Xianglong UAV during 2017, and developers stated design work was underway on near-space and long-range, stealthy UAVs. Multiple armed UAV types are under development, in testing, or in initial phases of deployment. In addition, China successfully tested the AT-200, which China claims is the "world's first large cargo UAV." The drone is designed to carry up to 1.5 tons of cargo, operate from unimproved runways as short as 200 meters, and may be especially suited to provide logistic support to PLA forces in the South China Sea.

CONVENTIONAL PRECISION STRIKE

Short-Range Ballistic Missiles (300-1,000 km). The PLARF has approximately 1,200 SRBMs. The force fields advanced variants with improved ranges and accuracy in addition to more sophisticated payloads, and is phasing out earlier generations lacking true precision strike capability.

Medium-Range Ballistic Missiles (1,000-3,000 km). The PLA is fielding approximately 200-300 conventional MRBMs to increase the range at which it can conduct precision strikes against land targets and naval ships operating out to the first island chain.

Intermediate-Range Ballistic Missiles (3,000-5,500 km). The PLA has begun fielding a road-mobile, nuclear and conventional capable IRBM, expanding its near-precision strike capability as far as the second island chain. The PLAN also is expanding its network of sky wave and surface wave over-the-horizon (OTH) radars. In conjunction with reconnaissance satellites, these OTH systems provide targeting capabilities at extended distances from China to support long-range precision strikes, including employment of ASBMs.

Land-Attack Cruise Missiles. The PLA continues to field approximately 200 to 300 air- and ground-launched LACMs for standoff precision strikes. Air-launched LACMs include the YJ-63, KD-88, and CJ-20 (the air-launched version of the CJ-10 GLCM). China may be adding an electro-optic or imaging infrared terminal guidance capability to the 1,500 km-range CJ-20. China recently adapted the KD-88 LACM, which has an advertised range of more than 100 km, and may be testing a longer-range version.

Anti-Ship Cruise Missiles. China deploys a wide range of advanced ASCMs with the YJ-83 series as the most numerous, equipping the majority of China's ships as well as multiple aircraft. China has also outfitted several ships with YJ-62 ASCMs. The YJ-18 is a long-range, torpedo tube launched ASCM with a supersonic terminal sprint. It has likely replaced the older YJ-82 on SONG, YUAN, and SHANG class submarines, and China claims that the new LUYANG III-class DDG and RENHAI CG are outfitted with a vertically launched variant of the YJ-18. China has also developed the long-range supersonic YJ-12 ASCM for the H-6 bomber. At China's 90th anniversary parade in July, China displayed a ship-to-ship variant of the YJ-12 called the YJ-12A. China also carries the Russian SS-N-22 SUNBURN on four Russian built SOVREMENNYY-class DDGs and the Russian SS-N-27b SIZZLER on eight Russian built KILO-class submarines.

Ground Attack Munitions. The PLAAF has a small number of tactical air-to-surface missiles as well as precision munitions; guidance options include satellite positioning, laser, electro-optic, and imaging infrared. China is developing or adapting a range of smaller-sized ASMs and guided bombs for use on its increasing range of armed UAVs.

Anti-Radiation Weapons. The PLA imported Israeli-made HARPY UAVs and Russian-made anti-radiation missiles during the 1990s. As of 2017, China is integrating the YJ-91, an indigenous version of the Russian Kh-31P (AS-17), into its fighter-bomber force, and advertising the ASN-301 anti-radiation drone, an improved domestic variant of the HARPY.

Artillery-Delivered High Precision Munitions. The PLA is fielding long-range rocket artillery systems with the range to strike targets within or even across the Taiwan Strait. The most common of these is the PHL-03 12x300 mm multiple-rocket launcher – similar to the Russian 9A52-2 SMERCH, with a 150 km range. Improved warheads for these rockets may include vertical penetrators and sensor-fuzed munitions.

PLA POWER PROJECTION

KEY TAKEAWAYS:

- ✓ China has increased capabilities to address regional and global security objectives while continuing its emphasis on Taiwan contingencies.
- ✓ The PLAN's ability to perform missions beyond the first island chain is modest but growing as it gains experience operating in distant waters and acquires larger and more advanced platforms.
- ✓ PLA aviation forces continue to improve offshore offensive and defensive capabilities such as strike, air and missile defense, strategic mobility, and early warning and reconnaissance missions.
- ✓ The PLARF is increasingly capable of projecting power beyond the region, both with anti-ship and land-attack missiles.

Over the last decade, China has increased its capability to address regional and global security objectives, beyond its continued emphasis on capabilities for Taiwan contingencies. PLA ground, naval, air, and missile forces are increasingly able to project power through peacetime operations, increasing the operating duration and distance from China, and are expanding capacity to contest U.S. military superiority in the event of a regional conflict. These forces may function in an A2/AD role, which in this context comprises a subset of power projection activities.

China's continuing improvements of air- and ground-based missile strike capabilities within and, increasingly, beyond the first island chain enables other military assets to operate farther from China. These assets can conduct a variety of missions including presence and sovereignty enforcement, as well as offensive missions such as blockades, and A2/AD. China also focuses on enhancing the PLA's ISR capabilities, extending the reach of the PLA's situational awareness as well as enabling improved targeting and timely responses to perceived threats.

PLA Navy. The PLAN continues to develop into a global force, gradually extending its operational reach beyond East Asia and the Indo-Pacific into a sustained ability to operate at increasingly longer ranges. The PLAN's latest naval platforms enable combat operations beyond the reach of China's land-based defenses. In particular, China's aircraft carrier and planned follow-on carriers, once operational, will extend air defense coverage beyond the range of coastal and shipboard missile systems, and enable task group operations at increasingly longer ranges. The PLAN's emerging requirement for sea-based land-attack will also enhance China's ability to project power. Furthermore, the PLAN now has a sizable force of high-capability logistical replenishment ships to support long-distance, long-duration deployments, including two new

ships being built specifically to support aircraft carrier operations. The expansion of naval operations beyond China's immediate region will also facilitate non-war uses of military force.

- 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 LUYANG III-class DDG, the JIANGKAI II-class FFG, and the JIANGDAO-class FFL. China also launched its first RENHAI-class (Type 055) CG in 2017, with commissioning expected by 2019. At least three additional units of this class are currently under construction. The RENHAI CG is a 10,000-ton design that can carry an array of long-range ASCMs and long-range SAMs, and will likely be able to launch ASBMs and LACMs once these weapons are available. The RENHAI CG will be China's premiere carrier escort for blue-water operations.

- The PLAN continues to extend its strike range with more ship-, submarine-, and aircraft-deployed ASCMs, a growing majority of which are of Chinese manufacture.

- China continues to learn lessons from operating its first aircraft carrier, *Liaoning*. Its first domestically produced aircraft carrier was launched in 2017 and is expected to be commissioned in 2019 – the beginning of what the PLA states will be a multi-carrier force. China's next generation of carriers will probably have greater endurance and be capable of launching more varied types of fixed-wing aircraft, including EW, early warning, and ASW aircraft. These improvements would increase the striking power of a potential carrier battle group in safeguarding China's interests in areas beyond its immediate periphery. The carriers would most likely also perform such missions as patrolling economically important SLOCs and conducting naval diplomacy, regional deterrence, and HA/DR operations.

- In 2017, the PLAN continued to build multiple new large ships that can support force projection operations, including LPDs, large logistical support ships, and specialized ocean-going auxiliary ships such as high-capability intelligence collection ships (AGIs).

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. China's experience in extended range operations primarily comes from extended task group deployments and its ongoing counterpiracy mission in the Gulf of Aden.

- In 2017, the PLAN continued to conduct deployments into the Western and Southern Pacific and Indian Oceans, and

for the second time in 2017, the Bering Sea. A trio of PLAN ships conducted the PLAN's longest-ever goodwill deployment, visiting 20 countries in the Indo-Pacific, Europe, Africa, and Oceania. Three other PLAN ships sailed to the Baltic Sea to conduct a joint exercise with the Russian Navy, part of their JOINT SEA exercise series; the two navies exercised air defense and anti-submarine operations and submarine rescue operations.

- China sustained its three-ship task group in the Gulf of Aden in 2017, continuing a nine-year effort to protect Chinese merchant shipping from maritime piracy. This operation is China's first enduring naval operation beyond the Indo-Pacific region. The PLAN also continued submarine deployments to the Indian Ocean, demonstrating its increasing familiarity with operating in that region and underscoring China's interest in protecting SLOCs beyond the South China Sea.

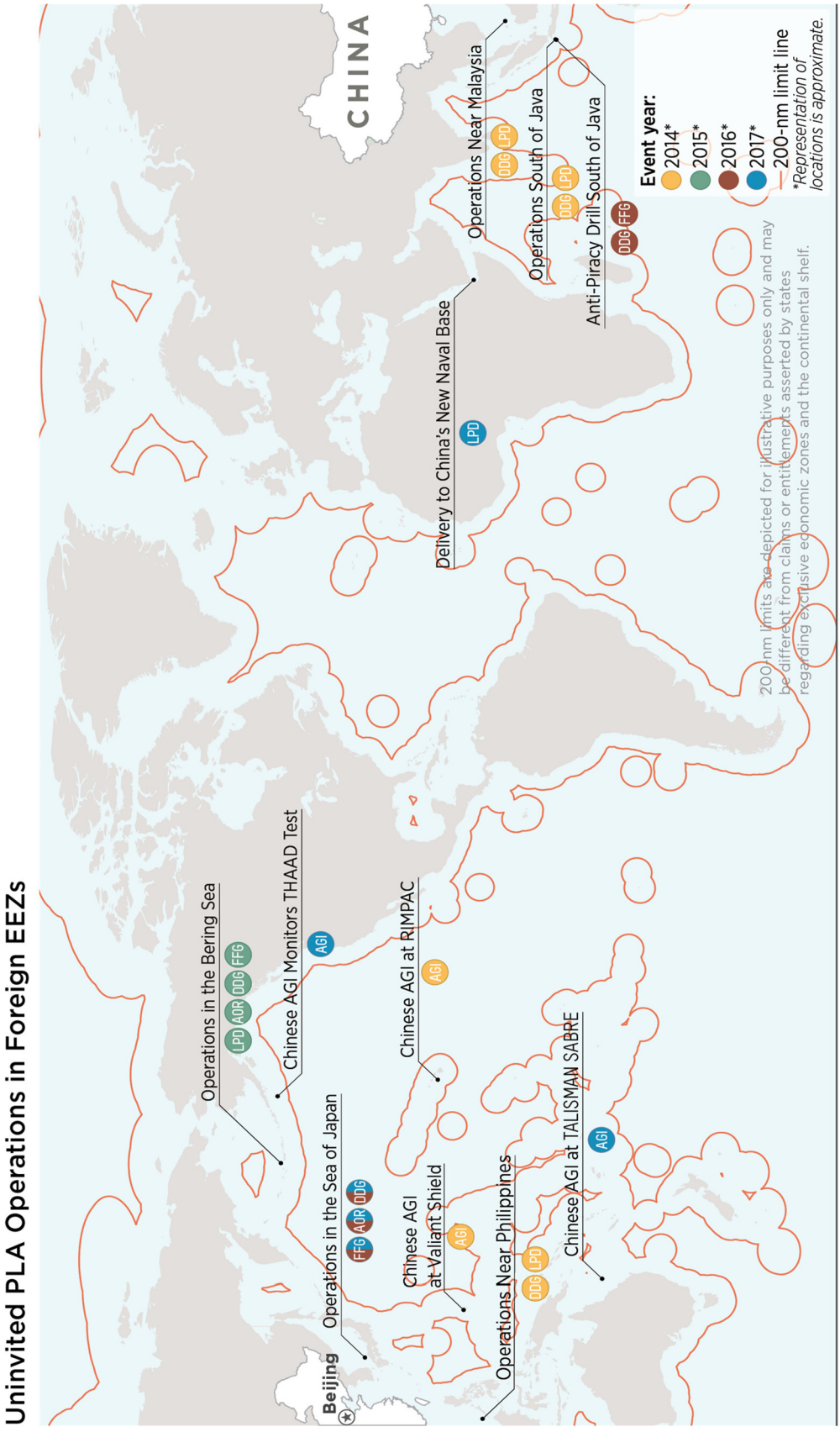
- Chinese AGIs operated well beyond the first island chain in 2017; one Type 815A DONGDIAO-class AGI deployed to the Coral Sea in July to collect against a joint Australian-U.S. naval exercise, while in the same month another DONGDIAO AGI sailed to a position off Alaska, likely to monitor a live test of the THAAD missile defense system.

- Logistics and intelligence support, however, remain key obstacles, despite ongoing naval ship construction, particularly in more distant areas from China. China's first naval base in Djibouti may alleviate some logistics challenges for Indian Ocean operations, and China may establish additional logistics facilities over the next decade. The PLAN seeks to be able to operate across the greater Indo-Pacific region in high-intensity actions over a period of several months.

Although China has long challenged foreign military activities in its maritime zones in a manner that is inconsistent with the rules of customary international law as reflected in the LOSC, the PLA has recently started conducting the very same types of military activities inside and outside the first island chain in the maritime zones of other countries. This contradiction highlights China's continued lack of commitment to the rules of customary international law.

Even though China is a state party to the LOSC, China's domestic laws restrict military activities in its exclusive economic zone (EEZ), including intelligence collection and military surveys, contrary to LOSC. At the same time, the PLA is increasingly undertaking military operations in other countries' EEZs. The map on the following page depicts new PLA operating areas in foreign EEZs since 2014. In 2017, the PLAN conducted air and naval operations in Japan's EEZ; employed an AGI ship, likely to monitor testing of a THAAD

system in the U.S. EEZ near the Aleutian Islands; and employed an AGI ship to monitor a multi-national naval exercise in Australia's EEZ. PLA operations in foreign EEZs have taken place in Northeast and Southeast Asia, and a growing number of operations are also occurring farther from Chinese shores. The map focuses only on new, uninvited PLA operating areas in foreign EEZs, though the PLA routinely operates throughout the year in the East and South China Seas.


