



VOLUME 24 • ISSUE 21 • NOVEMBER 1, 2024

IN THIS ISSUE:

The Art of War: PRC Weaponizes Culture to Galvanize the People

By Arran Hope.....pp. 2–6

Joint Sword-2024B: Quarantining Key Ports and Seizing Comprehensive Superiority

By Cheng-kun Ma and K. Tristan Tang.....pp. 7–15

The PRC's Overcapacity Problem Depends on Who You Ask

By Ann Listerud.....pp. 16–20

PRC Adapts Llama for Military and Security AI Applications

By Sunny Cheung.....pp. 21–30

PRC-Manufactured Weapons Abound Among African Militant Groups

By Adam Roussele.....pp. 31–35

The Art of War: PRC Weaponizes Culture to Galvanize the People

By Arran Hope



Wang Huning delivers remarks at a conference to commemorate Confucius. (Source: [CPPCC](#))

Executive Summary:

- The Party sees culture as a tool to achieve its strategic ambitions both inside and outside the People's Republic of China (PRC). Speeches, articles, and conferences portray it as central to achieving national rejuvenation.
- Party discourse on culture is shot through with militaristic terminology. Not just echoing Mao-era rhetoric, this reflects Beijing's desire to "engineer souls" in pursuit of a strong nation.
- Artists, culture workers, and academics are perceived as pawns in a project to present the PRC globally as peaceful and prosperous, but the Party is aware of the deficiencies of its soft power.

In his 2003 book *From War To Nationalism: China's Turning Point 1924–5*, the historian Arthur Waldron noted that military modernization has been perhaps the single most important engine of change in China since the nineteenth century. [1] Two decades on, this observation seems truer than ever. Today, the Chinese Communist Party (CCP) is attempting to mobilize the population of the People's Republic of China (PRC) in preparation for battle, while pushing forward an ambitious agenda under the rubric of “modernization.” Underpinning these two interrelated programs is the Party's ideology, a prominent aspect of which is the place of culture and history—both that of the CCP itself and that of “Chinese civilization” more broadly. The clearest articulation of this in recent years has been the formal introduction of Xi Jinping Thought on Culture at last year's National Conference on Propaganda, Ideology, and Cultural Work ([People's Daily](#), October 9, 2023; [China Brief](#), October 20, 2023)

The last month has seen an effusion of writings and events by the Party on this very topic. Issue 20 of this year's volume of *Qiushi* (求实), the Party's flagship theory journal, was published on the occasion of the 10th anniversary of the “Symposium on Literary and Artistic Work (文艺工作座谈会),” and includes Party General Secretary Xi Jinping's speech from that event ([Qiushi](#), October 15).

The ninth meeting of the Standing Committee of the 14th National Committee of the Chinese People's Political Consultative Conference (CPPCC), held from October 9–11, was titled “Promoting Cultural Confidence and Self-Strengthening, and Forging a New Splendor of Socialist Culture (推进文化自信自强，铸就社会主义文化新辉煌)” ([CPPCC](#), October 28). “Self-strengthening (自强)” is of course a reference to the nineteenth-century “self-strengthening movement (自强运动)” that was geared toward modernizing the Qing and building up its military and industrial power. Two weeks later, the CPPCC looked even further back into China's past, co-hosting an event to celebrate the 2,575th anniversary of the birth of Confucius, under the theme “Confucianism: civilizational diversity and modernization” ([CPPCC](#), October 21).

Most recently, on October 28, the Politburo met in Beijing to hold a collective study session on building a strong cultural nation (建设文化强国) while, around 600 miles further south, the Fujian government co-hosted the “Second World Sinology Conference (第二届世界汉学家大会举行),” on the theme of “Understanding Chinese Civilization and Promoting World Modernization (读懂中华文明，携手促进世界现代化)” ([International Department](#), October 28). ([Xinhua](#), October 28).

The Party's current idea of “culture” can be traced across these articles and events. Ever the materialists, the Party views culture as a tool, or perhaps even a weapon, that can be marshaled, directed, and deployed, both at home and overseas, to “realize the Chinese Dream of the great rejuvenation of the Chinese nation (实现中华民族伟大复兴的中国梦)” ([Qiushi](#), October 15; [International Department](#), October 28). For Xi Jinping and the CCP leadership, culture is oftentimes merely a byword for a unified patriotism (or Party-otism), which can be used to buttress stability at home or burnish the regime's idealized narrative of prosperity and harmony abroad.

Militaristic Rhetoric Pervades Cultural Discourse

Militaristic rhetoric pervades much of the Party's language about art and culture. The theme of Monday's Politburo session, "building a strong cultural nation (建设文化强国)," is indicative of this. Artists are referred to collectively as a "cultural talent force (文化人才队伍)," and are told that they must "have the heart of competing to win (要有竞胜之心)," while Xi argues that art criticism must have "combat power (战斗力)" to be persuasive (*Qiushi*, [October 15a](#); [October 15b](#); [October 15c](#); [Xinhua](#), October 28).

This is because the Party, at its core, remains an organization forged in war. Its insistence on promoting its own hagiographic cultural history underscores this. A separate *Qiushi* article in the issue highlights a concert that took place in Beijing in recent weeks to celebrate the country's 75th anniversary, whose program included the Yellow River Cantata (黄河大合唱). Composed in 1939 during the Chinese People's War of Resistance against Japan and first performed in Yan'an, the contemporary assessment of the work was that "one chorus is worth 100,000 Mausers (一曲大合唱, 可顶十万毛瑟枪)." This line is still repeated today ([Qiushi](#), October 15).

Another *Qiushi* article from the latest issue, authored by the journal's editorial board, also underscores this point. It starts by recalling former CCP Chairman Mao Zedong's May 1942 speech at the Yan'an Literary and Artistic Symposium in the midst of the war—the first time that the Party's ideas on literature and art were systematically expounded ([Qiushi](#), October 15). Mao's speech, which introduced the Yan'an Rectification Campaign (the first internal purge of the CCP), made clear that literature and art must "become a component part of the whole revolutionary machine, operate as powerful weapons for uniting and educating the people and for attacking and destroying the enemy, and help the people fight the enemy with one heart and one mind (成为整个革命机器的一个组成部分, 作为团结人民、教育人民、打击敌人、消灭敌人的有力的武器, 帮助人民同心同德地和敌人作斗争)" ([Marxists.org](#), accessed October 31). Xi's 2014 speech—which the editorial board's article follows—refers back to Mao's, emphasizing the ideological and historical throughline and thus the importance of weaponizing culture as a battlefield against the enemy ([Qiushi](#), October 15).

The return to martial language is most apparent in an article by the Party Organization of the Party China Literary Federation (中共中国文联党组) ([Qiushi](#), October 15). In a subsection titled "Casting the Soul of the Nation: The Fundamental Task of Literary Creation (铸造民族灵魂: 文艺创作的根本任务)," the authors double down on the idea of literature and art as "the engineering of the soul (铸造灵魂的工程)," and of literary and art workers are "the engineers of the soul (文艺工作者是灵魂的工程师)." [2] This language, which comes from Stalin via Mao, is a potent metaphor for how the Party sees those in the culture industry.

Patriotism is Failing to Inspire

PRC artists are, according to the Party, perpetually forging the Chinese nation. Thus, patriotism lies at the heart of its desired cultural products. As the *Qiushi* editorial board highlights, in the ten years since Xi's 2014

speech, major artworks have centered on themes such as fighting poverty alleviation, building a moderately prosperous society in all aspects, on major risks and challenges such as fighting the new crown epidemic, and on sports events such as the Beijing Winter Olympics and the Hangzhou Asian Games, as well as on the realization of the people's aspirations for a better life and the Chinese Dream of the great rejuvenation of the Chinese nation. The International Department similarly notes that artists should “make patriotism the main theme of their literary and art creations (把爱国主义作为文艺创作的主旋律)” and “carry forward the spirit of China, unite the strength of China ... to march into the future with vigor (弘扬中国精神 ... 朝气蓬勃迈向未来)” ([International Department](#), October 28). Despite suggestions by the CPPCC to look at the “Korean Wave(韩流)” or at Al Jazeera to learn lessons in how to improve cultural soft power, the prescribed (and proscribed) topics on offer are unlikely to lead to the “creation of excellent works worthy of the times (创作无愧于时代的优秀作品),” as Xi envisages ([Qiushi](#), October 15; [CPPCC](#), October 28).

The image the Party wishes to portray abroad, however, is undercut by the means it intends to use. The coverage of the World Sinology Conference provided by the International Department suggested that, “as sinologists, they are willing to actively disseminate Chinese culture, promote exchanges and mutual understanding between Chinese and foreign civilizations, enhance mutual understanding and trust, promote the implementation of the three major global initiatives, and join hands to build a better world (作为汉学家, 愿积极传播中华文化, 促进中外文明交流互鉴, 增进相互理解和信任, 推动落实三大全球倡议, 携手建设更加美好的世界)” ([International Department](#), October 28). This is instructive on two levels. Not only has the Party quite literally spoken for foreign academics who study China here, but it has also betrayed its view of what sinology, as a discipline, ought to entail. Namely, regurgitating CCP talking points and propaganda narratives.