Uninvited PLA Operations in Foreign EEZs
CHINA
Beijing
Operations in the Sea of Japan
FFG AOR DDG
Operations in the Bering Sea
LPD AOR DDG FFG
Chinese AGI Monitors THAAD Test
AGI
Chinese AGI at RIMPAC
AGI
Chinese AGI at Valiant Shield
AGI
Operations Near Philippines
DDG LPD
Chinese AGI at TALISMAN SABRE
AGI
Delivery to China's New Naval Base
LPD
Operations Near Malaysia
DDG LPD
Operations South of Java
DDG LPD
Anti-Piracy Drill South of Java
DDG FFG
Event year:
2014*
2015*
2016*
2017*
200-nm limit line
*Representation of locations is approximate.
200 nm limits are depicted for illustrative purposes only and may be different from claims or entitlements asserted by states regarding exclusive economic zones and the continental shelf.

PLA Air Force and PLA Navy Aviation. The PLAAF and PLAN Aviation continue 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 current capabilities are primarily in the A2/AD realm, with only a limited power projection role, 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 support Chinese national interests wherever they extend.

- Following PLAAF Commander General Ma Xiaotian's 2016 public statement that China was developing a new generation of long-range bomber, 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. A photograph of a possible H-20 prototype depicted a flying wing airframe akin to the B-2 bomber and X-47B stealth unmanned combat aerial vehicle (UCAV). China may also be developing a refuelable bomber that could reach IOC before the long-range bomber, expanding long-range offensive bomber capability beyond the second island chain.

- The construction of new airfields and hangars on outposts in the South China Sea extend the possible operating areas of PLA aviation forces. Future deployed Chinese combat aircraft operating from Spratly Island outposts could extend their range and loiter time over the South China Sea or even reach into the Indian Ocean. China could also replicate its success establishing a naval base in Djibouti by establishing overseas logistics facilities that would further extend and sustain regional and global air operations.

- China continues to produce the Y-20 heavy lift transport aircraft to correct a strategic airlift deficiency that holds back force projection capabilities. The Y-20 could also acquire additional missions, such as serving as an airborne early warning and control system (AEW&C) and as an aerial refueling tanker. China also continues to develop the AG-600 large amphibious seaplane, with an anticipated range of 4,500 km and the ability to take off from water to support operations far from the mainland. The AG-600 completed its first flight in December 2017, and the Chinese Government has already ordered 17 aircraft.

PLA Rocket Force. The PLARF fields multiple missiles capable of projecting power beyond the region. Among these are the CSS-

5 Mod-5 ASBM, which has a range of 1,500 km and a maneuverable reentry vehicle (MaRV) to challenge ballistic missile defenses. China also deploys the land-attack CSS-5 Mod 4, placing targets on Okinawa and the main Japanese islands at risk. The DF-26 IRBM has a maximum range of 4,000 km and is capable of conducting precision strikes against ground and ship targets, potentially threatening U.S. land and sea-based forces as far away as Guam.

The PLARF has deployed shorter-ranged missile systems opposite Taiwan, including several types of SRBMs and the ground-launched CJ-10 LACM.

In 2017, China also displayed the DF-16G MRBM for the first time. According to the PLARF, the system carries a conventional warhead and has high accuracy, strong destructive power, and a short preparation time.

CHINA'S GROWING CIVILIAN AND PARAMILITARY MARITIME CAPABILITY

KEY TAKEAWAYS

- ✓ The CCG is the world's largest; the PAFMM is the only government-sanctioned maritime militia in the world.
- ✓ The PAFMM has organizational ties to, and is sometimes directed by, China's armed forces, and is active in the South and East China Seas.
- ✓ PAFMM units enable low-intensity coercion activities to advance territorial and maritime claims, including a patrol with the PLAN and CCG in August 2017.

China Coast Guard (CCG). The CCG is responsible for a wide range of missions, including enforcement of China's sovereignty claims, surveillance, protection of fisheries, anti-smuggling, and general law enforcement. China primarily uses civilian maritime law enforcement agencies in maritime disputes, selectively using the PLAN to provide overwatch in case of escalation.

The CCG's rapid expansion and modernization has improved China'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 30mm to 76mm. A number of these ships are capable of long-endurance out-of-area

operations. These characteristics give CCG vessels the ability to intimidate local, non-Chinese fishing boats, as occurred in an October 2016 incident near Scarborough Reef.

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 1000 inshore and riverine patrol boats. The CCG is likely to add another 25-30 patrol ships and patrol combatants by the end of the decade before the construction program levels off.

People's Armed Forces Maritime Militia (PAFMM). The PAFMM is a subset of China's national militia, an armed reserve force of civilians available for mobilization. The PAFMM is the only government-sanctioned maritime militia in the world. Militia units organize around towns, villages, urban sub-districts, and enterprises, and vary widely in composition and mission. In the South China Sea, the PAFMM plays a major role in coercive activities to achieve China's political goals without fighting, part of broader PRC military doctrine stating confrontational operations short of war can be an effective means of accomplishing political objectives. The militia has played significant roles in a number of military campaigns and coercive incidents over the years, including the 2009 harassment of the USNS IMPECCABLE conducting normal operations, the 2012 Scarborough Reef standoff, the 2014 *Haiyang Shiyou*-981 oil rig standoff, and a large surge of ships in waters near the Senkakus in 2016.

A large number of PAFMM vessels train with and assist the PLAN and CCG in tasks such as safeguarding maritime claims, surveillance and reconnaissance, fishery protection, logistics 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. In August 2017, China used PLAN, CCG, and PAFMM ships to patrol around Thitu Island and planted a flag on Sandy Cay, a sandbar within 12 nm of Subi Reef and Thitu Island, possibly in response to the Philippines' reported plans to upgrade the runway on Thitu Island.

In the past, the PAFMM rented fishing vessels from companies or individual fishermen, but China has built a state-owned fishing fleet for at least part of its maritime militia force in the South China Sea. The Hainan provincial government, adjacent to the South China Sea, ordered the building of 84 large militia fishing vessels with reinforced hulls and ammunition storage, which the militia received by the end of 2016, along with extensive subsidies to encourage frequent operations in the Spratly Islands. This particular PAFMM unit is also China's most professional, paid salaries independent of any clear commercial fishing responsibilities, and recruited from recently separated veterans.

ADVANCING TOWARD AN INFORMATIZED MILITARY

KEY TAKEAWAYS

- ✓ President Xi's speeches highlighted recent progress "accelerating toward informatization" that will provide the PLA with a "great rise in strategic capability."
- ✓ China fields advanced automated command systems, such as the Integrated Command Platform (ICP), to enable joint operations.
- ✓ The PLA considers information operations (IO) – including cyber, electronic, and psychological warfare – integral to conducting modern warfare.

President Xi's speeches at the 19th Party Congress and the PLA's 90th anniversary highlighted recent progress "accelerating toward informatization" that will provide the PLA with a "great rise in strategic capability." Chinese military writings describe informatized warfare as the use of information technology to create an operational system-of-systems allowing the PLA to acquire, transmit, process, and use information to conduct joint military operations across the domains of land, sea, air, space, cyberspace and the electromagnetic spectrum during a conflict. Ongoing military reforms are aimed at accelerating the incorporation of 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 these operations and likely views conventional and cyber operations as means of achieving information dominance.

Command, Control, Communications, Computers, and Intelligence Modernization (C4I). China 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 in near and distant battlefields with increasingly sophisticated weapons.

The PLA sees networked, technologically advanced C4I systems as essential to provide reliable, secure communications to fixed and mobile command posts, 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 and robust communications networks to improve commanders' situational awareness. The PLA views making near-real-time ISR data available to field commanders as especially valuable in streamlining their decision processes. China is fielding the ICP to units at multiple levels across the force to enable the lateral and cross-service communications required for joint operations.

Through the use of digital databases and command automation tools, such systems allow commanders to issue orders to multiple units simultaneously while on the move and allow units to adapt their actions quickly to shifting conditions.

These technical improvements are notably boosting PLA operational flexibility and responsiveness. As the PLA continues to focus on its ability to fight and win informatized wars, future information systems will likely implement emerging technologies such as big-data, internet of things, and cloud computing to provide reliable, automated platforms that further increase process efficiencies. The PLA has already begun this process by embracing big-data analytics that fuse together a variety of data to improve automation, to create a comprehensive, real-time picture.

Electronic Warfare. The PLA considers EW an integral component of modern warfare. Its EW doctrine emphasizes using electromagnetic spectrum weapons to suppress or to deceive enemy electronic equipment. Potential EW victims include adversary systems operating in radio, radar, microwave, infrared, and optical frequency ranges, as well as adversarial computer and information systems. China has fielded several types of UAVs with EW payloads, and showcased several of these during the PLA 90th Anniversary parade in July 2017. PLA EW units routinely conduct jamming and anti-jamming operations against multiple communication and radar systems and GPS satellite systems in force-on-force exercises. These not only test operational units' understanding of EW weapons, equipment, and performance, but also help improve confidence in their ability to operate effectively in a complex electromagnetic environment. In addition, the PLA tests and reportedly validates advances in EW weapons research in these exercises.

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

PLA writings note the effectiveness of cyber warfare in recent conflicts and advocate targeting an adversary's C2 and logistics networks to affect its ability to operate during the early stages of conflict. They credit cyber attacks on an enemy's C2 system with the potential to "completely disrupt" these systems, paralyzing the victim and thus gaining battlefield superiority for the attacker. Accordingly, the PLA may seek to use its cyberwarfare capabilities to collect data for intelligence and cyber attack purposes; to constrain an adversary's actions by targeting network-based logistics, communications, and

commercial activities; or to serve as a force-multiplier when coupled with kinetic attacks during times of crisis or conflict.

The PLA's ongoing structural reforms may further change how the PLA organizes and commands IO, particularly as the SSF evolves over time. In consolidating cyber and other IO-related elements, the SSF is likely generating synergies through combining national-level cyber reconnaissance, attack, and defense capabilities under one roof.

CYBER ACTIVITIES DIRECTED AGAINST THE DEPARTMENT OF DEFENSE

Computer systems around the world, including those owned by the U.S. Government, continued to be targeted by China-based intrusions through 2017. These and past intrusions focused on accessing networks and extracting information. China uses its cyber capabilities to support intelligence collection against U.S. diplomatic, economic, academic, and defense industrial base sectors. China can use the information to benefit China's defense high-technology industries, support China's military modernization, provide the CCP insights into U.S. leadership perspectives, and enable diplomatic negotiations, such as those supporting China's Belt and Road Initiative. 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.

NUCLEAR DETERRENCE

KEY TAKEAWAYS

- ✓ China invests considerable resources to maintain and modernize a limited, but survivable, nuclear force.
- ✓ China has long maintained a "no first use" (NFU) policy, though ambiguity remains over the conditions under which China's NFU policy would no longer apply.
- ✓ China has nuclear-capable delivery systems in the PLARF and PLAN, and the PLAAF has been newly re-assigned a nuclear mission, which would create a nuclear triad.

China's nuclear weapons policy prioritizes the maintenance of a nuclear force able to survive a first strike and to respond with sufficient strength to inflict unacceptable damage on an enemy. China insists that the new generation of mobile missiles, with warheads consisting of MIRVs and penetration aids, are intended to

ensure the viability of its strategic deterrent in the face of continued advances in U.S. and, to a lesser extent, Russian strategic ISR, precision strike, and missile defense capabilities.

China has long maintained a "no first use" (NFU) policy, stating it would use nuclear forces only in response to a nuclear strike against China. China's NFU pledge consists of two stated commitments: China will never use nuclear weapons first at any time and under any circumstances, and it 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, however, over the conditions under which China's NFU policy would no longer apply. Some PLA officers have written publicly of the need to spell out conditions under which China might need to use nuclear weapons first; for example, if an enemy's conventional attack threatened the survival of China's nuclear force or of the regime itself. There has been no indication that national leaders are willing to attach such nuances and caveats to China's NFU policy. China's lack of transparency regarding the scope and scale of its nuclear modernization program raises questions regarding its future intent.

China invests considerable resources to maintain a limited, but survivable, nuclear force to ensure that the PLA can deliver a damaging responsive nuclear strike. China is enhancing peacetime readiness levels for these nuclear forces to ensure responsiveness.

Land-Based Platforms. China's nuclear arsenal currently consists of approximately 75-100 ICBMs, including the silo-based CSS-4 Mod 2 (DF-5A) and Mod 3 (DF-5B); the solid-fueled, road-mobile CSS-10 Mod 1 and Mod 2 (DF-31 and DF-31A); and the more limited range CSS-3 (DF-4). During the PLA's 90th Anniversary parade, China displayed for the first time the DF-31AG, described as an enhanced version of the DF-31A ICBM that also uses a transporter-erector-launcher to increase its mobility and survivability. This force is complemented by road-mobile, solid-fueled CSS-5 Mod 2 and Mod 6 (DF-21) MRBMs and DF-26 IRBMs for regional deterrence missions.

Sea-based Platforms. China continues to produce the JIN-class SSBN, with four commissioned and at least one other under construction. China's 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. China's next-generation Type 096 SSBN, reportedly to be armed with the follow-on JL-3 SLBM, will likely begin construction in the early-2020s. Based on the 40-plus-year service life of China's first-generation SSNs, China will operate its JIN and Type 096 SSBN fleets concurrently.

Future Efforts. The PLA is upgrading its aircraft with two new air-launched ballistic missiles, one of which may include a nuclear

payload. The PLA is developing a range of technologies China perceives are necessary to counter U.S. and other countries' ballistic missile defense systems, including MaRV, MIRVs, decoys, chaff, jamming, thermal shielding, and hypersonic glide vehicles. Additionally, the PLA will likely continue deploying more sophisticated C2 systems and refining C2 processes as growing numbers of mobile ICBMs and future SSBN deterrence patrols require the PLA to safeguard the integrity of nuclear release authority for a larger, more dispersed force.

DEVELOPMENTS IN NUCLEAR DETERRENCE

Nuclear Triad. China maintains nuclear-capable delivery systems in the PLARF and PLAN, and the PLAAF has been re-assigned a nuclear mission. The deployment and integration of nuclear-capable bombers would, for the first time, provide China with a nuclear "triad" of delivery systems dispersed across land, sea, and air – a posture considered since the Cold War to improve survivability and strategic deterrence. A defense industry publication has also discussed the development of a new low-yield nuclear weapon.

> In 2016, the PLAAF commander referred publicly to the military's efforts to produce an advanced long-range strategic bomber, a platform observers tied to nuclear arms. China is developing a stealthy, long-range strategic bomber with a nuclear delivery capability that could be operational within the next ten years.

Launch on Warning. PLA writings express the value of a "launch on warning" nuclear posture, an approach to deterrence that uses heightened readiness, improved surveillance, and streamlined decision-making processes to enable a more rapid response to enemy attack. These writings highlight the posture's consistency with China's nuclear "No First Use" policy, suggesting it may be an aspiration for China's nuclear forces. China is working to develop a space-based early warning capability that could support this posture in the future.

PLA UNDERGROUND FACILITIES

The PLA continues to maintain a robust and technologically advanced underground facility (UGF) program protecting all aspects of its military forces, including C2, logistics, missile systems, and naval forces. China has thousands of UGFs with more being constructed each year. The PLA may utilize these UGFs to protect valuable assets from the effects of missile strikes and conceal military operations from adversaries. China's nuclear "No First Use" policy also contributed to the construction of UGFs for the country's nuclear forces, which plan to survive an initial nuclear strike.

China began to update and to expand its military UGF program in the mid- to late-1980s. This modernization effort took on a renewed urgency following China's observation of U.S. and coalition air operations during the 1991 Gulf War and their use in OPERATION ALLIED FORCE (Kosovo) in 1999. These military campaigns convinced China that it needed to build more survivable, deeply buried facilities to protect from the effects of modern penetrating munitions. We expect that China will continue to develop and expand its UGF program to support its growing forces.

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RESOURCES FOR FORCE MODERNIZATION

China has the political will and fiscal strength to sustain a steady increase in defense spending, supporting the continued modernization of the PLA, the development of a military-civilian fused defense industry, and the exploration of new technologies with defense applications. China draws from diverse sources to support PLA modernization, including: domestic defense investments, indigenous defense industrial development, a growing R&D/S&T base, dual-use technologies conveyed in part through military-civil fusion, and acquisition of foreign technology and know-how.

China's long-term goal is to create a wholly indigenous defense-industrial sector, augmented by a strong commercial sector, to meet the needs of PLA modernization, and to compete as a top-tier supplier in the global arms trade. However, the PLA still looks to foreign sources to fill some critical, near-term capability gaps and to accelerate the rate of advancement. China leverages foreign investments, commercial joint ventures, academic exchanges, the foreign experience of Chinese students and researchers, and state-sponsored industrial and technical espionage to increase the level of technologies and expertise available to support military R&D and acquisition.

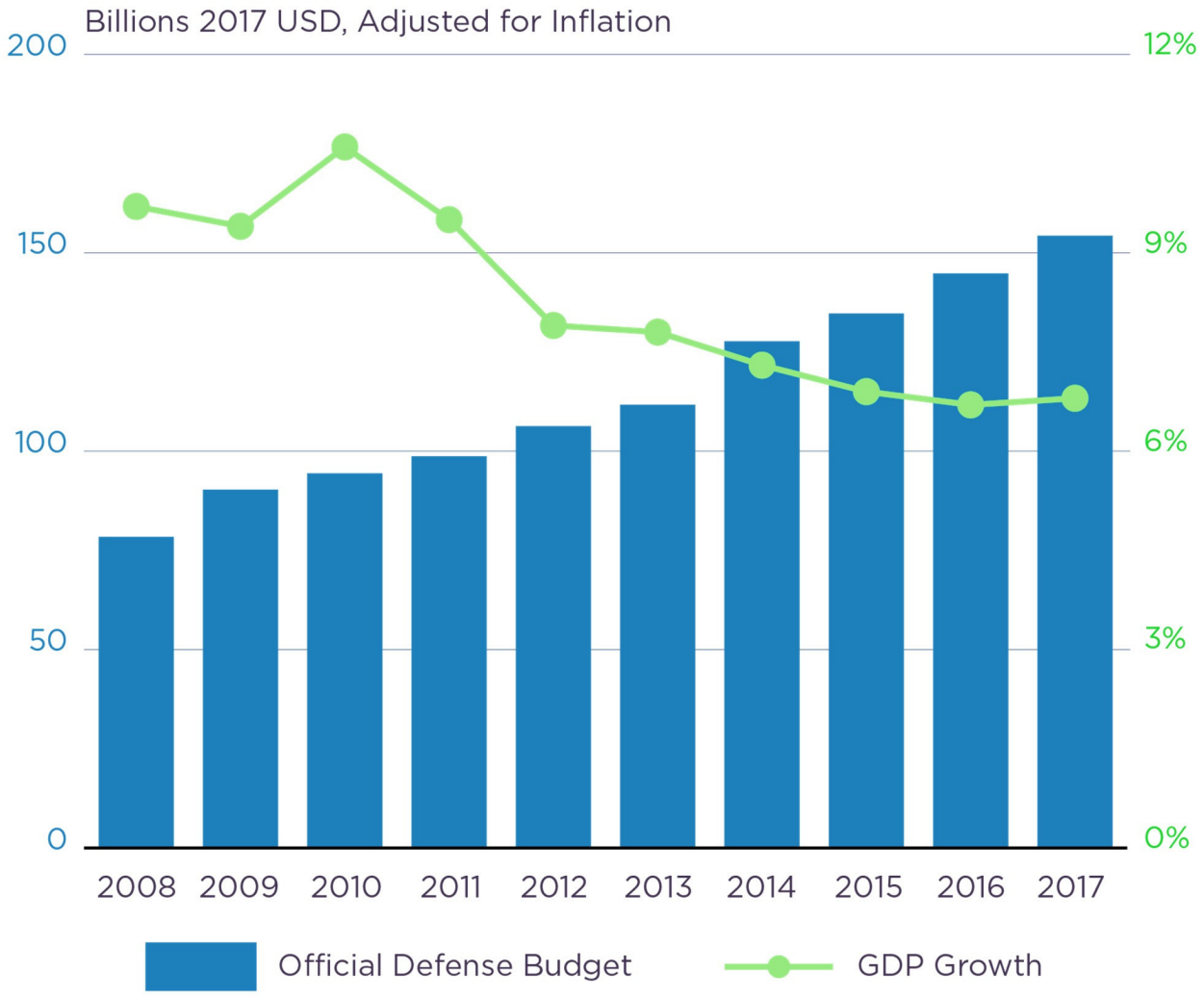
MILITARY EXPENDITURES TRENDS

KEY TAKEAWAYS

- ✓ China's announced 2017 military budget increase continues decades of spending increases, sustaining China's position as the second-largest military spender in the world.
- ✓ China's published military budget omits several major categories of expenditure; actual military-related spending is higher than its official budget.

In early 2017, China announced a 6.5 percent inflation-adjusted increase in its annual military budget to $154.3 billion, approximately 1.3 percent of gross domestic product (GDP). This budget continues more than two decades of annual defense spending increases and sustains China's position as the second-largest military spender in the world after the United States. China's defense budget has doubled during the past decade; analysis of data from 2008 through 2017 indicates China's official military budget grew at an annual average of 8 percent in inflation-adjusted terms over that period. China likely is able to support continued defense spending growth for the foreseeable future.

China's Official Defense Budget, 2008-2017



CHINA'S ESTIMATED MILITARY EXPENDITURES. China's published military budget omits several major categories of expenditure, including R&D and foreign weapons procurement. Actual military-related spending is higher than its official budget, estimated at more than $190 billion in 2017. It is difficult to precisely calculate actual military expenses, largely because of China's poor accounting transparency.

CHINA'S ESTIMATED DEFENSE BUDGET GROWTH. Jane's Defense Budgets expects China's official defense budget to increase by an annual average of 6 percent, growing to $240 billion by 2021, and will have an increasing proportion available for training, operations, and modernization following China's 2015 announcement that the PLA will reduce its size by 300,000 personnel. China's economic growth will slow during the next decade, projected to fall from 6.8-percent growth in 2017 to 3 percent in 2028. This could slow, but not halt, future defense spending growth. Assuming accurate economic projections and a steady defense burden, China's official defense budget would be larger than $240 billion by 2028, remaining the largest spender in the Indo-Pacific region, besides the United States. Economic growth and national defense requirements would drive future defense spending trends.

2017 Official Defense Budget Comparison (adjusted for inflation to 2017 USD)

Billion (USD)

China *(Official Budget)*	$154.3
India	$55.2
Russia *(National Defense Budget)*	$48.6
Japan	$46.1
Republic of Korea	$33.3
Taiwan	$10.5

Comparison of China's official defense budget with those of other regional powers

DEVELOPMENTS AND TRENDS IN CHINA'S DEFENSE INDUSTRY

KEY TAKEAWAYS

- ✓ China's defense industrial complex is adapting and reorganizing to close an estimated one to two generation gap behind its global competitors.
- ✓ The CMC undertook organizational and policy measures, including setting up a new Scientific Research Steering Committee, to reenergize the PLA's defense research and original innovation capacity through cooperation with the market sector.

Defense Sector Reform. China's defense industrial complex continues to adapt and reorganize to improve weapon system research, development, and production by addressing bottlenecks and challenges to close the gap of an estimated one to two generations behind its main competitors in the global arms industry. Over the past three years, the CMC has taken organizational and policy measures to reenergize the PLA's work on defense research and original innovation capacity through cooperation with the market sector.

- > In 2016, the CMC established the S&T Commission, a high-level defense research body, as an independent organization under the high command. It also emphasized the importance of "military-civilian fusion," a phrase used in part to refer to leveraging the same resource pool to develop dual-use technologies, policies, and organizations for military benefit.
- > In early 2017, the PLA set up a Scientific Research Steering Committee that falls directly under the CMC, consisting of scientists and engineers experienced with cutting-edge technologies. Along with the CMC S&T Commission, it will spearhead S&T innovation by consulting for the CMC to decide on early-stage research projects.
- > In mid-July 2017, China reorganized the three top PLA academic institutes – the PLA Academy of Military Science (AMS), National Defense University (NDU), and National University of Defense Technology (NUDT) – as part of ongoing PLA reforms. With the new structure, the AMS will focus on scientific research related to military affairs, facilitating closer ties between military theory and S&T development.

In 2016, China adopted the 13th Five Year Program (2016-2020) which, among other things, sets focus areas for research, development, and innovation. Several of these have defense implications, including aerospace engines (such as turbofan technology) and gas turbines; quantum communications and computing; innovative electronics and software; automation and robotics; special materials and applications; nanotechnology; neuroscience, neural research, and artificial intelligence; and deep space exploration and

on-orbit servicing and maintenance systems. Other areas where China is concentrating significant R&D resources include nuclear fusion, hypersonic technology, and the deployment and "hardening" of an expanding constellation of multi-purpose satellites. China's drive to expand military-civilian fusion and international economic activity supports these goals.

A wide range of organizations work together to increase military-civilian fusion. The State Administration for Science Technology and Industry for National Defense (SASTIND) and the PLA's EDD work together to monitor and guide the state and military sides of China's defense industrial apparatus, respectively. The EDD and its service counterparts cooperate with China's ten state-owned defense industrial corporations through a network of military representative bureaus and offices to supervise quality control and defense contract compliance.

More broadly, the National Science Foundation of China (NSFC), the China Academy of Sciences (CAS), and the Ministry of Science and Technology (MOST) fund and promote basic and applied research, scientific innovation, and high-tech integration throughout China's scientific, engineering, and civil-military industrial complex. The CAS, working closely with the NSFC, is the highest academic institution for comprehensive R&D in the natural and applied sciences in China and reports directly to the State Council in an advisory capacity, with some of its work ultimately funding disciplines and contributing to products for military use. The NSFC and CMC S&T Commission signed a five-year strategic cooperation agreement in August 2016 to collaborate on military-civilian co-innovation and basic research for national defense.

MILITARY EQUIPMENT MODERNIZATION TRENDS

KEY TAKEAWAYS

- ✓ Many of China's missile programs are comparable to other top-tier producers.
- ✓ China's space, armaments, and aviation industries are rapidly advancing; however, quality deficiencies persist in some export armament equipment, and the aircraft industry remains reliant on foreign-sourced aircraft engine components.

Missile and Space Industry. The majority of China's missile programs, including its ballistic and cruise missile systems, are comparable to other international top-tier producers. China's production of a wide range of ballistic, cruise, air-to-air, and SAMs for the PLA and for export has probably been enhanced by upgrades to primary assembly and solid rocket motor production facilities. Though China has become one of the world's most advanced producers of SAM systems, China has purchased Russia's S-400 air defense system and may receive it in 2018. China's space industry is rapidly expanding its ISR,

navigation, and communication satellite constellations while making considerable progress in space lift, human spaceflight, and lunar exploration programs. China hopes to expand its space launch vehicle industry to support commercial launches and make rapid satellite launch services available to foreign customers. China will probably launch, assemble in-orbit, and operate a crewed Chinese space station before 2025.

Naval/Shipbuilding Industry. China is the top ship-producing nation in the world and has increased its shipbuilding capacity and capability for all types of military projects, including submarines, surface combatants, naval aviation, sealift, and amphibious assets. China's two largest state-owned shipbuilders – the China State Shipbuilding Corporation and Shipbuilding Industry Corporation – collaborate in shared ship designs and construction information to increase shipbuilding efficiency. China now produces its naval gas turbine and diesel engines domestically – as well as almost all shipboard weapons and electronic systems – and is almost entirely self-sufficient with little dependence on traditional foreign suppliers for shipbuilding.

Armaments Industry. China's production capacity continues to advance in almost every area of PLA ground systems, including armored personnel carriers, assault vehicles, air defense artillery systems, artillery pieces, and new versions of main battle tanks and light tanks. China is capable of producing ground weapon systems at or near world-class standards; however, quality deficiencies persist with some export equipment.

Aviation Industry. China's aviation industry has advanced to produce a large transport aircraft; modern fourth- to fifth-generation fighters incorporating low-observable technologies; modern reconnaissance and attack UAVs; and attack helicopters. China's commercial aircraft industry has invested in high-precision and technologically advanced machine tooling and production processes, avionics, and other components applicable to the production of military aircraft. However, China's aircraft industry remains reliant on foreign-sourced components for dependable, proven, high-performance aircraft engines. China's infrastructure and experience for the production of commercial and military aircraft are improving as a result of China's ongoing C919 commercial airliner and Y-20 large transport programs.