One problem with tying culture ever more closely to the nation-building project is that, in the Party's lexicon of official rhetoric, the word culture increasingly becomes devoid of any real substantive content. Instead, it can be seen as yet another ideological box to tick, whose importance comes from its repeated association with whatever other ideological terms are salient. This is why one *Qiushi* article links culture to this year's favorite buzzword, calling for “cultivating new quality productive forces in the field of culture (培育文化领域新质生产力),” while others link it to modernization (the theme of this year's Third Plenum) and to building the Global Civilization Initiative and the Community of Common Destiny (*Qiushi*, [October 15](#); [October 15b](#)).

The Party's martial rhetoric, which will doubtless become increasingly enflamed next year during the 80th anniversary of the end of the Chinese People's War of Resistance against Japan, is at odds with the image that the PRC wishes to project abroad of itself as a peaceful civilization ([Xinhua](#), October 29). At the second World Sinology Conference this month, the head of the International Department, Liu Jianchao (刘建超), made the astonishing—if unsurprising—claim that Chinese civilization “possesses a ‘history gene’ that values peace (有以和为贵的历史基因)” ([International Department](#), October 28).

One suspects that some of the literary workers at *Qiushi* understand cognitive dissonance here too. The editorial board's article includes a famous quote from an essay by the early twentieth-century writer Lu Xun

(鲁迅): “Literature and art are the fires from which the national spirit glows, and at the same time the lamps that guide the future of the national spirit (文艺是国民精神所发的火光，同时也是引导国民精神的前途的灯火)” ([Qiushi](#), October 15). Out of context, it makes for a rousing call for the arts to support the national project. But in the context of the essay in which it originally appears, another reading emerges. “*On Looking at Things with Eyes Wide Open* (論睜了眼看)” was written in the wake of the Shanghai massacre of 1925 and is full of critical language that could easily be redirected to critique the Party today ([Wikisource](#), accessed October 31). Lu writes, “The world is changing day by day, and the time has long since come for our writers to take off their masks, to look at life sincerely, deeply, and boldly, and to write about it in all its flesh and blood (世界日日改變，我們的作家取下假面，真誠地，深入地，大膽地看取人生並且寫出他的血和肉來的時候早到了).” He finishes the essay by saying that the contemporary culture only contains “eulogies of iron and blood (鐵和血的贊頌),” and laments that under the political label of “patriotism,” the eyes of so-called critics are closed once again, if they were not closed all along. Next year will be the centenary of Lu’s essay, yet his diagnosis still echoes across history, remaining just as salient today.

Arran Hope is the editor of China Brief.

Notes

[1] Arthur Waldron. *From War To Nationalism: China’s Turning Point 1924–5*. Cambridge University Press, 2003. Dr. Waldron is a board member at The Jamestown Foundation.

[2] This topic is treated at length by John Garnaut in an August 2017 talk titled “Engineers of the Soul: What Australia Needs to Know about Ideology in Xi Jinping’s China” ([Sinocism](#), January 16, 2019).

Joint Sword-2024B: Quarantining Key Ports and Seizing Comprehensive Superiority

By Cheng-kun Ma and K. Tristan Tang



The *Liaoning* aircraft carrier that participated in the Joint Sword-2024B exercise. (Source: [Wikipedia](#))

Executive Summary:

- The Joint Sword-2024B exercise on October 14 focused on quarantining Taiwan's ports and establishing sea and air superiority. It showcased the ability of the People's Liberation Army (PLA) to coordinate maritime control with China Coast Guard (CCG) assets.
- "2024B" was the fourth exercise in the last three years. Each has moved progressively closer to Taiwan and increased in intensity—October 14 saw the PLA Air Force conduct at least 153 sorties, the highest in a single day, and the exercise involved the most naval vessels of any to date.
- CCG vessels activated their AIS tracking signals, in a bid to intimidate, but also to routinize their patrols as part of the PRC's jurisdictional claims in the Taiwan Strait.

From 5:01 a.m. local time onward on October 14, information releases emerged from state media outlets in the People's Republic of China (PRC) concerning the “Joint Sword-2024B (联合利剑-2024B)” exercise. These asserted that the People's Liberation Army (PLA) Eastern Theater Command had organized forces from the army, navy, air force, and rocket force to conduct operations in the Taiwan Strait, as well as in the northern, southern, and eastern waters surrounding Taiwan. The key areas of focus for the exercise, according to the reports, included “sea-air combat-readiness patrol, a blockade on important ports and areas, an assault on maritime and ground targets, and joint seizure of comprehensive superiority (海空战备警巡、要港要域封控、对海对陆打击、夺取综合制权),” all aimed at testing the joint operational capabilities of theater forces ([Xinhua](#), October 14; [China Military Online](#), October 14).

A 8:00 a.m. on the same day, the China Coast Guard (CCG; 中国海警局) simultaneously released information on its official website and Weibo account, indicating that four groups of CCG vessels conducted patrol operations around Taiwan ([China Coast Guard](#), October 14; [Weibo/China Coast Guard](#), October 14). At 6:06 p.m. that evening, Xinhua News Agency announced that the PLA Eastern Theater Command had successfully concluded the exercise ([Xinhua](#), October 14).

This exercise was anticipated. The inauguration of Taiwan's President Lai Ching-te (赖清德) in May was also followed by a military exercise. Labeled “Joint Sword-2024A,” it implied follow-up exercises later in the year, as analysts noted at the time ([China Brief](#), July 26). A week prior to the most recent exercise, Reuters reported that internal security memoranda from Taiwan's government indicated that its leadership believed Beijing might attribute the exercise to perceived “provocations” in President Lai's National Day speech on October 10 ([Reuters](#), October 7). His speech was consequently met with criticism from various PRC government departments ([China Brief](#), October 18). A day before the exercise, national security officials in Taiwan privately informed local media that they had already detected unusual military activities by the PLA and assessed the likelihood of imminent exercises as high, prompting preemptive preparations. These unusual activities included the PLA aircraft carrier *Liaoning* transiting eastward through the Bashi Channel into the Pacific, as well as four CCG vessels from the East China Sea Sub-Bureau navigating southward from Taiwan's northeastern waters (LTN, [October 13](#); [October 17](#)).

Exercise Rehearses Seizure of Comprehensive Superiority

Some of the four areas of focus outlined by PRC authorities have been observed in previous exercises. These include sea-air combat-readiness patrols and assaults on maritime and ground targets. Other aspects are relatively new, such as the blockade on key ports and areas and the joint seizure of comprehensive superiority. As such, these latter areas of focus warrant particular attention.

The quarantine on key ports appears to have been the primary focus of this military exercise. The PLA Navy (PLAN; 中国海军) was responsible for carrying out the blockade against naval vessels. The CCG, meanwhile, conducted quarantine operations targeting non-military ships with a view to controlling maritime traffic and inspecting cargo entering and leaving Taiwan's ports.