SCIENCE AND TECHNOLOGY GOALS IN SUPPORT OF MILITARY MODERNIZATION

KEY TAKEAWAYS

- ✓ China has developed long-term civilian planning processes and PLA regulations to identify key S&T goals supporting military modernization.
- ✓ China identified specific leading-edge industries with the potential to provide technological breakthroughs, such as advanced manufacturing and artificial intelligence, to prioritize these processes.

The National Medium- and Long-Term Program for Science and Technology Development (2006-2020), issued by the State Council in February 2006, seeks to transform China into an "innovation-oriented society" by 2020. The plan defines China's S&T focus in terms of basic research, leading-edge technologies, key fields and priority subjects, and "major special items," many of which have military applications. In July 2016, China's State Council issued the 13th Five-Year Program that extends some of those "major special items" out to 2030 and introduces new ones such as big-data.

> Between 2016 and 2017, the PLA enacted several national regulations along with major organizational restructure to meet these 2020 and 2030 goals and deepen military-civilian cooperation. For instance, the Central Commission for Integrated Military and Civilian Development, newly established in January 2017, aims to promote the acceleration of military-civilian cooperation and achieve a beneficial arrangement for both parties.

Basic Research. As part of a broad effort to expand basic research capabilities, China identified several areas as major strategic needs or science research plans requiring active government involvement and funding: material design and preparation; manufacturing in extreme environmental conditions; aeronautic and astronautic mechanics; information technology development; and biotechnology research.

Leading-edge Technologies. China has identified certain industries and technology groups with the potential to provide technological breakthroughs, to remove technical obstacles across industries, and to improve international competitiveness. Examples of applications include radar, counterspace capabilities, secure C4ISR, smart materials, and low-observable technologies. China is focusing on the following technologies for rapid development:

> *Information Technology*. Priorities include intelligent perception technologies, ad hoc networks, and virtual reality technologies.

> *Artificial Intelligence (AI)*. Priorities include autonomous and swarm intelligence. China wants to be the world leader in AI

by 2030, as outlined in its 2017 National Artificial Intelligence Development Plan.

- *New Materials*. Priorities include smart materials and structures, high-temperature superconducting technologies, and highly efficient energy materials technologies.
- *Advanced Manufacturing*. Priorities include extreme manufacturing technologies, intelligent service advanced machine tools, and industrial processes. Strategic guidance, such as "Made in China 2025" published in 2015, lays out a path to sustainability and emphasizes the importance of China-made components.
- *Advanced Energy Technologies*. Priorities include hydrogen energy and fuel cell technologies, alternative fuels, and advanced vehicle technologies.
- *Marine Technologies*. Priorities include three-dimensional maritime environmental monitoring technologies; fast, multi-parameter ocean floor survey technologies; and deep-sea operations technologies.
- *Laser and Aerospace Technologies*. Priorities include the development of chemical and solid-state laser technologies to field a weapons-grade system ultimately for ground-based and airborne platforms.
- *Quantum Satellites*. Priorities include unconditional security of network data across long distances, ultimately creating a global quantum network of classical (i.e., non-quantum) data secured by quantum cryptographic keys.

FOREIGN TECHNOLOGY ACQUISITION

KEY TAKEAWAYS

- ✓ China continues to supplement indigenous military modernization efforts through targeted foreign technologies and intellectual property acquisition.
- ✓ Additionally, China very likely uses its intelligence services and other illicit approaches to obtain key national security and export-restricted technologies, controlled equipment, and other materials unobtainable through other means.

China continues to supplement indigenous military modernization efforts through the acquisition of foreign technologies and know-how. China is actively pursuing an intensive campaign to obtain foreign technology through imports, foreign direct investment, industrial and cyberespionage, and establishment of foreign R&D centers. China is investing in the critical technologies that will be foundational for future innovations in commercial and military applications such as artificial intelligence, robotics, autonomous vehicles, augmented and virtual reality, financial technology, and gene editing. The line demarcating products designed for commercial versus military purposes is blurring with these new technologies. China's legal acquisition efforts supplement its military-industrial

base through methods and practices which include:

- *Imports.* China acquires dual-use, export controlled technology by applying for licenses through the Department of Commerce. The majority of China's imports have traditionally been electronic and materials processing, test, inspection, and production equipment.
- *Foreign Direct Investment.* China actively invests in, or outright purchases, foreign companies that have technology, facilities, and people working in key technology areas.
- *Talent Recruitment.* China uses various incentive strategies to attract foreign personnel to work on and manage strategic programs and to fill technical knowledge gaps.
- *Research and Development Centers.* China actively seeks partnerships with private, government, and academic research laboratories to gain exposure to cutting-edge technology and researchers. These partnerships also provide the technical know-how to run, manage, and organize such facilities.

Espionage Activities Supporting China's Military Modernization. China uses a variety of methods to acquire foreign military and dual-use technologies, including cyber activity and exploitation of the access of Chinese nationals – such as students or researchers – acting as procurement agents or intermediaries. China very likely uses its intelligence services and employs other illicit approaches that violate U.S. laws and export controls to obtain key national security and export-restricted technologies, controlled equipment, and other materials unobtainable through other means.

- In December 2016, a citizen of China who is also a lawful permanent resident of the United States pled guilty in Federal district court to charges related to theft of numerous sensitive military program documents for technologically advanced titanium from a U.S. company and transporting them to China. The individual worked on the F119 and F135 military fighter jet engines, which are used respectively in the USAF F-22 Raptor and F-35 Lightning II.
- In January 2017, a Chinese-born naturalized citizen of the United States pled guilty in Federal district court to the unauthorized development or production of special nuclear material outside the United States while acting as a consultant to China General Nuclear Power Company. Although it is unclear whether any military advantage was obtained, civil nuclear technology has been identified as part of China's current military-civilian fusion effort.

Chinese defense S&T organizations and classified PLA intelligence provide technical targeting requirements to guide the work of

collection units in open-source collection and analysis, and human capital transfer and exchanges that no longer solely focus on ethnic Chinese, but also individuals with relevant placement and access. In addition, multiple U.S. criminal indictments and investigations since 2010 involved non-ethnic Chinese U.S. citizens and naturalized Chinese U.S. citizens or permanent resident aliens procuring and exporting controlled items to China.

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FORCE MODERNIZATION FOR A TAIWAN CONTINGENCY

China's overall strategy continues to incorporate elements of both persuasion and coercion to hinder the development of political attitudes in Taiwan favoring independence. China has stressed that Taiwan must accept the "1992 Consensus," which is an ambiguous term used by the previous Taiwan administration and Chinese leaders as a basis for engagement. The major PLA-wide reorganization of combat units in 2017 likely affected units responsible for a Taiwan contingency. Concurrently, the PLA continued to develop and deploy increasingly advanced military capabilities intended to coerce Taiwan, signal Chinese resolve, and gradually improve capabilities for an invasion. These improvements pose major challenges to Taiwan's security, which has historically been rooted in the PLA's inability to project power decisively across the 100 nm Taiwan Strait, the natural geographic advantages of island defense, Taiwan's armed forces' technological superiority, and the possibility of U.S. intervention.

CHINA'S STRATEGY IN THE TAIWAN STRAIT

KEY TAKEAWAYS

- ✓ While China advocates for peaceful reunification with Taiwan, China has never repudiated the use of military force, and continues to develop and deploy increasingly advanced capabilities needed for a potential military campaign.
- ✓ Circumstances that would prompt the use of force remain ambiguous, preserving China's flexibility.

China appears prepared to defer the use of force as long as it believes that unification over the long-term remains possible and that the costs of conflict outweigh the benefits. China argues that the credible threat of force is essential to maintain the conditions for political progress and to prevent Taiwan from making moves toward *de jure* independence. China has refused for decades to renounce the use of force to resolve the Taiwan issue. Simultaneously, China's leaders proclaim their desire for peaceful unification under the principle of "one country, two systems," most recently as part of President Xi Jinping's address opening the CCP's 19th Party Congress.

The circumstances under which the mainland has historically warned that it would use force have evolved over time in response to the island's declarations of its political status, changes in PLA capabilities, and China's view of Taiwan's relations with other countries. These circumstances have included:

- > Formal declaration of Taiwan independence;
- > Undefined moves toward Taiwan independence;
- > Internal unrest on Taiwan;
- > Taiwan's acquisition of nuclear weapons;

- Indefinite delays in the resumption of cross-Strait dialogue on unification;
- Foreign intervention in Taiwan's internal affairs; and,
- Foreign forces stationed on Taiwan.

Article 8 of China's March 2005 Anti-Secession Law states that China 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 ambiguity of these conditions preserves China's flexibility. In December 2017, Chinese Embassy official Li Kexin, in response to U.S. Congressional language recommending the U.S. Navy explore visiting Taiwan, stated that such a visit would prompt China to take Taiwan by force.

CHINA'S COURSES OF ACTION AGAINST TAIWAN

KEY TAKEAWAYS

- ✓ Multiple military options exist for a Taiwan campaign, ranging 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.
- ✓ China could engage in a deliberate force buildup to signal an imminent military campaign or conduct a surprise campaign to force rapid military and political resolutions before other countries could respond.
- ✓ Should the United States intervene, China would try to delay effective intervention and seek victory in a high-intensity, limited war of short duration.

China has a range of options based on the PLA's increasing capabilities in multiple domains. China 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 and more methodical campaign designed to force Taiwan to capitulate to unification, or unification dialogue, under PRC terms. China would seek to deter potential U.S. intervention in any Taiwan contingency campaign. Failing that, China would attempt to delay intervention and seek victory in an asymmetric, limited war of short duration. In the event of a protracted conflict, China might fight to a standstill and pursue a political settlement. The PLA could initiate the military options listed below individually or in combination together.

Air and Maritime Blockade. PLA writings describe a Joint Blockade Campaign in which China would employ kinetic blockades of maritime and air traffic, including a cut-off of Taiwan's vital imports, to force Taiwan's capitulation. According to these writings, large-scale missile strikes and possibly 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. China's air and maritime blockade

operations will also likely be complemented by concurrent EW, network attacks, and IO to isolate Taiwan's government and populace further.

Limited Force or Coercive Options. China might 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. 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 to degrade the Taiwan population's confidence in their leaders. Similarly, PLA SOF could infiltrate Taiwan and conduct attacks against infrastructure or leadership targets.

Air and Missile Campaign. China 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 Chinese 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 to occupy key targets or the entire island.

Large-scale amphibious invasion is one of the most complicated and difficult military operations. Success depends upon air and sea superiority, the rapid buildup and sustainment of supplies onshore, and uninterrupted support. An attempt to invade Taiwan would likely strain China's armed forces and invite international intervention. These stresses, combined with China's combat force attrition and the complexity of urban warfare and counterinsurgency (assuming a successful landing and breakout), make an amphibious invasion of Taiwan a significant political and military risk.

The PLA is capable of accomplishing various amphibious operations short of a full-scale invasion of Taiwan. With few overt military preparations beyond routine training, China could launch an invasion of small Taiwan-held 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 China's capabilities. Such an invasion would demonstrate military capability and political resolve while achieving tangible territorial gain and 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 international opposition.

EFFECT OF PLA REFORM ON A TAIWAN CONTINGENCY

KEY TAKEAWAYS

- ✓ The PLA aims to increase its ability to conduct complex joint operations.
- ✓ Although ongoing reforms may decrease near-term readiness, in the long-term they should enable better planning and preparation for joint military operations across the Taiwan Strait.

One of the overarching goals of the structural reforms now reshaping the PLA is to construct a military capable of conducting complex joint operations, including those that would be involved in a Taiwan contingency. PLA reforms are aimed at clarifying 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 – has also likely streamlined and improved the PLA's ability to conduct yearlong planning and preparation for joint military operations across the Taiwan Strait. In the near term, PLA combat units may experience decreased 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 under current reforms is the establishment of the SSF and JLSF. 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 creation of the SSF probably improves the PLA's ability to execute and coordinate IO (especially 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 Eastern Theater, improving PLA command staffs' situational awareness of Taiwan 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.

Structural reforms within the military services also have implications on resources and operational capabilities available to the PLA for a future Taiwan contingency.

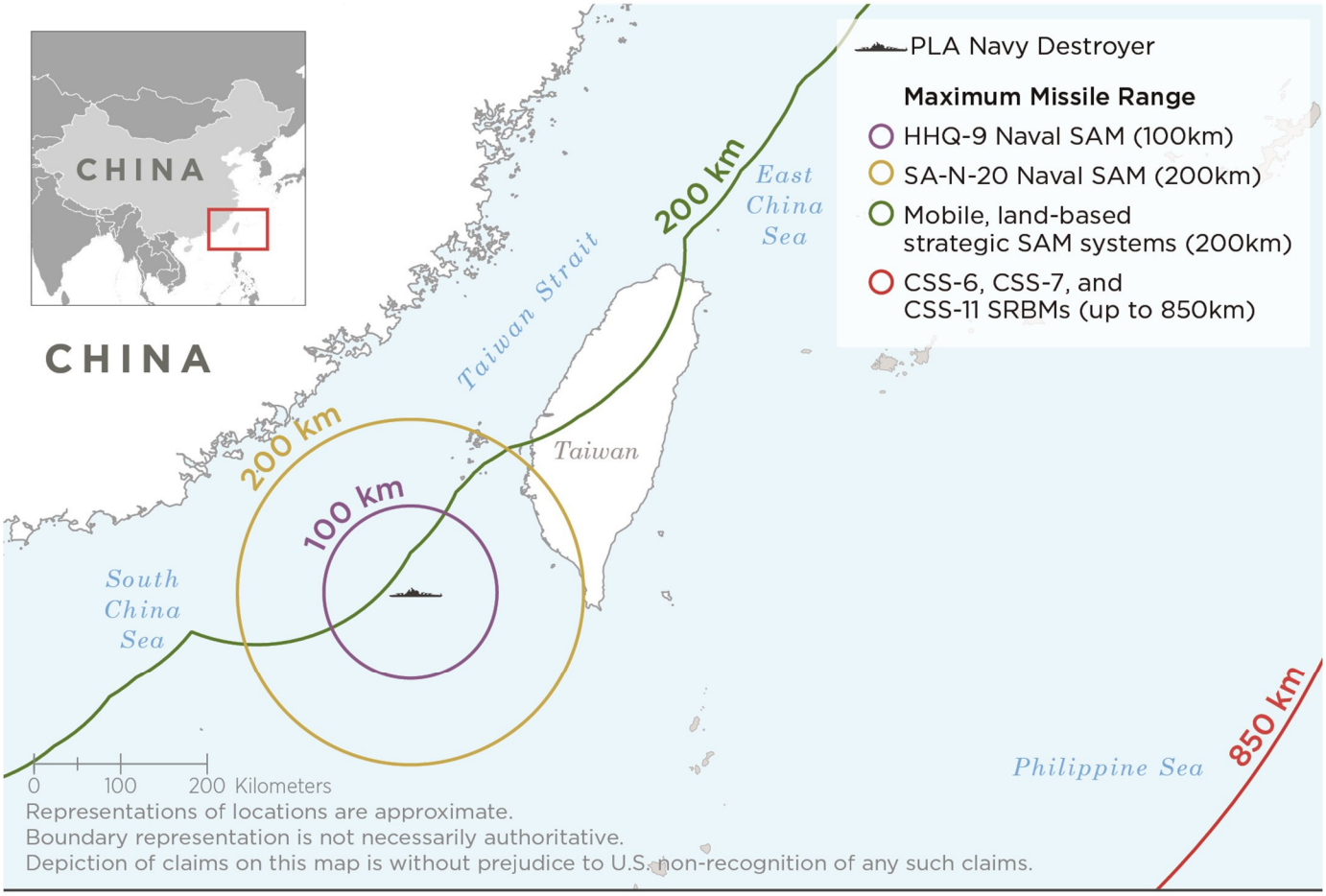
- > In 2017, the PLAN established a PLANMC headquarters and began expanding the PLANMC. However, the extent of PLANMC expansion and the roles that the PLANMC will be assigned remain unclear – the PLANMC may be assigned roles pertaining to overseas base defense or small

island seizure, leaving large-scale amphibious operations under the purview of the PLAA's amphibious units.

- The PLA Airborne Corps (formerly the PLAAF 15th Airborne Corps) also underwent major changes in 2017, reorganizing its previous units into airborne infantry brigades, a special operations brigade, an aviation brigade, and a support brigade. The goal of reorganization was to create a responsive and streamlined airborne corps capable of air-delivering modular combat units – including aerial drop of mechanized infantry forces.

- The PLAA continues the expansion and transformation of rotary-wing aviation into its own combat arm capable of maneuver, precision strike, and three-dimensional transportation of forces. The PLAA intends to field at least one army aviation brigade per group army and military district as part of its on-going restructure and modernization. Furthermore, in 2017, the PLAA established its first two helicopter-based air assault infantry brigades, with subsequent plans to equip these brigades with both transport and assault helicopters.

Taiwan Strait SAM and SRBM Coverage



Eastern Theater



Southern Theater



THE PLA'S CURRENT POSTURE FOR A TAIWAN CONFLICT

KEY TAKEAWAYS

- ✓ PLA services and support forces continue to improve training and acquire new capabilities for a Taiwan contingency.
- ✓ Although the PLAN seeks to achieve maritime superiority within the first island chain and to deter a third party from intervening in a Taiwan campaign, there is no indication it is significantly expanding its landing ship force necessary for an amphibious assault on Taiwan.

Preparation for a Taiwan conflict with the possibility of U.S. intervention continues to play a prominent role in China's military modernization program.

PLA Army. The PLAA is improving and increasing its three-dimensional options for a Taiwan invasion scenario. It is converting the bulk of its maneuver units to combined arms brigades, including the former amphibious divisions and amphibious armor brigade. As part of this change, the PLAA has increased the types of arms and combat support functions organic to these brigades, which should eventually create more capable, modular brigades and battalions. The expansion of army aviation and the creation of two new air assault brigades also provides more three-dimensional attack, air assault, and close air support options for a Taiwan invasion scenario. Additionally, the PLAA's ongoing fielding of advanced air defense, EW, and C2 systems enhances the combat power, force protection, and sustainment capabilities of its brigades. Improved communications networks provide real-time data transmissions within and between units, enabling better C2 during operations including between services. The PLAA continues to conduct company-level amphibious landing training, including during difficult weather and at night, but will need increased training at larger echelons to fully integrate their new structure and three-dimensional capabilities. As these new systems proliferate, the PLAA will increase its ability to establish, defend, and exploit a beachhead lodgment.

PLA Navy. The PLAN is improving anti-air and anti-surface warfare capabilities, developing an at-sea nuclear deterrent, and introducing new multi-mission platforms capable of striking Taiwan in a cross-Strait conflict, as well as conducting diverse missions in other contingency operations. New attack submarines, modern surface combatants with anti-air capability, and fourth-generation naval aircraft entering the force are designed to achieve sea superiority within the first island chain as well as to deter and counter any potential third party intervention in a Taiwan conflict. China's amphibious ship fleet, however, has in recent years focused on acquiring a small number of LPDs, indicating a near-term focus on smaller scale expeditionary missions rather than a large number of LSTs and medium landing craft that would be necessary for a large-scale direct beach assault. There is also no indication that China is

significantly expanding its landing ship force at this time – suggesting that a direct beach-assault operation requiring extensive lift is less likely in planning.

PLA Air Force. The PLAAF has maintained a force posture that provides a variety of capabilities for a Taiwan contingency. It has stationed a large number of advanced aircraft within an unrefueled range of Taiwan, providing it with a significant capability to conduct air-superiority and ground-attack operations against Taiwan. A number of long-range air defense systems provide a strong layer of defense of China's mainland against counterattack. In addition, China's development of support aircraft provides the PLAAF with improved ISR capability to support PLA operations in a contingency.

PLA Rocket Force. The PLARF is prepared to conduct missile attacks against high-value targets, including Taiwan's command and control facilities, air bases, radar sites, and others in an attempt to degrade Taiwan's defenses, neutralize Taiwan's leadership, or break the public's will to fight.

Strategic Support Force. PLA doctrinal writings emphasize the importance of space and cyberspace domains in joint operations. PLA writings suggest that the SSF would be responsible for the use of EW and cyber operations during a Taiwan contingency since one of the missions of the force is "seizing and maintaining battlefield information control in contemporary informatized warfare."

Joint Logistics Support Force. The PLA's JLSF, established in late 2016, has the primary goal of supporting a strategic campaign such as a Taiwan invasion by conducting command and control of joint logistics, delivering materiel, and overseeing various civil-military integration support mechanisms.

TAIWAN'S DEFENSIVE CAPABILITIES

KEY TAKEAWAYS

- ✓ Taiwan's advantages continue to decline as China's modernization efforts continue.
- ✓ Taiwan's transition to an all-volunteer force by 2019 will be costlier than anticipated, straining the limited defense budget and diverting funds from defense acquisition, training, and readiness.
- ✓ To counter China's improving capabilities, Taiwan is developing new concepts and capabilities for asymmetric warfare.

Taiwan has historically enjoyed military advantages in the context of a cross-Strait conflict, such as technological superiority and the inherent geographic advantages of island defense, but China's multi-decade military modernization effort has eroded or negated many of these. Although Taiwan is taking important steps to compensate for the growing disparities – building its war reserve stocks, growing its defense industrial base, improving joint operations and crisis response capabilities, and strengthening its officer and non-commissioned officer corps – these

improvements only partially address Taiwan's declining defensive advantages. Taiwan's Ministry of National Defense 2017 National Defense Report reflects adjustments to the military's strategy for defending the island, placing greater emphasis on protecting its littorals and near-shore coastal areas. The modified strategy stresses enhanced asymmetric capabilities, as well as suggesting greater reliance on Taiwan's Air Force and Navy.

Taiwan currently has approximately 215,000 personnel in the armed forces (approximately 70 percent of whom are volunteers), supported by approximately 1.7 million reservists and nearly 1 million civil defense 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 by 2019. This transition has slowed due to severe difficulties recruiting enough 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.

In addition, Taiwan's military spending remains at approximately two percent of its GDP. Taiwan's President Tsai recently pledged to increase the island's defense budget at a pace at least equal to overall economic growth, not including an additional special fund reserved for major defense procurements. Meanwhile, China's official defense budget has grown to roughly 15 times that of Taiwan, with much of it focused on developing the capability to unify Taiwan with the mainland by force. Recognizing the growing disparity between their respective defense expenditures, Taiwan is working to develop new concepts and capabilities for asymmetric warfare. Some specific areas of emphasis include offensive and defensive information and electronic warfare; high-speed stealth vessels; shore-based mobile missiles; rapid mining and minesweeping; unmanned aerial systems; and critical infrastructure protection. Defense officials are working to streamline and prioritize Taiwan's defense spending to enable these capabilities.

The United States maintains a "one-China" policy that is based on the three Joint Communiqués and the Taiwan Relations Act (TRA). The United States opposes any unilateral change to the status quo in the Taiwan Strait by either side and does not support Taiwan independence. The United States continues to support the peaceful resolution of cross-Strait issues in a manner, scope, and pace acceptable to both sides.

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 June 2017, the United States announced the sale of $1.42

billion in defense articles and services to Taiwan, including MK-48 6AT Heavy Weight Torpedoes, AGM-154 Joint Standoff Weapons, and AGM-88 High-Speed Anti-Radiation Missiles. Since 2010, the United States has announced more than $15 billion in arms sales to Taiwan.

CHINA'S AMPHIBIOUS CAPABILITIES

KEY TAKEAWAYS

- ✓ The PLAA and PLANMC continue to equip, plan, and train for sustained amphibious operations.
- ✓ The PLAN did not make significant additions to its amphibious fleet in 2017 but launched a YUZHAO LPD that could enter service in 2018.

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 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. Both PLAA and PLANMC units equipped for amphibious operations conduct regular company- to battalion-level amphibious training exercises. However, the PLA rarely conducts amphibious exercises involving echelons above a battalion, though both PLAA and PLANMC units have emphasized the development of combined arms battalion formations since 2012.

In 2017, the PLA reorganized amphibious infantry divisions of the former 1st Group Army and 42nd Group Army as well as the former 31st Group Army amphibious armor brigade, into a total of five amphibious combined arms brigades now under the new 72nd Group Army and 74th Group Army. Amphibious training throughout 2017 continued to focus upon the ability to conduct and sustain amphibious operations while incorporating real-time ISR, precision targeting for close air support assets, integrated command and control, and nighttime reconnaissance and attack training.

The PLANMC continues to make modest gains in its proficiency to conduct amphibious operations. Despite the tripling of the number of PLANMC brigades, there are no indications that any of the new units are conducting – or are even equipped to conduct – amphibious warfare training. In 2017, the PLANMC may have reduced some of its annual training due to restructuring from PLA reforms. At least one squad of operational PLAN marines from the South Sea Fleet conducted coral reef/small island seizure training in the Paracel Islands in March 2017.

The PLAN did not make significant additions to its amphibious fleet in 2017, but launched a YUZHAO LPD that could enter service in 2018.

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U.S.-CHINA MILITARY-TO-MILITARY CONTACTS

U.S. STRATEGY FOR ENGAGEMENT

KEY TAKEAWAYS

- ✓ DoD engagement with China supports overall U.S. policy and strategy toward China.
- ✓ DoD's plan for military-to-military contacts with the PRC focus on three interconnected lines of effort: (1) building sustained and substantive dialogue; (2) promoting risk reduction and risk management efforts that diminish the potential for misunderstanding or miscalculation; and (3) building concrete, practical cooperation in areas of mutual interest.

The *2017 National Security Strategy*, the *2018 National Defense Strategy*, and the *2018 Nuclear Posture Review* recognize the growing trend of military competition in a dynamic security environment. The United States will continue to seek areas of cooperation with competitors, while preserving the ability to compete successfully from a position of strength. U.S. defense contacts and exchanges conducted in 2017 were designed to support overall U.S. policy and strategy toward China. They have been carefully tailored to manage and reduce risk, clarify and develop areas of cooperation where it is in the United States' mutual interest, and they are conducted in accordance with the relevant statutory limitations of the National Defense Authorization Act for Fiscal Year 2000, as amended.

In 2017, DoD's plan for military-to-military contacts with the PRC focused on three interconnected lines of effort: (1) building sustained and substantive dialogue through policy dialogues and senior leader engagements; (2) promoting risk reduction and risk management efforts that diminish the potential for misunderstanding or miscalculation; and (3) building concrete, practical cooperation when possible.

The pace and scope of China's military modernization provide opportunities as well as challenges for military-to-military engagement. The PLA's growing military capabilities can facilitate deeper practical cooperation in areas ranging from humanitarian assistance to counter-piracy; however, as China's military develops and expands its reach, the risk of an accident or miscalculation also increases, putting a premium on risk reduction efforts.

Pursuit of a constructive, results-oriented relationship with China is an important part of U.S. strategy in the Indo-Pacific region. DoD seeks to ensure the U.S.-China military-to-military relationship is a stabilizing element to the overall bilateral relationship through strengthened risk reduction and finding ways that best serve the interests of the United States and its allies and partners. The military-to-military relationship seeks to encourage China to act in a manner consistent with international law and norms.

MILITARY-TO-MILITARY ENGAGEMENT IN 2017 – HIGHLIGHTS

KEY TAKEAWAYS

- ✓ High-level contacts enable leaders to exchange views, identify common interest areas, manage differences, and facilitate common approaches to shared challenges.
- ✓ For example, in June 2017, the Secretaries of State and Defense hosted the inaugural U.S.-China Diplomatic and Security Dialogue in Washington, D.C.
- ✓ Recurring institutionalized events serve as a mechanism for dialogue at the strategic- and policy-levels, including risk reduction and practical cooperation.
- ✓ Functional engagements focus on risk reduction and communication channels to promote deconfliction and coordination.
- ✓ Ship visits and exercises promote trust and improve the ability to interact and coordinate in providing international public goods.

DoD conducts all contacts with China in a manner consistent with the relevant provisions of the National Defense Authorization Act for Fiscal Year 2000, as amended.