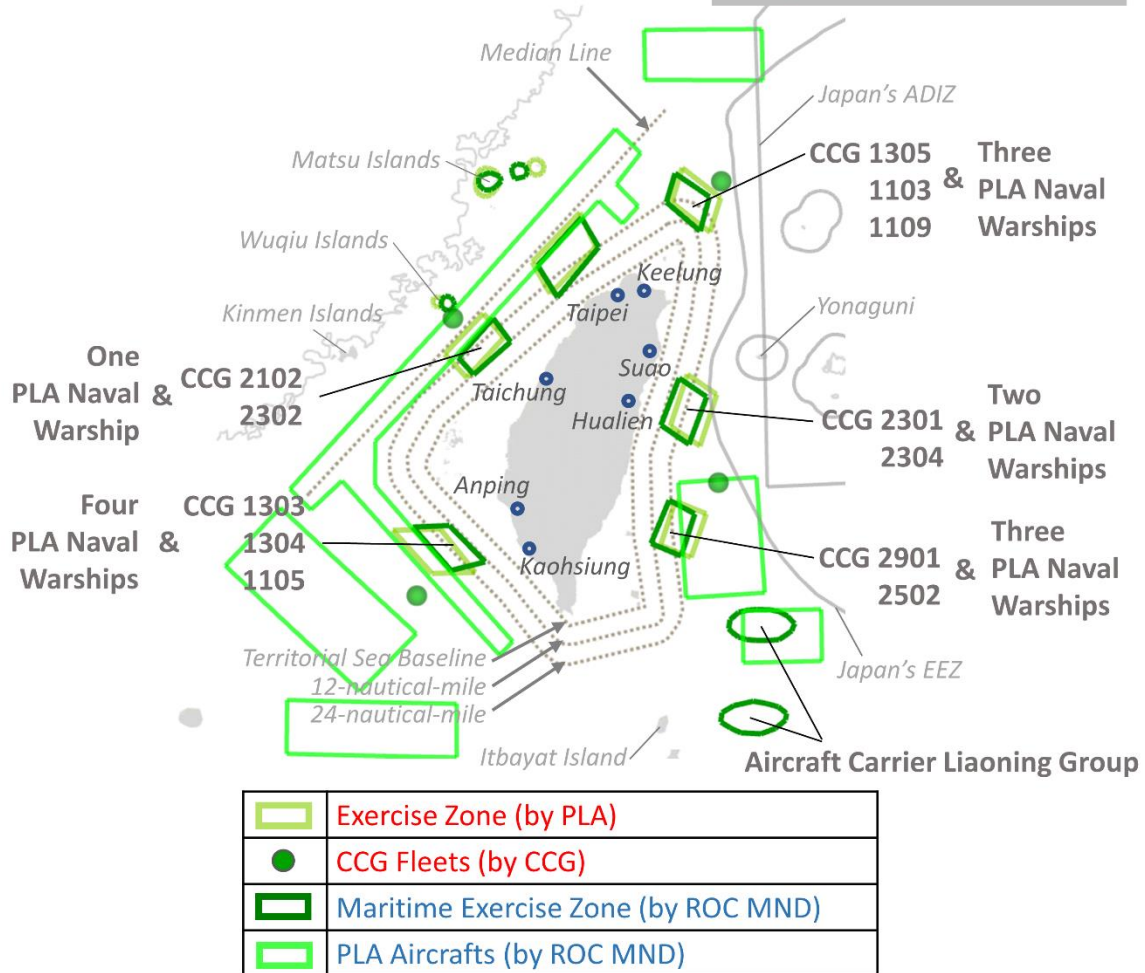
The Joint Sword-2024B exercise encompassed a total of six operational areas in Taiwan's northern, northwestern, southwestern, and eastern regions, and involved four Coast Guard vessel formations, according to images released by Xinhua News Agency and the CCG ([Xinhua](#), October 14; [CCG](#), October 14).

To accomplish the objective of blockading and quarantining key ports, the operational zones were located outside Taiwan's international commercial ports, which include Keelung, Taipei, Taichung, Anping, Kaohsiung, Hualien, and Su'ao ([Executive Yuan](#), March 29). An update on the exercise released by the Ministry of National Defense (MND) of the Republic of China (ROC) as of 4:00 p.m. on October 14, along with subsequently published information on PLA aircraft activities on the morning of October 15, is shown in Figure 1 below ([LTN](#), October 14; [MND](#), October 15).

Figure 1: Locations of PLA Joint Sword-2024B Military Exercises Around Taiwan

Source: ROC MND's press release, CNA News and AIS Data.
Latest Update: 11:59 p.m. Taipei Time on October 15th, 2024

RCDA Research Project on
China's Defense Affairs



(Source: RCDA)

According to automatic identification system (AIS) data, six CCG vessels belonging to the first division of the East China Sea Sub-Bureau were tasked with quarantining the ports of Keelung, Kaohsiung, and Anping. They effectively demonstrated their ability to control the southeastern and northern ends of the median line in

the Taiwan Strait. Additionally, among the six CCG vessels from the second division of the East China Sea Sub-Bureau, two patrolled within the Taiwan Strait, while four thousand-ton-class vessels (including the over ten-thousand-ton CCG 2901) were assigned to patrol the eastern waters of Taiwan. This suggests that one of the PRC's aims was to showcase and practice the ability of CCG vessels to coordinate with the PLAN in quarantining Taiwan from international maritime traffic, with specific vessels from different divisions and of varying tonnage designated for exclusive missions.

The concept of a “blockade on key areas” has been widely discussed in the past, but Joint Sword-2024B represented a culmination of the PLA's efforts to seize critical locations for an assault on Taiwan, at a scale unseen in previous iterations of the exercises. For a long time, Taiwan's air and naval forces have regarded the eastern part of the island as a key area for force preservation. For instance, the ROC Air Force has established cave hangars in Hualien and Taitung—the latter intended to house the 66 new F-16 Block 70 aircraft purchased from the United States. Meanwhile, the ROC Navy intends to relocate its forces to the eastern waters of Taiwan prior to the onset of cross-strait war ([CNA](#), September 23, 2019; [LTN](#), July 22; [RW News](#), May 13, 2022).

The deployment of PLA forces in eastern Taiwan is intended to demonstrate the capability of the PRC's air and naval forces to control that area. During the exercise, the PLAN had eight vessels operating in the eastern waters of Taiwan, alongside the aircraft carrier *Liaoning* and at least two destroyers from the *Liaoning* group, which are positioned east of the Bashi Channel ([LTN](#), October 14; [Ministry of Defense of Japan Joint Staff Office](#), October 15).

The PLA Northern Theater Command also participated in the exercise. Since September, a naval formation consisting of two destroyers, one frigate, and one supply ship has been conducting a mission around Japan. On October 14, this formation navigated to within approximately 100 nautical miles east of the *Liaoning* task force, and did not proceed northward through the Miyako Strait back to the East China Sea until October 15, following the end of the exercise ([Joint Staff of Japan](#), October 15). It is unclear what purpose it served, though it is possible it simulated an adversary for the *Liaoning* group. Regardless of the reason for its involvement, the presence of at least 15 PLAN vessels in the eastern waters of Taiwan on October 14—equivalent to over half of Taiwan's naval fleet of 26 destroyers and frigates—constituted a number of vessels and level of combat power far exceeding what is usually found around in the area. This indicates that Taiwan's intended force preservation zone must now contend with the threat of numerous PLA vessels during wartime, resulting in a severe compression of available combat power and posing a substantial threat to the likelihood of successful naval relocation operations.

Joint Sword-2024B involved almost all elements of operations to seize comprehensive superiority. Aside from electromagnetic and land superiority, which were difficult to observe in this exercise, the PLA clearly focused on establishing maritime and air superiority. The PLA Air Force (PLAAF) conducted at least 153 sorties (the highest in a single day recorded by Taiwan) in the vicinity of the island, with aircraft active in western Taiwan from 5:00 a.m. to just before 9:00 p.m.—roughly 16 continuous hours of PRC aircraft presence.

The exercise sought to enhance the realism of an operation to “seize comprehensive superiority.” PLA aircraft were launched from second-line—rather than frontline—airfields in the PRC, flew directly to designated locations near Taiwan, and then returned to their original or alternate airfields. This approach rehearsed a

contingency in which frontline airfields are targeted and destroyed in the event of conflict, requiring the use of second-line airfields to ensure operational stability and safety. For the main combat aircraft, this exercise was conducted using a “full payload, full ammunition, and full fuel (全挂载、全弹量、全油量)” configuration. Upon returning to base, the aircraft immediately underwent ammunition unloading, the reloading of various munitions, and refueling, before swiftly flying back out to conduct military operations within Taiwan’s air defense identification zone (ADIZ). This operational model allows for “up to five resupply missions for attacks on Taiwan, depending on the mission type of each aircraft,” according to people familiar with the matter ([RW News](#), October 17).

The deployment of naval assets from the Northern Theater Command’s Navy alongside those from the Eastern Theater Command indicates efforts to seize maritime superiority. Beyond the four vessels mentioned above, the Northern Theater Command’s contribution included two destroyers from the *Liaoning* carrier group itself. In total, 20 naval vessels were observed, including 15 in the eastern waters of Taiwan, and five in its western waters. Coupled with the PRC’s significant number of land-based anti-ship missiles, the deployment of 20 PLAN ships suggests that any plan for an assault on Taiwan would first involve the incapacitation of the Taiwanese Navy, before establishing comprehensive maritime control.

The PRC’s discussion of comprehensive superiority also encompasses the cognitive domain. The Political Work Department of the PLA views cognitive operations as crucial to its military strategy, considering it to be foundational to achieving other forms of superiority and, therefore, comprehensive superiority. Mastering cognitive superiority equates to controlling the critical junctures of battlefield authority, and is seen as the “key to victory (走向胜利的 ‘命门’)” ([China Brief](#), September 6, 2019; [PLA Daily](#), April 19, 2022).

Throughout most of the exercise, 11 of the 12 CCG ships involved continued to transmit their AIS signals (CCG 2901 only activated its AIS when departing the eastern waters of Taiwan after completing its mission). This is in stark contrast to the previous “Joint Sword” exercise in May, where none did so. Keeping their trackers on during the latest exercise served two purposes. First, the deliberate activation of AIS allowed the PRC to broadcast to the world the PRC’s ability to quarantine Taiwan, while also intimidating Taiwanese citizens. Second, as a country’s official vessels may activate AIS during lawful routine enforcement, doing so in this case allows the PRC to assert the legitimacy of its actions and continue to normalize its claims of “jurisdiction” over the waters surrounding Taiwan ([China Brief](#), September 20). Of note, the effectiveness of the CCG’s quarantine operations relies heavily on the presence and support of the PLAN, as CCG inspections and patrol missions can only be carried out unhindered and without risk when the PLAN is able to blockade other naval forces.