In 2017, the U.S. and China military-to-military relationship focused on risk reduction. The two militaries advanced consultations on air and maritime safety via the Military Maritime Consultative Agreement meetings and inaugurated a Joint Staff Dialogue Mechanism that promotes increased communication on crisis management and risk reduction through high-level policy dialogue. Additionally, DoD continued to make progress with the PLA in developing the capacity to cooperate in multilateral settings. The two militaries participated in a Disaster Management Exchange with an emphasis on deconfliction in a Multinational Coordination Cell. Such examples of military-to-military engagement enable risk reduction and enhance understanding of how each side interacts in the delivery of international public goods.

Selected visits, exchanges, exercises, and arrangements are highlighted below. A complete list of 2017 engagements is provided in Appendix I.

High-Level Visits and Engagements. High-level contacts are an important means to exchange views on the international security environment, to identify areas of common interest, to manage differences, and to facilitate common approaches to shared challenges. Discussions focused on areas of military cooperation and candidly addressed differences.

In June 2017, the Secretaries of State and Defense hosted the inaugural U.S.-China Diplomatic and Security Dialogue in Washington, D.C., representing a new high-level framework for dialogue launched by President Donald Trump and President Xi

Jinping in Mar-a-Lago to deepen areas of cooperation while narrowing differences on key diplomatic and security issues. The Chinese side, led by State Councilor Yang Jiechi and then-Director of the Joint Staff Department General Fang Fenghui, participated in the talks designed to elevate and focus bilateral discussion on ways to improve relations, contribute to greater risk reduction, and maintain effective channels of communication. Both sides engaged on strategic topics, discussed differences, and affirmed a strong commitment to cooperate.

In July 2017, the Chief of Naval Operations, Admiral John Richardson, conducted a video teleconference through the Defense Telephone Link with the PLAN Commander, Vice Admiral Shen Jinlong, to discuss the military-to-military relationship and maritime issues. The communication link enables sustained channels of communication between defense leaders. In November 2017, the two Joint Staffs exercised the Defense Telephone Link's video capability to prepare for the Joint Staff Dialogue Mechanism with a call connecting the Director of the Joint Staff for Strategy, Plans and Policy and the PLA Deputy Director of the JSD.

In August 2017, the Chairman of the Joint Chiefs of Staff, General Joseph Dunford, visited Beijing and Shenyang. General Fang Fenghui, then-Director of the JSD, hosted the Chairman for meetings in Beijing, including meetings with President Xi Jinping, State Councilor Yang Jiechi, and then-Vice Chairman General Fan Changlong. The Chairman's visit included a visit to the Northern Theater Command, where General Dunford met with the Northern Theater Commander. The visit concluded with General Dunford and General Fang signing the Joint Staff Dialogue Mechanism, an important tool in improving crisis management and crisis communication between the two militaries.

In September 2017, Vice Admiral Yuan Yubai, Commander of the Southern Theater Command visited Hawaii and San Diego. Vice Admiral Yuan met with the Commander, U.S. Pacific Command (USPACOM), Admiral Harry Harris, and also traveled to San Diego. The visit discussed cooperation in areas of mutual interest, increased understanding, and represented the first visit of a Southern Theater Commander to the United States. The Deputy Director of the JSD, Major General Shao Yuanming, also visited USPACOM in Hawaii and met with Admiral Harris.

In November 2017, Major General Shao met with the Chairman of the Joint Chiefs of Staff, General Dunford, during a visit to Washington D.C. and New York. The high-level visits represented an opportunity for both sides to discuss the military-to-military relationship and the Joint Staff Dialogue Mechanism.

Recurring Exchanges. Recurring institutionalized events form the backbone of U.S.-China defense discussions each year. They serve as a regularized mechanism for

dialogue at the strategic and policy levels, including risk reduction and practical cooperation.

In January 2017, then Deputy Assistant Secretary of Defense Abraham Denmark hosted the Defense Policy Coordination Talks with Rear Admiral Li Ji, Deputy Director, Office for International Military Cooperation (OIMC). The U.S. delegation included representatives from the Joint Staff, USPACOM (USPACOM Deputy Director for Strategic Planning and Policy, Brigadier General Gillette, and Deputy Director for Plans and Policy (Asia), Major General John Quintas), and the State Department. The dialogue covered issues ranging from military to military engagements, confidence-building measures, and practical areas of cooperation.

In November 2017, Major General William Hix, Headquarters Army, Director of Strategy, Plans, and Policy, led a delegation to Beijing for the third annual Army-to-Army Dialogue Mechanism. The dialogue provided an opportunity to exchange views on HA/DR operations, PKO, and risk reduction.

Also in November 2017, Lieutenant General Richard Clarke, Director of the Joint Staff J5, Strategy, Policy and Planning, chaired the inaugural Joint Staff Dialogue Mechanism meeting and hosted Major General Shao Yuanming, Deputy Chief of the JSD, in Washington, D.C. The engagement focused on crisis management and promoted risk reduction.

In December 2017, Acting Assistant Secretary of Defense for Asian and Pacific Security Affairs, David Helvey, led a delegation to Beijing for the Asia-Pacific Security Dialogue with Director of the Office of International Military Cooperation, Major General Hu Changming. The U.S. delegation included representatives from the State Department, the Joint Staff, and USPACOM. The dialogue discussed regional security issues of mutual concern.

Functional and Academic Exchanges. Functional engagements focus on advancing risk reduction, understanding, and communication channels to promote deconfliction and coordination. Reciprocal exchanges – including between functional officers, rising leaders, and institutions of professional military education – help to identify and explore new areas of cooperation, discuss differences, and serve to develop a generation of leaders on both sides who are knowledgeable and adept at handling this increasingly complex and vital relationship. Increasing contacts between mid-level officers is an important objective for both militaries as they seek to build familiarity and mutual understanding between future leaders.

In February 2017, an Air War College delegation visited China. In April 2017, a National War College delegation visited China, followed by a U.S. Marine War College delegation and the U.S. National Defense University CAPSTONE delegation to China in May 2017. Each delegation offered an

opportunity to increase understanding of China and the Pacific through engagements with various echelons of the PLA.

In May 2017, Submarine Forces Pacific hosted the first Submarine Rescue Workshop with the PLAN in San Diego, California. The exchange promoted practical cooperation through discussions on best practices and included a tour of the Undersea Rescue Command.

In May 2017, the first Military Maritime Consultative Agreement (MMCA) Working Group met in Qingdao to improve maritime safety through open communication between U.S. and Chinese naval and air forces. In November 2017, the second MMCA Working Group and MMCA Plenary met in Hawaii. Senior representatives from USPACOM Command, U.S. Pacific Air Forces, and U.S. Pacific Fleet met with a PLAN and PLAAF delegation led by Rear Admiral Wang Dazhong, Deputy Chief of Staff of the PLAN. Both sides reviewed unsafe incidents over the last year and discussed implementation and assessment of the Rules of Behavior for Safety of Air and Maritime Encounters Memorandum of Understanding.

In September 2017, Headquarters Department of the Army hosted a PLA Military Court Delegation to the United States. The engagement discussed international norms and standards in military legal matters and how each military legal system is organized and structured. The Chinese provided insight into how the PLA manage legal affairs related to deployed forces overseas.

Ship Visits and Exercises. Ship visits and exercises promote trust between the two sides and improve the ability to interact and coordinate in providing international public goods in areas of mutual interest, such as search and rescue (SAR), HA/DR, and counter-piracy. Port calls are also used to enhance operational safety and exercise communications and navigation protocols.

In June 2017, the USS STERETT conducted a port visit to Zhanjiang. The Commander of U.S. Pacific Fleet, Admiral Scott Swift, participated in the port visit and met with the PLAN Southern Fleet Commander. Admiral Swift also met with PLAN Commander Vice Admiral Shen Jinlong. The port visit included exchanges and interactions between the two navies.

In November 2017, PLA and U.S. Army soldiers participated in a Disaster Management Exchange (DME) in Oregon. U.S. Army Pacific Commander, General Robert Brown, met with Southern Theater Army Commander Major General Zhang Jian. The exchange focused on HA/DR in a national flooding scenario in which both armies would interact as part of a Multinational Coordination Center.

PLANNING FOR MILITARY-TO-MILITARY ENGAGEMENTS IN 2018

A list of planned engagements for 2018 is provided in Appendix II.

SPECIAL TOPIC: CHINA'S EXPANDING GLOBAL INFLUENCE

China's Belt and Road Initiative (BRI), publicly released in 2013 and formerly named "One Belt, One Road," aims to expand economic and commercial ties to China by financing, constructing, and developing transportation infrastructure, natural gas pipelines, hydropower projects, technology and industrial parks throughout the Indo-Pacific, Africa, the Middle East, Europe, and the Americas. China views BRI as a way to enhance its trade connectivity, reduce surplus domestic industrial capacity, develop poorer interior provinces, promote energy security, and internationalize Chinese industrial and financial standards.

China intends to use BRI to develop strong economic ties with other countries, shape their interests to align with China's, and deter confrontation or criticism of China's approach to sensitive issues. Some countries participating in BRI could develop economic dependencies on China, often from over-relying on Chinese capital. Some BRI investments could create potential military advantages for China, should China require 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 2017, China released a "Vision of Maritime Cooperation under the Belt and Road Initiative," which lays out three maritime corridors and the importance of maritime security cooperation. One identified corridor is from China through the Indian Ocean to Africa and the Mediterranean Sea. Another corridor is from China to Oceania and the South Pacific. The last corridor extends from China to Europe through the Arctic Ocean.

In August 2017, China officially opened its first overseas military base at Doraleh, Djibouti, following more than a year of base construction, and funding an expansion at Doraleh port in 2013. China states that its Djibouti base will support PLA PKO, counterpiracy, and HA/DR operations. The base includes barracks, an underground facility, a tarmac and eight hangars for helicopter and UAV operations, but it currently lacks a dedicated naval berthing space, requiring PLA ships to dock at the commercial port. A PLANMC mechanized infantry company with at least eight infantry fighting vehicles arrived in July at the base in Djibouti on an amphibious transport dock. The PLA base has already conducted live-fire training exercises at a Djiboutian national firing range with its infantry fighting vehicles. This unit is capable of supporting future noncombatant evacuation operations, search and seizure in the Gulf of Aden, hostage rescue, and small-scale combat actions. This new base, along with regular naval vessel visits to foreign ports, extend the reach of China's armed forces, reflecting China's growing influence.

The growth of China's global economic footprint make its interests increasingly vulnerable to international and regional turmoil, terrorism, piracy, serious natural disasters and epidemics. This vulnerability places new requirements on the PLA to address these threats. A more robust overseas logistics and basing infrastructure would allow China to project and sustain military power at greater distances. China's leaders may assess that a mixture of military logistics models, including preferred access to overseas commercial ports and a limited number of exclusive PLA logistics facilities, probably collocated with commercial ports, most closely aligns with China's overseas military logistics

needs. China's expanding international economic interests create an increased demand for the PLA to operate in more distant maritime environments to protect Chinese citizens, investments, and critical SLOCs. China will seek to establish additional military bases in countries with which it has a longstanding friendly relationship and similar strategic interests, such as Pakistan, and in which there is a precedent for hosting foreign militaries. China's overseas military basing will be constrained by the willingness of potential host countries to support a PLA presence.

SPECIAL TOPIC: CHINA'S APPROACH TO NORTH KOREA

In 2017, China's relationship with North Korea reached the lowest level in decades. In response to North Korea's repeated nuclear and missile tests, China supported UN Security Council resolutions (UNSCR) 2356, 2371, 2375, and 2397 to impose additional sanctions on its neighbor, including a ban on coal imports, restrictions on specific sectors, and a cap on permissible energy experts to North Korea. China also temporarily suspended flights to North Korea and closed the main road, the China-North Korea Friendship Bridge, between the two countries. These actions deepened North Korean animosity towards China and North Korean official media made uncharacteristically critical statements towards China.

China's objectives for the Korean Peninsula include stability, denuclearization, and no U.S. forces near China's border. China's priority is maintaining stability on the Korean Peninsula, which includes preventing a DPRK collapse and preventing a military conflict on the Peninsula. As a result, in 2017, Chinese leaders were opposed to North Korea's provocative nuclear and missile activities and were probably concerned that these activities invite additional military deployments and activities by the United States and its allies on or near the Korean Peninsula. Although China supported additional sanctions against North Korea, Chinese leaders were reluctant to embrace measures that they assessed risk destabilizing North Korea. This included, for example, a reluctance to support sanctions that completely cut off oil supplies to North Korea.

In 2017, China advocated for a dual track approach towards North Korea that embraced both dialogue and pressure. Chinese leaders believed that pressure alone would be insufficient to compel North Korea to change its behavior and that the international community should engage in diplomatic dialogue and offer incentives to North Korea. China also remained wary of U.S. military activities and deployments of capabilities to the region and continued to advocate for a suspension of U.S.-South Korean military exercises in exchange for a suspension of North Korean nuclear and missile activity.

- In 2017, China used economic and diplomatic pressure, unsuccessfully, in an attempt to urge South Korea to reconsider the deployment of the THAAD system. Near the end of the year, as China and the new South Korean administration sought to restore bilateral relations, China pressed for additional guarantees from South Korea related to THAAD.

- China and Russia have been coordinating their policies on Korean Peninsula issues since at least April 2015. They have held eight Consultations on Northeast Asia Security, attended by the Chinese assistant and Russian deputy foreign ministers and defense officials, to coordinate policies including opposition to THAAD and support for dialogue to deescalate tensions.

China's rhetoric towards North Korea also became more strident, including suggestions that the PLA could respond to a crisis on the Korean Peninsula. China has long been concerned about stability along its border with North Korea. Should a crisis or conflict occur on the Peninsula, China's leaders could order the PLA to engage in a range of operations. These could range from securing the China-North Korea border to prevent the flow of refugees to a military intervention into North Korea.

China could also cite the Sino-North Korea Mutual Aid and Cooperation Friendship Treaty – signed in July 1961 – as a justification to cross the border into North Korea. However, China's willingness to intervene into North Korea to defend Kim Jong Un is unclear. China's Northern Theater – like the Shenyang MR before it – would be responsible for leading any Chinese military response to a contingency on the Korean Peninsula.