‘2024B’ Saw Increase in Intensity, Proximity to Taiwan

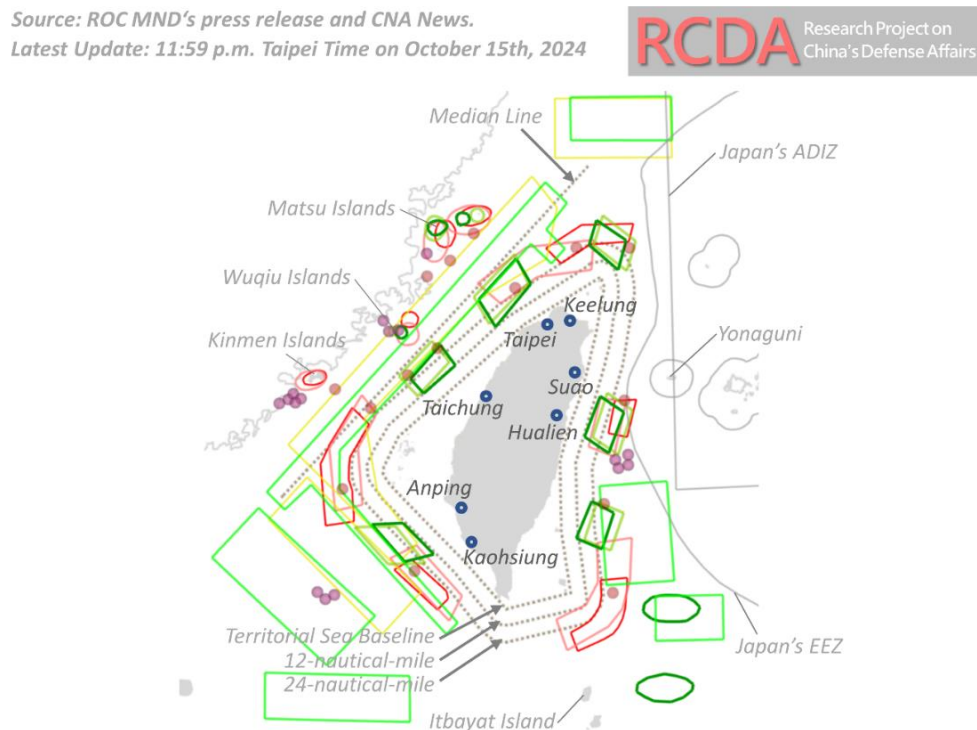
A comparison of Joint Sword-2024B with three other PLA military exercises around Taiwan that have occurred since 2022 shows that each exercise has had different objectives. These include the two other “Joint Sword” exercises in April 2023 and May 2024, as well as those that followed Speaker of the US House of Representatives Nancy Pelosi’s trip to Taiwan in August 2022.

There are important elements of continuity between the first and second rounds of exercises in 2024, as both belong to successive phases of PLA operations around Taiwan, but each has had different areas of focus.

The principal aim of the “2024A” exercise was to seize the initiative in the Taiwan Strait battlefield, with specific training content aimed at joint precision strikes on critical land, air, and maritime targets, as well as penetrating areas close to Taiwan’s air and maritime jurisdictional zones (CCTV, May 23). This represented the initial phase of an invasion of Taiwan, where swift action would be necessary to incapacitate Taiwan’s military capabilities.

Both of this year’s exercises also focused on seizing comprehensive superiority. However, the intensity of efforts in this direction was notably higher in the more recent exercise. For instance, the 153 sorties by the PLAAF on a single day in “2024B” far exceeded the maximum of 62 sorties in “2024A.” Exercise “2024A” also did not involve the participation of any PLA aircraft carrier group.

Figure 2: Locations of PLA Joint Sword-2024B and Joint Sword-2024A Military Exercises Around Taiwan



2024 May		Exercise Zone (by PLA)
		Exercise Zone (by ROC MND)
	●	PLA Navy Vessels (by ROC MND)
	●	CCG Vessels (by ROC MND)
		PLA Aircrafts (by ROC MND)
2024 October		Exercise Zone (by PLA)
		Maritime Exercise Zone (by ROC MND)
		PLA Aircrafts (by ROC MND)

(Source: RCDA)

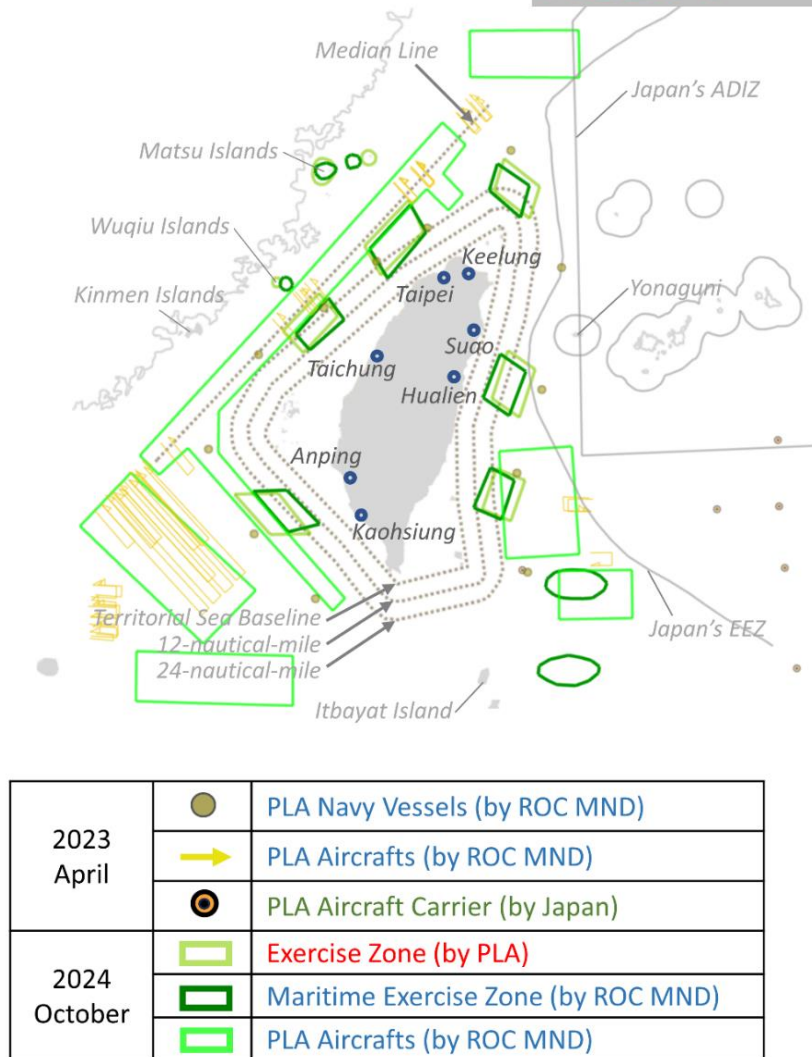
The focus on executing a blockade of ports and key areas after achieving a certain level of maritime and aerial superiority was also absent in the earlier exercise. During “2024A,” CCG ships did not explicitly patrol outside Taiwan’s international ports, nor did they activate their AIS to demonstrate the enforcement of their “jurisdiction.” Rehearsal of these aspects was much more deliberate during “2024B.”

Figure 3: Locations of PLA Joint Sword-2024B and 2023 Joint Sword Military Exercises Around Taiwan

Source: ROC MND’s press release and CNA News.

Latest Update: 11:59 p.m. Taipei Time on October 15th, 2024

RCDA Research Project on
China’s Defense Affairs



(Source: RCDA)

The first “Joint Sword” exercise, held in April 2023, also shared elements in common with the two successive sets of exercises. As in “2024B,” last year’s exercise featured the *Shandong* aircraft carrier task force conducting anti-access/area denial (A2/AD) operations in the Western Pacific. However, the most recent exercise took place much closer to Taiwan than those in 2023. This was primarily because the 2023 exercise

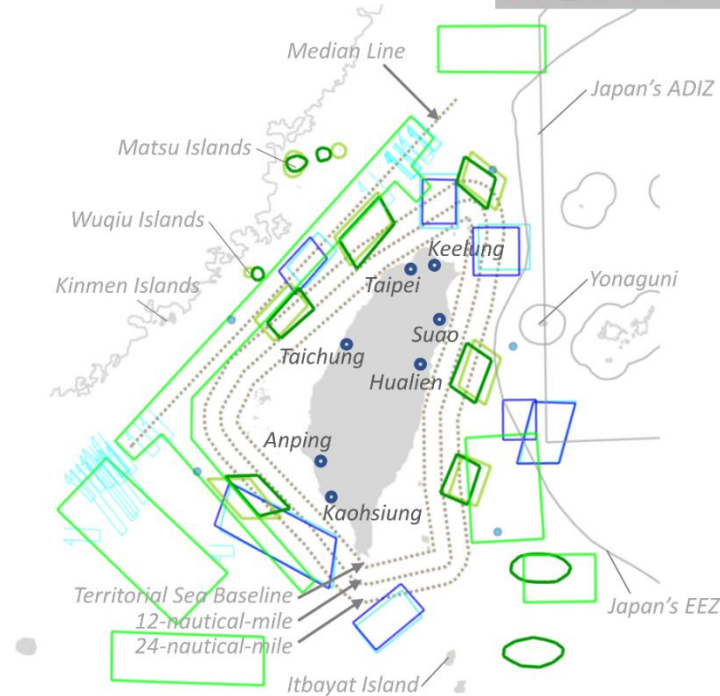
was focused on creating an all-around pressure situation by having the PLAN and PLAAF synchronize their operations to conduct patrols surrounding Taiwan, and to coordinate in the eastern waters of Taiwan with the *Shandong* aircraft carrier group located in the Philippine Sea ([People's Daily](#), April 11, 2023). In other words, the objective for 2023 was to achieve control over A2/AD operations “beyond Taiwan” in the Pacific. This meant emphasizing precise strikes and multidimensional control capabilities, which resulted in PLAN vessels being stationed further from Taiwan to deter external intervention. In contrast, “2024B” focused on port and area control, and so was directed “toward Taiwan,” with air, naval, and CCG forces deployed at closer ranges to the island.

Figure 4: Locations of PLA Joint Sword-2024B and the August 2022 Military Exercises Around Taiwan

Source: ROC MND's press release and CNA News.

Latest Update: 11:59 p.m. Taipei Time on October 15th, 2024

RCDA Research Project on
China's Defense Affairs



2022 August		Exercise Zone (by PLA)
		Exercise Zone (by ROC MND)
		PLA Navy Vessels (by ROC MND)
		PLA Aircrafts (by ROC MND)
2024 October		Exercise Zone (by PLA)
		Maritime Exercise Zone (by ROC MND)
		PLA Aircrafts (by ROC MND)

(Source: RCDA)

Of the three exercises, the one conducted around Taiwan in August 2022 did the most to instill fear among the Taiwanese populace, aiming to deter public support for Taiwanese independence. The PLA Rocket Force launched 11 Dongfeng-15 missiles at Taiwan's northern, eastern, and southern regions to assess precision strike and area denial capabilities ([CNA](#), August 4, 2022; [Xinhua](#), August 4, 2022; [China Brief](#), August 12, 2022). Subsequently, the PLA Eastern Theater Command continued to conduct realistic joint training operations in the northern, southwestern, and eastern air and maritime domains surrounding Taiwan, aimed at enhancing joint operational capabilities between theater commands. At this early stage, the language used in official PRC media depicted the exercises as being conducted for training purposes and focusing on improving core combat capabilities ([Xinhua](#), August 5, 2022). This differs from the more mature training exercise seen in "2024B." Reviewing the arc of the PRC's military exercises over the last three years shows that each has progressively moved closer to Taiwan. As such, although the most recent exercise had the shortest duration, the pressure on Taiwan's space and the degree of military threat may be judged to have been at its highest. Notably, during the Joint Sword-2024A exercise, the operational areas published by Taiwan were farther from the island than those announced by the PLA itself. In contrast, those reported by Taiwan for the "2024B" exercise were closer to the island than those disclosed by the PLA.

Particularly concerning is the CCG's increasing claims to "jurisdiction" in Taiwan's waters, whereby Taiwan's maritime traffic is subject to investigation by PRC vessels. Another worrying development is that the force preservation zone for Taiwan's air and naval forces in the eastern region is no longer secure. This constitutes a severe threat to Taiwan, both in peacetime and during potential conflict—a marked change from previous years.

Conclusion

The three "Joint Sword" exercises to date have been unified in their focus on training for an assault on Taiwan. This continuity suggests that subsequent exercises in this series could further test the PRC's real combat capabilities related to amphibious assault operations against Taiwan. Already, the PLA's joint readiness patrols frequently involve 5,000-ton-class Type 072 amphibious landing ships ([LTN](#), October 17). In the future, should the PLA conduct larger-scale amphibious landing operations, it may deploy Type 075 amphibious assault ships to conduct multidimensional landings aimed at seizing Taiwan's offshore islands, rather than merely focusing on traditional amphibious landings.

The views expressed are solely those of the authors and do not represent the positions of the National Defense University, the Ministry of National Defense, or the government of ROC (Taiwan).

Cheng-kun Ma is a professor at the National Defense University, ROC (Taiwan), and the director of the Research Project on China's Defense Affairs (RCDA). His research focuses on the People's Liberation Army and China's security strategy. Dr. Ma holds his Ph.D. in political science from the National Taiwan University.

K. Tristan Tang is a research associate at the Research Project on China's Defense Affairs (RCDA). His research focuses on China's defense industry, the People's Liberation Army, and Chinese foreign policy.

The PRC's Overcapacity Problem Depends on Who You Ask

By Ann Listerud



Electrical Vehicle assembly line in a PRC factory. (Source: [Zhihu](#))

Executive Summary:

- Senior Party and government officials have identified overcapacity as a major economic challenge, but state media have instead downplayed or denied its existence, framing concerns from the West as politically motivated.
- Regional governments have traditionally addressed overcapacity through top-down restrictions, but this strategy now conflicts with technological development goals, complicating policy implementation.
- Conflicting national signals on overcapacity have left regional policymakers cautious to address the issue directly, as misalignment with either national-level directives or media narratives could risk officials' careers.
- Overcapacity's real economic impact is visible in industries like construction materials, where demand collapse has caused job losses and pessimism, showcasing the long-term negative consequences of unchecked industrial growth.

Top economic policy makers have explicitly identified “overcapacity (产能过剩)” as one of the foremost challenges facing the economy of the People’s Republic of China’s (PRC). At the Central Economic Work Conference held in December 2023, overcapacity was singled out as a key obstacle that must be addressed for economic recovery, alongside issues like insufficient demand ([Xinhua](#), December 12, 2023). In his 2024 Government Work Report at the National People’s Congress, Premier Li Qiang (李强) referenced “overcapacity” twice: first, when listing core economic challenges, including household income stagnation and employment pressures; and second, when advising new and emerging industries to guard against overcapacity and improve efficiency ([Xinhua](#), March 12). High-level Party documents of this kind are instances in which every word is meticulously chosen and serve as a signal of nationwide policy priorities. The references to overcapacity in two of the most important economic policy documents from the last year indicate how seriously the PRC’s economic planning leadership views this as a problem.

This diagnosis is in stark contrast to most state-published political commentaries from the last few months, which have asserted that there is no overcapacity problem. This narrative has emerged in response to international criticism from the United States and Europe, as well as from Global South countries such as Chile, India, Indonesia, and Thailand ([South China Morning Post](#), April 23; [Business Standard](#), June 27; [CNN Indonesia](#), July 5; [Bangkok Post](#), August 28). These countries have voiced concern that the PRC’s focus on boosting manufacturing capacity in a variety of sectors through policy support will negatively affect their own homegrown industries and are therefore moving to introduce targeted tariffs on imports from the PRC.

In May, the Party’s flagship newspaper, the *People’s Daily*, published an editorial by Zhong Caiwen (钟才文) on page two arguing that “without any factual basis, the United States is doing the utmost to exaggerate the PRC’s so-called ‘overcapacity’ problems in its new energy sector (在缺乏事实依据的情况下，美国极力渲染所谓中国新能源‘产能过剩’论调),” aiming to undermine the PRC’s competitiveness in strategic and emerging industries, and persuading other countries to follow suit ([People’s Daily](#), May 12). [1] Similarly, state media outlet Xinhua published an analysis in June contending that Western accusations of “overcapacity” constitute “a malicious means of using political tricks to force an intervention in the market (是以政治手腕强行干预市场的恶劣做法),” and are “a common maneuver to contain emerging countries’ attempts to achieve rapid growth (遏制新兴国家‘弯道超车’的常用伎俩)” ([Xinhua](#), June 27). Other editorials similarly framed the overcapacity narrative as politically motivated. The *China Economic Daily* published a commentary titled “Refuting the Theory of China’s Overcapacity in New Energy (再驳‘中国新能源产能过剩论’),” while another Xinhua piece was titled “The China Overcapacity Theory is a False Proposition” ([Xinhua](#), April 11; [China Economic Daily](#), May 13).