- Since at least 2004, the PLA has sought to strengthen its ability to conduct joint operations near the Korean Peninsula, placing particular emphasis on border defense. Other elements of the PLA have focused on defending the Yellow Sea from intervention by the United States and South Korea. More recent training has sought to improve the Northern Theater's civil-military fusion, night training, and transport of PLA units across the Bo Hai from the Shandong Peninsula to the Liaoning Peninsula.

- The Northern Theater contains three group armies of approximately 170,000 soldiers, a naval fleet, two air force bases, one specialized air division, two naval aviation divisions, and People's Armed Police (PAP) units that conduct border defense operations. Additional theaters could also be asked to support a larger North Korea related contingency.

- In response to a chemical, biological, radiological, or nuclear incident on the Korean Peninsula, the PLA could deploy emergency response units with specialized equipment and personnel who routinely train for rapid responses.

SPECIAL TOPIC: PLA PROGRESS IN BECOMING A JOINT FORCE

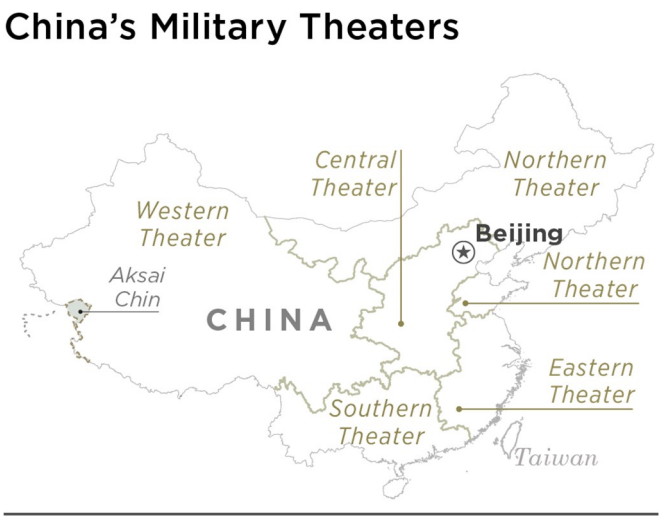
China's military is continuing major reforms to PLA organization and operations that include the most comprehensive restructuring of forces in its history. One of the goals of these reforms, conceptualized over the past several decades and launched by President Xi Jinping in late 2015, is to advance the PLA's ability to conduct joint operations and increase its combat effectiveness. Drawing from PLA experience in previous border conflicts and observations of U.S. military operations in the Persian Gulf in the 1990s, the PLA recognized joint operations are imperative to the successful conduct of future warfare. In December 1998, the CMC initiated a series of military reforms to transform the PLA into a modern and professional joint operations force which were subsequently outlined in the January 1999 "PLA Joint Combat Program."

Through the 2000s, the PLA developed new doctrine for joint campaigns and produced new educational materials in the joint operational arts. PLA training increasingly included combined arms and long distance maneuvers, though in-depth coordination between multiple services remained relatively infrequent and superficial. The PLA also invested heavily in the transformation of the PLA logistic system to enhance combat service support proficiency and materiel management. To facilitate joint coordination on the battlefield, the PLA fielded new tactical C4ISR systems and improved fixed communications architectures to facilitate the transmission of intelligence and information across services, making a joint common operating picture and joint fires integration possible at national and theater commands.

- The ICP, first observed in 2006, is an automated command system software suite with associated hardware located in PLA fixed and mobile command posts that connects the PLA's national-level, theater-level, and operational unit command posts via a joint communications architecture. Its key services include command and control, intelligence, communications, EW, surveying and navigation, meteorology, political work, logistics support, and equipment. The PLA has publicly touted the ICP's ability to integrate communications horizontally and vertically across military services and theaters. Its use has become widespread across the PLA, and has even been observed in combined exercises with Russia.

The PLA is a historically army-centric organization, and bureaucratic intransigence has for years limited the PLA's ability to transform itself into a modern joint force. Beginning in 2015, the execution of PLA reforms are addressing this need, as well as critical related issues such as institutional intransigence borne of corruption and the parochial interests of senior PLA leaders. In addition to strengthening Party control over the PLA, China's leaders directed a complete restructuring of the PLA headquarters to strengthen CMC administrative control of the PLA and to establish a joint command system capable of organizing and directing operations on a routine basis.

- The previous seven Military Regions were replaced by five joint theater commands each assigned specific operationalmissions to defend China's territorial and strategic interests. With the possible exception of strategic units associated with the PLARF, SSF, JLSF, and CMC support and training missions, control of all PLA units has reportedly shifted to theater commands, centralizing control of forces for emergency response, territorial defense, and regional offensive operations under single operational authorities.



- Service headquarters were delegated resource management and force readiness responsibilities, while joint force headquarters manage operations. To enable joint force management, an Army headquarters was established and the newly redesignated PLARF was elevated to serve as a service alongside the PLAA, PLAN, and PLAAF.

- A CMC-subordinated SSF was formed to consolidate space and cyber functions, and a Joint Logistics Support Force was created to manage strategic logistics support to PLA operations.

Reforms in 2017 and the resulting restructuring of PLA forces have highlighted the PLA's vision for the future of PLA combat operations. They included the disestablishment of five group army headquarters, the reorganization of many divisions and regiments into combined arms brigades, and the formation of some air assault brigades. A PLANMC headquarters was established and the Marine Corps is tripling to seven brigades across all three naval fleets. The PLAAF reorganized its Airborne Corps into nine brigades, established additional air bases, and restructured its fighter and attack divisions into brigades subordinate to the new bases.

To standardize training, operations, and equipment development, the PLA is also reorganizing its system of academies and research institutions. Organizations have been realigned to enable joint oversight and management of equipment research and development to create efficiencies in the acquisition system. Joint operations and warfighting concepts are being infused into academic curriculum, targeting mid-level officers, to enhance joint interoperability and command proficiency. PLA leaders are also revising personnel and promotion systems to reduce nepotism, broaden the experience of PLA officers, and encourage and grow operational experience.

The PLA will likely face challenges in fully implementing these reforms, foremost of which is to sustain their scope and pace amid senior leadership transitions and expanding PLA missions. Their success

likely depends greatly on strong centralized leadership and direction that can dispel inter-service rivalries, guide and assess organizational change, and influence corresponding reforms in China's defense industrial base and other supporting institutions. To capitalize on joint organizational reforms, the PLA will probably need to field significant quantities of new weapons and communications systems required to operationalize its combined operations warfighting concepts. Finally, as China's leaders pursue their ambitions for a more globally deployable strategic force, the PLA will need to develop the doctrine, institutional structures and procedures, infrastructure, and platforms to project, support, and sustain forces abroad – all of which appear relatively nascent today.

SPECIAL TOPIC: OVERWATER BOMBER OPERATIONS

The PLA has long been developing air strike capabilities to engage targets as far away from China as possible. Over the last three years, the PLA has rapidly expanded its overwater bomber operating areas, gaining experience in critical maritime regions and likely training for strikes against U.S. and allied targets. The PLA may continue to extend its operations beyond the first island chain, demonstrating the capability to strike U.S. and allied forces and military bases in the western Pacific Ocean, including Guam. Such flights could potentially be used as a strategic signal to regional states, although the PLA has thus far has not been clear what messages such flights communicate beyond a demonstration of improved capabilities.

Western Pacific. PLA aircraft first operated beyond the first island chain in 2013, when a PLAN ASCM-capable H-6G bomber transited through the Bashi Channel; however, the H-6G bomber lacks the range and endurance to patrol the western Pacific Ocean effectively and strike key U.S. and allied facilities. China began to field the longer-range H-6K bomber in 2013, incorporating cruise missile pylons to turn the bomber into a stand-off strike platform. The H-6K's capabilities provided the PLAAF an offensive strike capability against Guam with LACMs.

The PLAAF began flying the H-6K past the First Island Chain into the western Pacific Ocean in 2015, alternating transits through the Miyako Strait and the Bashi Channel and flying within LACM range of Guam. In 2016, the PLAAF improved its capabilities by adding AWACS and fighter aircraft to its bomber flight packages to provide defensive counter-air protection of the bombers beyond the first island chain.

In 2016, the PLAAF also circumnavigated Taiwan for the first time by passing through both the Miyako Strait and Bashi Channel in the same mission, and significantly increased the number of circumnavigation missions in 2017. In addition to long-range flight plans, future H-6 missions may also target Taiwan. Depending on the weapons load, potential future H-6 missions could include anti-ship or shorter-range strikes targeting eastern Taiwan from all directions or supporting a blockade. Currently, such missions are vulnerable without defense counter-air support provided by fighters traveling along the route with the bombers.

South China Sea. In 2016, China began flying H-6K missions in the South China Sea, probably as far as Scarborough Reef, conducting maritime patrols and ISR. H-6s could, if deployed to airfields in the Spratly Islands, extend their range through the Balabac Strait into the Celebes Sea or through the Sunda or Malacca Strait to fly into the Indian Ocean.

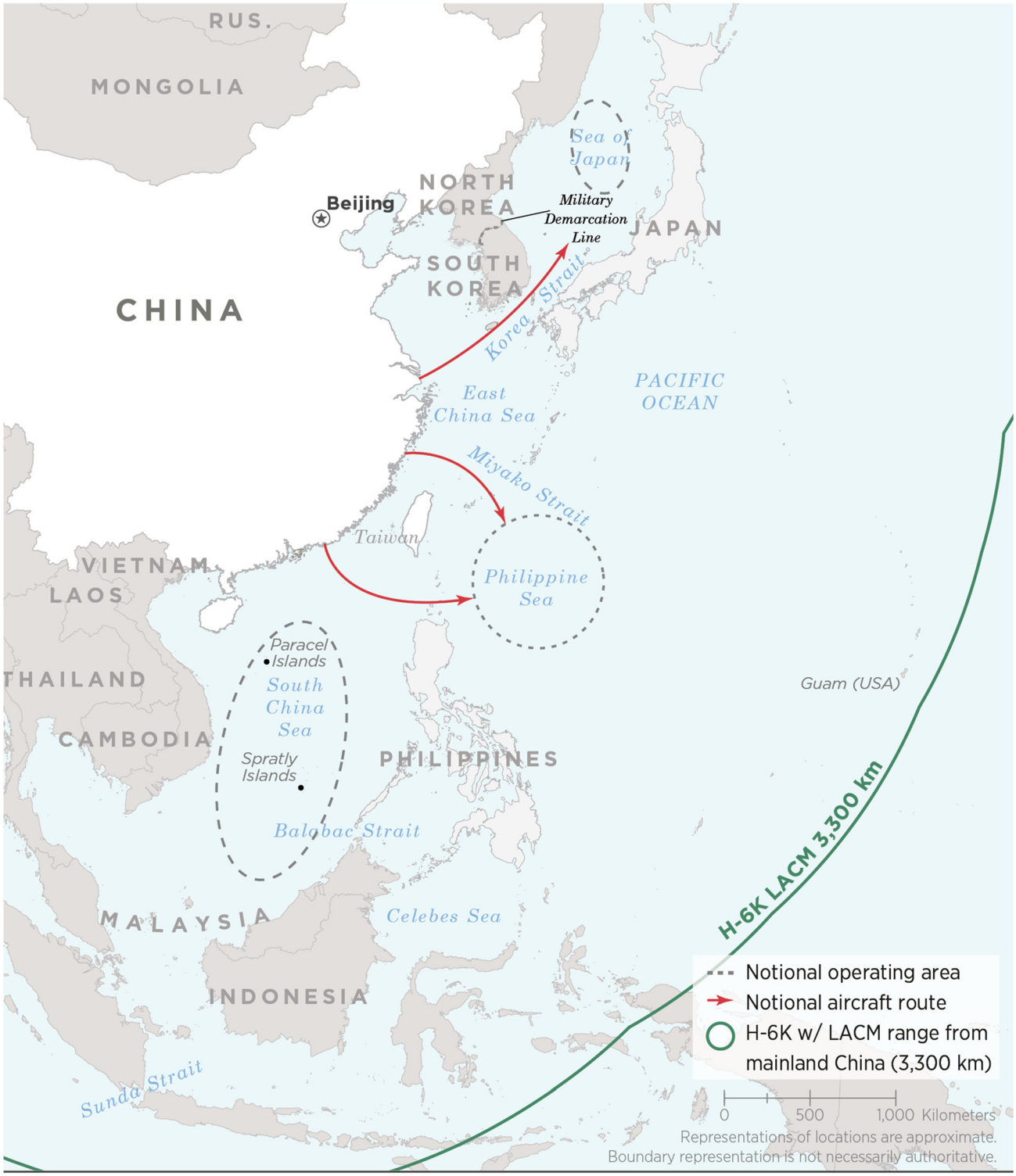
Sea of Japan. In August 2016, two PLAN H-6 bombers accompanied by a Y-8 AEW&C aircraft conducted the first PLA flights into the Sea of Japan. In January 2017, they flew the same route, this time with six bombers supported by two reconnaissance aircraft. In August 2017, the PLAAF further expanded the PLA's operating area by sending six PLAAF H-6K bombers through the Miyako Strait, and for the first time, turned north to fly east of Okinawa and as far north as the Kii Peninsula. These

flights demonstrated a maturing capability for H-6K bombers to conduct off-axis strikes against U.S. and allied facilities. Previously demonstrated flight endurance of the PLAAF H-6K suggest future missions could fly around Japan, along the Philippines' coast, and use a wider area of operations throughout the Philippine Sea than current operations by Chinese aircraft.