Editorials in the *People’s Daily* and Xinhua are not just propaganda but wield significant influence in guiding regional governments on development policy and priorities. The contradictory messaging between these articles and high-level policy documents is likely to confuse those tasked with implementing policy at the local level.

Defining Overcapacity

Popular and scholarly definitions of overcapacity in PRC literature are very similar to those used by their overseas counterparts. A concise definition agreed upon within American discourse is that overcapacity is “too much product (and too much production capability) chasing too few buyers” ([Harvard Business School](#), February 1, 1999). This is mirrored in definitions used by PRC writers and theorists. Journalists at Xinhua define overcapacity as occurring when an industry’s production capacity overshoots market demand ([Xinhua](#), April 11). Director of the Central Party School’s Economics Department Zhao Zhenhua (赵振华) writes that overcapacity is not just supply in a particular industry far exceeding demand, but when this situation persists over a prolonged period ([Study Times](#), June 23, 2014).

The core cause of overcapacity is also more or less agreed upon both inside and outside the PRC. Rhodium Group, a private research firm based in the United States, describes structural overcapacity as being “when companies maintain or grow their unused capacity without worrying about making a profit (or a loss), often due to a lack of economic pressure to operate efficiently, like a hard budget constraint” ([Rhodium Group](#), March 26). Zhao Zhenhua would agree with this definition. In 2014, he wrote that overcapacity in the PRC “is the result of the combined effects of blind expansion of enterprises and blind intervention of the government (是企业盲目扩张和政府盲目干预共同作用的结果),” and that to manage overcapacity “we need to make full use of the invisible hand of the market economy, and the government does not need to intervene (需要充分运用市场经济这只看不见的手，政府无须干预)” ([Study Times](#), June 23, 2014).

Professor Zhu Ning (朱宁), vice president of the Shanghai Advance Institute of Finance (SAIF) at Shanghai Jiaotong University, would agree with Zhao. In an op-ed published in 2016, Zhu wrote that overcapacity in the PRC’s steel, automotive, and photovoltaic sectors arose when local governments all formed development plans centered around the same set of industries, spurring rapid investment over a short period of time. Incentives and guarantees given by local and central government institutions within these sectors create moral hazard, which impacts the risk appetites of private investors and further exacerbates growth. Zhu recommends curbing overcapacity through a combination of increased coordination between local governments to prevent overfocus in single industries and increasing market-driven lending and investment practices ([SAIF/FT Chinese](#), April 11, 2016).

Even today, there is still room for debate concerning new technologies and emerging industries. Chen Yuyu (陈玉宇), a Peking University professor and director of its Institute of Economic Policy, recently gave an interview in which he said that at the launch of new industries such as cloud computing or AI, while supply clearly outstrips demand, it would be wrong to describe investment in those fields as “overcapacity” as there is no traditional demand curve to drive early development ([Guanghua School of Management](#), June 25). Meanwhile, Sun Yat-sen University Professor Sun Xingjie (孙兴杰) dismissed concerns about overcapacity in the green energy sector earlier this year, arguing that this sector in particular has required massive up-front government support to be fostered in other parts of the world too, citing historical examples in Germany and the United States ([Guangming Daily](#), May, 9).

Behind each of these arguments lurks the unspoken question of who gets to decide the fate of enterprises. Both Zhao and Zhu were writing at a time when the rhetoric of financial policy within the PRC was focused on opening up the banking sector and state-owned enterprises to increased market pricing and competition. Furthermore, domestic consumption at the time was still on the rise and there was little concern that international consumption would contract. Today, the internal and external contexts have changed, with consumption at a standstill and international trade pressures mounting. This has significantly reduced the political will to lessen the government's role in local industrial planning.

Regional Governments Struggle to Tackle Overcapacity

Policymakers have traditionally employed a top-down approach to managing overcapacity, first identifying industries exerting excess pressure and then limiting government approval for new business licenses in those sectors. For example, in 2014 the Shandong provincial government sought to reduce overcapacity in industries such as steel and cement by mandating government offices at all levels halt approval for new capacity projects, environmental assessments, new lines of credit, and production licenses ([NDRC](#), January 28, 2014).

Current development policies must now strike a balance between technology advancement goals and overcapacity management. Shandong's 2024 photovoltaic development policy begins with a growth commitment to Shandong's photovoltaic industry to surpass 30 billion renminbi (\$4.2 billion) by 2025, and ends by emphasizing the need for government offices to control and prevent excess capacity in the sector ([Shandong Provincial Government](#), July 4). Meanwhile, less high-profile industries continue to follow the traditional top-down approach. For example, the Hunan Department of Commerce has instructed local governments to address overcapacity in automotive recycling through increased planning and the management of local recycling needs ([Hunan Department of Commerce](#), May 17).

Challenges in Tackling Overcapacity Today

With national-level directives pulling regional policymakers in opposite directions, it is no surprise that industrial policies are hesitant to address overcapacity directly. Policymakers must carefully navigate the competing priorities outlined by Li Qiang and the Central Economic Work Conference while also considering the *People's Daily* editorials that dismiss overcapacity concerns in key industries. Straying too far to either side could expose individual policymakers to criticism for not aligning with national-level guidance, potentially jeopardizing their careers.

Beyond political signals, substantial incentives exist for channeling resources into a few key industries. Frontline sectors can attract local and national grant funding or venture capital, while new industries generate jobs, particularly for young graduates, helping to alleviate unemployment pressures. Equally important is hope, which can provide a short-term boost to the economy, as optimism about future prospects encourages people to spend, borrow, and start new businesses.

The real impact of overcapacity in traditional industries is already spilling over into the real economy. In October, China Mining News reported that the abrupt halt in housing construction has led to a sharp decline

in secondary industries such as sand and gravel mining. During the construction boom, provinces with natural advantages in gravel production, such as Guangdong, Henan, and Zhejiang, as well as less advantaged regions such as Guangxi, Gansu, and Xinjiang, opened large-scale mines to supply construction materials. Now, with a sudden drop in demand and limited export opportunities, mining companies are aggressively bidding for the few remaining production contracts ([China Mining News](#), October 11).

Conclusion

The state of construction materials industries illustrates the fallout that follows the initial boost from “all in” industrial policies. Early gains in employment and market optimism are soon replaced by job losses and growing pessimism. Yet policymakers have limited space to explore creative solutions as they navigate the competing priorities they must balance. For now, there are no simple solutions to address the PRC’s overcapacity issue. Given the current political climate, even discussing it remains a challenge.

Ann Listerud is a research analyst specializing in China’s economy and financial policymaking, and co-director of the Latinx China Network. She formerly worked for Strider Intelligence, Sayari Analytics, Trivium China, and the US–China Economic and Security Review Commission. She holds a Master’s degree in International Affairs from the UC San Diego School of Global Policy and Strategy.

Notes

[1] *People’s Daily* editorials are often published under code names for specific government offices or for high-profile topics. The name “Zhong Caiwen” is likely a high-profile pen name rather than an individual person, with a handful of *People’s Daily* editorials discussing economic policies starting in January 2024. For more on *People’s Daily* editorial pen names, see [China Media Project](#), June 23, 2022.

PRC Adapts Llama for Military and Security AI Applications

By Sunny Cheung

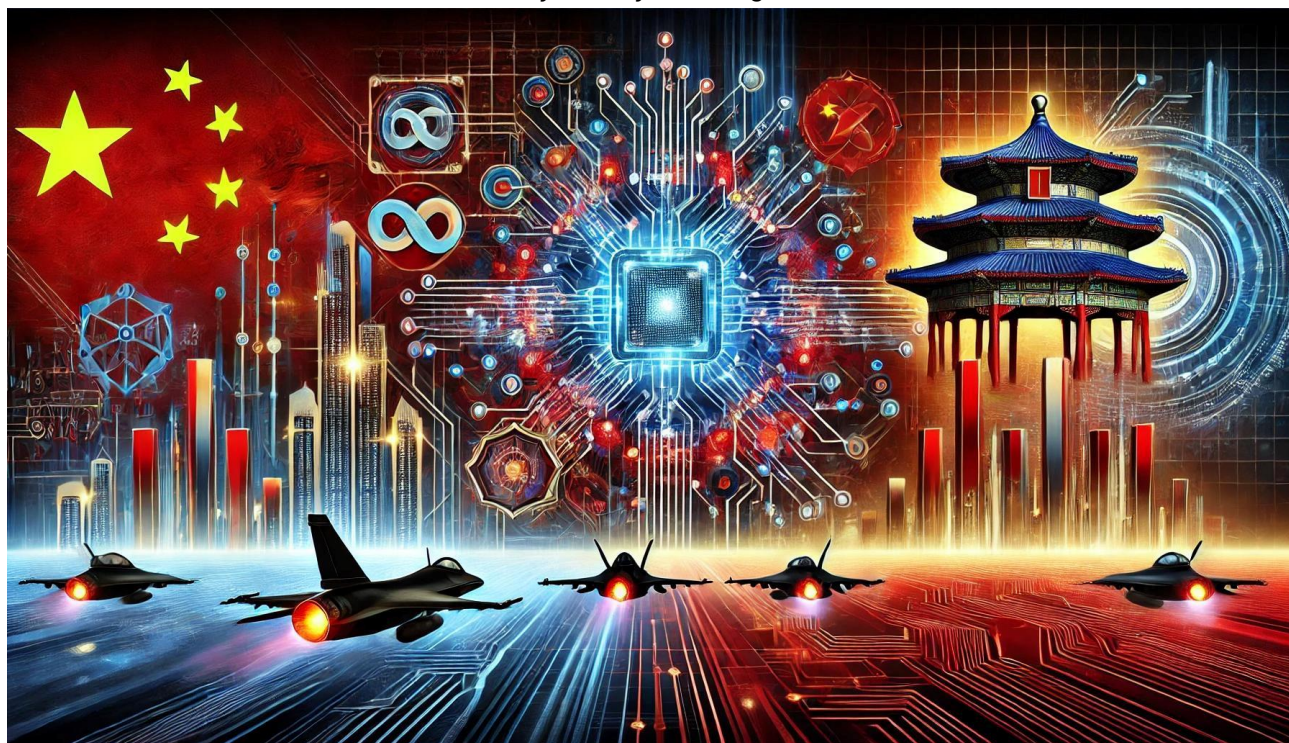


Illustration of the PLA's ambitions of harnessing AI technologies for military purposes. (Source: AI-generated image)

Executive Summary:

- Researchers in the People's Republic of China (PRC) have optimized Meta's Llama model for specialized military and security purposes.
- ChatBIT, an adapted Llama model, appears to be successful in demonstrations in which it was used in military contexts such as intelligence, situational analysis, and mission support, outperforming other comparable models.
- Open-source models like Llama are valuable for innovation, but their deployment to enhance the capabilities of foreign militaries raises concerns about dual-use applications. The customization of Llama by defense researchers in the PRC highlights gaps in enforcement for open-source usage restrictions, underscoring the need for stronger oversight to prevent strategic misuse.

In September, the former deputy director of the Academy of Military Sciences (AMS), Lieutenant General He Lei (何雷), called for the United Nations to establish restrictions on the application of artificial intelligence (AI) in warfare ([Sina Finance](#), September 13). This would suggest that Beijing has an interest in mitigating the risks associated with military AI. Instead, the opposite is true. The People's Republic of China (PRC) is currently leveraging AI to enhance its own military capabilities and strategic advantages and is using Western technology to do so.

The military and security sectors within the PRC are increasingly focused on integrating advanced AI technologies into operational capabilities. Meta's open-source model Llama (Large Language Model Meta AI) has emerged as a preferred model on which to build out features tailored for military and security applications. In this way, US and US-derived technology is being deployed as a tool to enhance the PRC's military modernization and domestic innovation efforts, with direct consequences for the United States and its allies and partners.

PLA Experts' Vision for Military AI

The PRC's 2019 National Defense White Paper, titled "China's National Defense for the New Era (新时代的 中国国防)," notes that modern warfare is shifting toward increasingly informationized (信息化) and intelligentized (智能化) domains, demanding advances in mechanization, informationization, and AI development ([Xinhua](#), July 24, 2019).

AI development in the military has accelerated in direct response to the demands of intelligent warfare, which itself has been propelled by recent technological advances. Experts from AMS and the People's Liberation Army (PLA) have highlighted several key capabilities that AI systems must achieve to meet the PLA's evolving military needs. First, large AI models must enable rapid response and decision-making to enhance battlefield situational awareness and support command functions. This includes autonomous mission planning and assisting commanders in making informed decisions under complex conditions. Strengthening the fusion of information from multiple sources is also seen as crucial, using AI to integrate data from satellite feeds, cyber intelligence, and communication intercepts. This is then used to deepen intelligence analysis and support joint operations, as highlighted by the PLA Joint Operation Outline (中国人民解放军联合作战纲要), which entered its trial implementation phase in 2020 ([MOD](#), November 26, 2020). [1]

Military AI is also being applied extensively to cognitive and psychological warfare (*China Brief*, [September 6, 2019](#); [September 8, 2023](#); [June 21](#)). Generative AI models can be deployed to produce media content to influence narratives, conduct strategic influence campaigns, and undermine an adversary's morale, according to AMS experts. [2] Large Language Models (LLMs) like ChatGPT can also rapidly integrate diverse information sources to enhance military intelligence analysis. With strong language processing capabilities, they can simplify data extraction, support real-time translation, and transform complex data into actionable insights, aiding military personnel in decision-making on the modern battlefield.

Experts within the military apparatus, including top defense industry players like the China Electronics Technology Group (CETC; 中国电子科技集团), are currently working on AI to enhance cybersecurity and network threat detection. One paper authored by employees at CETC argues that AI models can play a pivotal role in identifying and countering cyber threats and establishing robust early-warning systems to fortify military communication networks. [3] Another area of focus is predictive maintenance and supply chain management. Here, AI can be used to anticipate equipment failures and streamline supply logistics. This optimization is critical for the PLA's sustained operational readiness, especially during prolonged engagements.

PLA experts are prioritizing the development of smaller, more “lightweight” AI models for deployment in resource-constrained environments like frontline operations. These models must be robust and capable of performing effectively with limited computational power, making them suitable for edge devices—small computers or sensors that can process data and operate without relying on distant servers. The Aiwu Large Model (艾武大模型) is a good example of this. According to one research paper, Aiwu offers cross-platform compatibility on both manned and unmanned systems, and can execute diverse mission tasks under challenging conditions. [4]

PLA experts consider military AI to be a foundational asset that must be highly adaptable, capable of integrating multimodal data and supporting autonomous decision-making in a wide range of tactical and strategic contexts. This approach stems from the understanding that future warfare will demand intelligent systems capable of processing real-time data, making proactive decisions, and synthesizing information from diverse sources. [5]

PRC Researchers Adapt Llama to Meet Military Demands

The potential that PRC researchers see in Meta's Llama model lies in the flexibility and efficiency of its foundational model. This makes it useful for adaptation to various military and security systems. [6] A recent iteration, Llama 3.1, was launched in July and was described as having “capabilities that rival the best closed source models” ([Meta](#), July 23). (Llama 3.2 was released on September 25, and so has not yet been treated in relevant research.) As an open-source model, developers and researchers can modify and innovate on top of it. PRC security researchers have focused on adapting it for multilingual dialogue, high-quality code generation, and complex mathematical problem-solving. [7] They argue that the transformer model—an architecture for deep learning models that powers text-generating models like OpenAI's ChatGPT, Meta's Llama, and Google's Gemini—enhances performance in tasks such as information summarization, threat analysis, and decision-making support that are crucial for defense and public safety ([ACM](#), December 4, 2017). [8]

PRC researchers have also identified several limitations in Llama that they believe should be addressed before it can be optimized for military use. A primary concern is that Llama relies on open-source training data, which is largely general-purpose and lacks specificity for military contexts. [9] This leads to biases and limited domain-specific knowledge, particularly in areas of military strategy and security operations. In addition, the scarcity of comprehensive Chinese-language data restricts Llama's ability to fully grasp linguistic

nuances in Chinese-language communication, including the cultural context of specific utterances. [10] To overcome these challenges, PLA experts have implemented different techniques involving advanced data collection, computational techniques, and algorithmic improvements. These efforts have enabled Llama to adapt to understand Chinese-language military terminology and tactics

Researchers Explore Techniques to Adapt Llama

PRC researchers have employed a number of strategies to fine-tune Llama for military and security applications. One approach involves constructing domain-specific datasets, which includes gathering military-specific dialogue records, building data corpora from classified documents, integrating real-time operational data, and incorporating direct feedback from military personnel. [11] Other techniques include Low-Rank Adaptation (LoRA), reinforcement learning, multimodal integration, and infrastructure upgrades.