PLA Maritime Bomber Operations

Date	Service	Operating Area	Notes
Sep 2013	PLAN	Western Pacific	1st PLA flight ever beyond first island chain; occurred on anniversary of Japan nationalizing Senkakus
Dec 2014	PLAN	Western Pacific	1st ever PLAAF flight beyond first island chain
Mar 2015	PLAAF	Western Pacific	
May 2015	PLAAF	Western Pacific	
Aug 2015	PLAAF	Western Pacific	
Nov 2015	PLAAF	Western Pacific	
Aug 2016	PLAN	Sea of Japan	1st PLA flight into Sea of Japan
Sep 2016	PLAAF	Western Pacific	Probably 1st flight to include fighters and AWACS with the bombers beyond the first island chain
Nov 2016	PLAAF	Western Pacific	1st circumnavigation of Taiwan
Dec 2016	PLAAF	Western Pacific	2nd circumnavigation of Taiwan
Jan 2017	PLAN	Sea of Japan	2nd mission to Sea of Japan, this time with six H-6G bombers
Jul 2017	PLAAF	Western Pacific	Circumnavigation of Taiwan, concurrent missions in each direction
Aug 2017	PLAAF	Western Pacific	Circumnavigation of Taiwan
Aug 2017	PLAAF	Western Pacific, east of Japan north of the Miyako Strait	First flights along eastern Japan
Nov 2017	PLAAF	Western Pacific	
Nov 2017	PLAAF	Western Pacific	Notably included EW and tanker aircraft in addition to fighters
Nov 2017	PLAAF	Western Pacific	Separate missions through both Miyako and Luzon Straits in one day
Dec 2017	PLAN	Western Pacific	Separate missions through both Miyako and Luzon Straits
Dec 2017	PLAAF	Western Pacific	
Dec 2017	PLAAF	Western Pacific	Circumnavigation of Taiwan; PLAAF spokesman described as a "circling-the-island patrol"
Dec 2017	PLAAF	Sea of Japan	1st PLAAF flight into Sea of Japan and entered the Korean ADIZ
Dec 2017	PLAAF	Western Pacific	Supported by a Y-8 that continued on to circumnavigate Taiwan

Overwater Bomber Capabilities



SPECIAL TOPIC: XI JINPING'S INNOVATION-DRIVEN DEVELOPMENT STRATEGY

In May 2016, nearly a decade after China's strategic push towards indigenous innovation, Xi Jinping re-emphasized the importance of S&T innovation at a National S&T Innovation Conference, stating, "if science and technology flourish, the nation will flourish, and if science and technology are strong, the country will be strong." Xi's speech extolled indigenous S&T innovation as key to modernizing China's military, ensuring its national security, and ushering in sustainable socioeconomic development. S&T advances in the commercial sector are increasingly influencing China's future military modernization, as Xi pushes greater military-civilian collaboration.

- In early 2017, the Ministry of Science and Technology (MOST) and the Central Military Commission Science and Technology Commission jointly announced the "13th Five-Year Plan–Military-Civilian Fusion S&T Developmental Guide," a roadmap for military-civilian fusion efforts in the next five years.

- In October 2017, Xi Jinping highlighted at the 19th Party Congress the importance of the strategy to revitalize the country through science, education and innovation-driven breakthroughs and the strategy of military-civilian integrated development – both key to complete building a well-off society with a great Chinese military and a modernized economic system.

The ultimate goal of S&T modernization is to rejuvenate China by 2050 as an S&T powerhouse. For the next 30 years, China's leaders have arranged its innovation-driven development strategy into the following four major milestones:

2020: Advance domestic competence for global innovation competition. The ability to rank side-by-side with other innovation-driven countries remains a top priority under Xi Jinping. These development goals center on upgrading the industrial economy (including modern agriculture, clean and efficient energy, and 5th generation mobile telecommunications networks), building science innovation parks, and attracting top-tier researchers. China intends these projects to further advance China's global ranking and to strengthen defense technology development between the military and civilian sectors.

2025: Reduce reliance on foreign technology. In October 2015, China's State Council published the *Made in China 2025* plan, outlining development trajectories to establish and promote China-made components, create well-known Chinese brands, and increase the domestic and international market share in 10 strategic industries. The plan aims to develop internationally competitive leading enterprises; improve technical, equipment, and quality standards to international levels; and create a long-term industrial supply chain and perfect mass production. To achieve core technology breakthroughs, the plan incentivizes accumulating patents, increasing Chinese intellectual property, and establishing engineering platforms and collaborative innovation centers for S&T. The 10 strategic industries are:

1) New generation information technology;

2) High-grade machine tooling and robotics;
3) Aerospace equipment;
4) Marine engineering equipment;
5) Advanced rail transportation equipment;
6) New-energy automobiles;
7) Electric power equipment;
8) Agricultural equipment;
9) New materials; and,
10) Biomedicine.

2030: Make milestone contributions to the global scientific community. Striving to take the lead on breakthroughs in important S&T areas, China's 13th Five-Year Program outlines major S&T Innovation Projects for 2030 to benefit both the Chinese economy and its military. Projects include AI 2.0, national cyberspace security, aircraft engines and combustion turbines, quantum computing and quantum communication, advanced manufacturing, clean and efficient energy production, green technologies and environmental solutions, agriculture advances, biology and health, resource management in both space and ocean, and deep-earth exploration.

> China's AI 2.0 project moves beyond its focus with AI 1.0, which centered solely on discovering AI, to focus on the networking and intelligentization of the entire industry chain. In July 2017, China published a national AI blueprint that lays out its R&D trajectory to achieve major breakthroughs in the AI field and become the world's primary AI innovation center by 2030.

2050: Lead and dominate as the S&T powerhouse. China's long-term objective remains to become the global leader in innovative scientific development. Major milestones focus on S&T popularization by training S&T personnel, fostering a favorably education environment for cultivating S&T talent, and strengthening intellectual property protection. As Xi stated, "without generally raising the scientific quality of all the people, it will be difficult to establish a huge high-quality innovation army."

China's push for leadership in global S&T development comes at a time in which dual-use technology advances, applicable for both commercial and military purposes, increasingly occur in the commercial sector. This means that efforts by China to cultivate a broad base of S&T talent, particularly given its stated focus on dual-use sectors, will be relevant to China's military power in coming decades. Specific examples include advanced computing, essential for weapons design and testing; industrial robotics, potentially useful for improving weapons manufacturing; new materials and electric power equipment, which could contribute to improved weapon systems; next generation information technology, which could enable improved C4ISR and cyber capabilities; commercial directed energy equipment, which could contribute to the development of directed energy weapons; and artificial intelligence, which could contribute to next-generation autonomous systems such as missiles, swarming technology, or cyber capabilities.

APPENDIX I: CHINA AND TAIWAN FORCES DATA

Due to ongoing PLA restructuring of combat units, the characterization and numbers of units and systems are approximate, as units are in the process of forming, downsizing, reorganizing, or disbanding. Therefore, 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	***Eastern and Southern Theaters***	***Total***
Personnel (Active in Combat Units)	915,000	360,000	140,000
Group Armies/Army Corps	13	5	3
Combined Arms Brigades	78 (includes 5 with amphibious role)	30 (includes 5 with amphibious role)	NA
Mechanized Infantry Brigades	Transitioning to Combined Arms Brigades (see above)		3
Motorized Infantry Brigades			6
Armor Brigades			4
Air Assault/Army Aviation Brigades	13	5	4
Artillery Brigades	15	7	3
Airborne Brigades	6	6	0
Marine Brigades	7	4	2
Tanks	7,400	UNKNOWN	1,200
Artillery Pieces	10,600	UNKNOWN	2,300

Note: The 2017 chart focuses on PLA combat units and applies observed widespread changes in the new group armies to all group army units. The methodology applied for the new group army construct as the PLAA transitions to brigades is six combined arms brigades and one of each specialty brigade (army aviation/air assault and artillery) per group army. Some units are likely in the early stages of development and are not fully operational. Personnel numbers comprise group armies, marines, and airborne, including subordinate units not listed in the table.

Taiwan Strait Military Balance, Naval Forces

	China		Taiwan
	Total	*Eastern and Southern Theaters*	*Total*
Aircraft Carriers	1	0	0
Destroyers	28	20	4
Frigates	51	39	22
Corvettes	28	21	0
Tank Landing Ships/ Amphibious Transport Dock	33	30	13
Medium Landing Ships	23	17	0
Diesel Attack Submarines	47	32	2
Nuclear Attack Submarines	5	2	0
Ballistic Missile Submarines	4	4	0
Coastal Patrol (Missile)	86	68	44
Coast Guard Ships	240	UNKNOWN	23

Note: The PLAN has the largest force of principal combatants, submarines, and amphibious warfare ships in the region. 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, and could provide mission-critical assets to support other fleets. In conflict, China may also employ China Coast Guard and People's Armed Forces Maritime Militia ships to support military operations.

Taiwan Strait Military Balance, Air Forces

	China		Taiwan
	Total	*Eastern and Southern Theaters*	*Total*
Fighters	1,490	400	420
Bombers/Attack	530	190	0
Transport	400	UNKNOWN	30
Special Mission Aircraft	130	UNKNOWN	40

Note: The chart displays military aircraft only, but the PLAAF and PLAN may supplement military transports with civilian aircraft in a combat scenario. In the event of a major Taiwan conflict, aircraft numbers may be significantly increased by forward deploying aircraft from other theaters.

China's Rocket Force

System	*Launchers*	*Missiles*	*Estimated Range*
ICBM	50-75	75-100	5,400-13,000+ km
IRBM	16-30	16-30	3,000+ km
MRBM	100-125	200-300	1,500+ km
SRBM	250-300	1,000-1,200	300-1,000 km
GLCM	40-55	200-300	1,500+ km

APPENDIX II: MILITARY-TO-MILITARY EXCHANGES

U.S.-CHINA MILITARY-TO-MILITARY CONTACTS FOR 2017	
HIGH-LEVEL VISITS TO CHINA	***Month (2017)***
Chairman of the Joint Chiefs of Staff	August
HIGH-LEVEL VISITS TO UNITED STATES	
Southern Theater Commander	September
Deputy Chief of the Joint Staff Department	November
RECURRENT EXCHANGES	
Defense Policy Coordination Talks in China	January
Diplomatic and Security Dialogue	June
Military Maritime Consultative Agreement Working Group in China and the Plenary in the United States	May/ November
Army-to-Army Dialogue Mechanism	November
Joint Staff Dialogue Mechanism	November
Asia Pacific Security Dialogue	December
ACADEMIC EXCHANGES	
U.S. Air War College Delegation to China	February
U.S. National War College Delegation to China	April
PLA Air Force Command College to the United States	April
U.S. Marine Corps War College Delegation to China	May
U.S. National Defense University CAPSTONE to China	May
PLA Academy of Military Science Delegation to United States	November
FUNCTIONAL EXCHANGES	
USN Ship Visit (USS STERETT) to China	June
Peacekeeping Center Exchange to China	June
Disaster Management Exchange in the United States	November
JOINT AND MULTILATERAL EXERCISES	
KHAAN QUEST in Mongolia	July-August

U.S.-CHINA MILITARY-TO-MILITARY EXCHANGES PLANNED FOR 2018
HIGH-LEVEL VISITS TO CHINA
U.S. Senior Defense or Military Leader to China (TBD)
HIGH-LEVEL VISITS TO UNITED STATES
PRC Senior Defense or Military Leader to the United States (TBD)
INSTITUTIONALIZED EXCHANGES
Defense Policy Coordination Talks (TBD)
Joint Staff Dialogue Mechanism (TBD)
MMCA Plenary and Working Groups (TBD)
Disaster Management Exchange (TBD)
Defense Consultative Talks (TBD)
Asia-Pacific Security Dialogue (TBD)
ACADEMIC EXCHANGES
PRC Academy delegation to the United States (TBD)
U.S. NDU or Academy delegation to China (TBD)
FUNCTIONAL EXCHANGES
PLA Navy Ship Visit to the United States (TBD)
U.S. Navy Ship Visit to China (TBD)

APPENDIX III: ACRONYMS

A2/AD	Anti-access/area denial
AEW&C	Airborne early warning and control
AGI	Intelligence collection ship
AI	Artificial intelligence
ASBM	Anti-ship ballistic missile
ASCM	Anti-ship cruise missile
ASEAN	Association of Southeast Asian Nations
ASW	Anti-submarine warfare
BMD	Ballistic missile defense
BRI	Belt and Road Initiative
C2	Command and control
C4I	Command, control, communications, computers, and intelligence
C4ISR	Command, control, communications, computers, intelligence, surveillance, and reconnaissance
CAS	China Academy of Sciences
CASIC	China Aerospace and Science Industry Corporation
CCG	China Coast Guard
CCP	Chinese Communist Party
CG	Cruiser
CMC	Central Military Commission
DDG	Guided missile destroyer
DoD	U.S. Department of Defense
DPP	Democratic Progressive Party
EDD	Equipment Development Department
EEZ	Exclusive economic zone
EW	Electronic warfare
FFG	Guided-missile frigate
FFL	Corvette
GDP	Gross domestic product
GLCM	Ground-launched cruise missile
GPS	Global Positioning System
HA/DR	Humanitarian assistance/disaster relief
IADS	Integrated air defense system
ICBM	Intercontinental ballistic missile
ICT	Information and communications technology
IEA	International Energy Agency
IO	Information operations
INTERPOL	International police
IRBM	Intermediate-range ballistic missile

ISR	Intelligence, surveillance, reconnaissance
JLSF	Joint Logistics Support Force
JOCC	Joint Operations Command Center
JSD	Joint Staff Department
LACM	Land-attack cruise missile
LOSC	Law of the Sea Convention
LPD	Amphibious transport dock
LST	Tank landing ship
MaRV	Maneuverable reentry vehicle
MIRV	Multiple independently targeted reentry vehicles
MOOTW	Military operations other than war
MPS	Ministry of Public Security
MR	Military region
MRBM	Medium-range ballistic missile
MSS	Ministry of State Security
NFU	"No first use"
NSC	National Security Commission
NSFC	National Science Foundation of China
OTH	Over-the-horizon
PAP	People's Armed Police
PKO	Peacekeeping operations
PAFMM	People's Armed Forces Maritime Militia
PLA	People's Liberation Army
PLAA	PLA Army
PLAAF	PLA Air Force
PLAN	PLA Navy
PLANMC	PLA Navy Marine Corps
PLARF	PLA Rocket Force
PRC	People's Republic of China
R&D	Research and development
S&T	Science and technology
SAM	Surface-to-air missile
SLBM	Submarine-launched ballistic missile
SLOC	Sea lines of communication
SLV	Space Launch Vehicles
SOF	Special operations forces
SRBM	Short-range ballistic missile
SS	Diesel-powered attack submarine
SSBN	Nuclear-powered ballistic missile submarine
SSF	Strategic Support Force

SSN	Nuclear-powered attack submarine
SSP	Air-independent attack submarine
TRA	Taiwan Relations Act
UAV	Unmanned aerial vehicle
UCAV	Unmanned combat aerial vehicle
UGF	Underground facility
UN	United Nations
UNSCR	UN Security Council Resolution