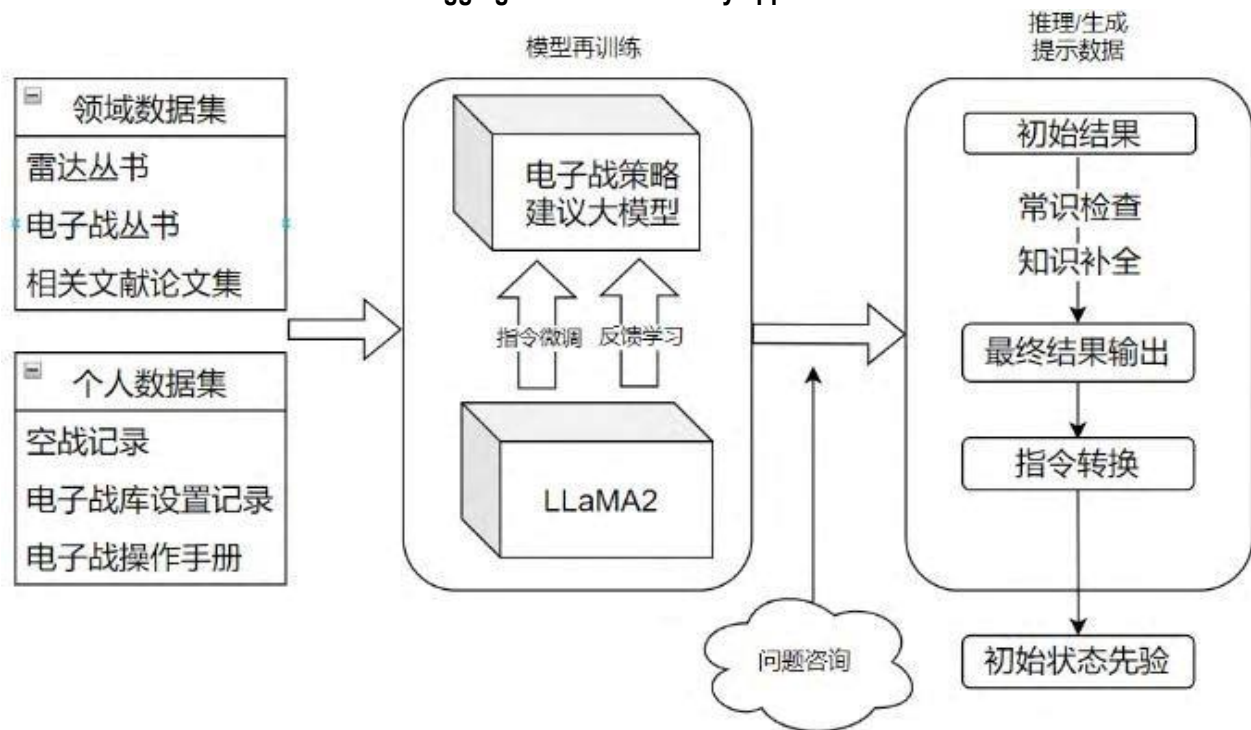
LoRA has become a crucial strategy for customizing Llama. LoRA enables researchers to build specialized models based on Llama—for instance, by adding additional matrices to existing model layers to adjust the model's responses in a targeted way, thereby negating the need to retrain the entire model (which could be time-consuming and expensive). This approach allows the model to retain its core abilities while adapting to military-specific terminology, coded signals, and context-sensitive decision-making with minimal resource use. This balance makes LoRA suitable for adapting Llama to meet the demands of military applications. [12]

Reinforcement learning involves fine-tuning models by reiterating training runs with tailored feedback to optimize responses. To further optimize Llama, researchers use Direct Preference Optimization (DPO), which involves presenting the model with examples of high- and low-quality responses, enabling it to learn to prioritize the former. Applied over a period of time, reinforcement learning allows Llama to adjust its responses dynamically and adapt to evolving situations. [13]

Researchers have optimized infrastructure through distributed computing and hybrid algorithms to meet Llama's computational demands. Certain techniques allow large AI models to run efficiently on devices with limited processing power by carefully reducing model size, memory needs, and computational requirements. For example, quantization compresses the model by using fewer bits per parameter, which saves memory without much loss in performance; while the Mixture-of-Experts (MoE) approach activates only select portions of a model based on the specific task, so only relevant parts are engaged during processing, which makes computation faster and less resource-intensive ([Researchgate](#), June). [14]

Some experts have applied techniques like Reinforcement Learning from Human Feedback (RLHF) to fine-tune LLMs to better align with human preferences in simulated environments. Specifically, RLHF helps models tailor their outputs to meet user expectations. In simulated military training exercises, this has optimized an LLM's ability to perform scenario-specific tasks like decision-making and behavioral responses. This process also ensures the model's alignment with specific communication and behavioral styles within these simulated contexts, enhancing the model's realism and relevance for military operations. [15]

Figure 1: Experts from the AVIC illustrate the data flow and processing stages involved in training and debugging Llama 2 for military applications.



(Source: Peng Haojie et al. "Optimization of Air Combat Self-Defense Jamming Strategy Training Driven by Large Language Models." See endnote [17])

Llama-Based Models Deployed for Predictive Policing and Electronic Warfare

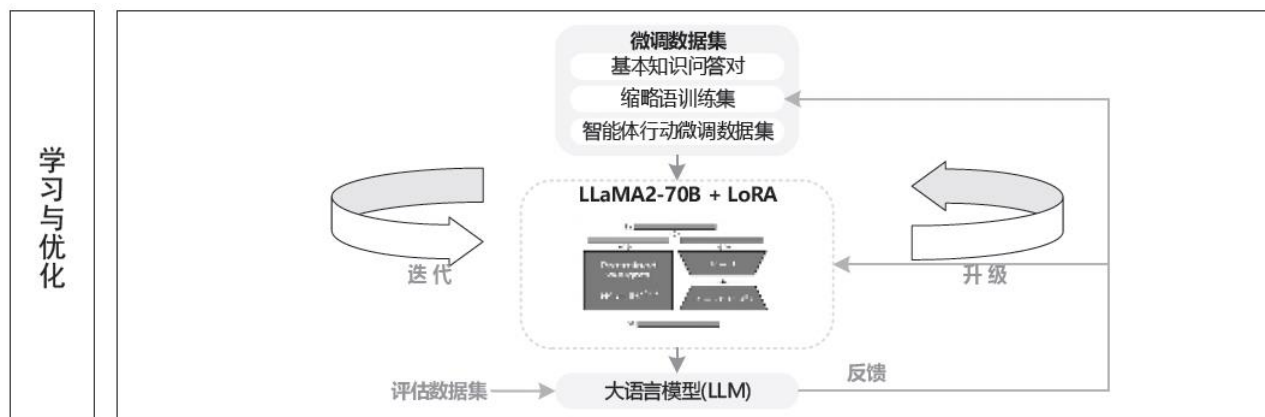
Experts from PRC's security sector see Llama-based models as having huge potential to enhance smart policing (智慧警务). Specifically, these models could improve situational awareness and decision-making by streamlining administrative tasks and providing predictive insights to prioritize police responses. In theory, by extracting important information from reports, generating incident summaries, and classifying events, Llama can enable officers to focus more on handling emergencies in the field. Implementation of these techniques is currently being studied, for instance in Yueqing, Zhejiang Province. The model's ability to process vast and various data sources, including social media posts, surveillance transcripts, and crime records, makes it an effective tool for proactive and data-driven law enforcement. [16]

In the military domain, Llama is being studied to explore the potential for LLMs to support electronic warfare and self-defense jamming strategies, including by experts from the Aviation Industry Corporation (AVIC; 中国航空工业集团), one of the PRC's top defense conglomerates. Integrated with reinforcement learning agents (AI models designed to learn how to make decisions by studying their environment and improving their actions to achieve a specific goal), Llama is used to implement a dual-level approach to maximize efficiency. At the strategic level, Llama determines optimal parameters for disrupting enemy radar systems, while reinforcement learning agents execute real-time tactical adjustments to counter adversary maneuvers. One simulation run by the AVIC researchers using Llama 2 as the base LLM demonstrated that this

combined approach improved interference strategy reward scores by approximately 25–31 percent. In other words, the new LLM system led the agent to execute more successful jamming strategies and reduced ineffective actions. [17]

Llama 2, released by Meta in partnership with Microsoft in July 2023, has been adapted for use in military simulations, specifically in the simulation of computer-generated forces (CGF). The model supports autonomous decision-making, behavior simulation, and adaptive environment responses. At the strategic level, Llama 2 processes and analyzes complex environmental data, enabling agents to make optimized, mission-aligned decisions; while on the tactical level, Llama 2 provides diverse behavioral scripts, allowing agents to execute coordinated actions and respond to real-time battlefield dynamics, such as terrain, adversary movements, and situational threats. This dual-layered integration with CGF agents creates a realistic simulation environment where agents can autonomously respond and adapt to dynamic conditions, helping enhance PLA training programs and improve their decision-making capacities. [18]

Figure 2: Illustration from a paper by NORINCO researchers of a learning and optimization loop for training a Llama 2-70B.



(Source: Lee, Guangyun et al., "Research on the Application of Large Language Model in Computer-Generated Forces." See endnote [18])

ChatBIT: A Llama-Derived Model for Military Intelligence

PLA-affiliated experts have been optimizing Meta's Llama's 13B model, which is based on Llama 2, for military and security purposes. This model, which features 13 billion parameters and a training corpus of one trillion tokens, outperforms GPT-3 on various benchmarks ([Huggingface](#), October 28). The model was introduced by Meta researchers in early 2023 in the paper "Llama: Open and Efficient Foundation Language Models" ([Arxiv](#), February 27, 2023).

Using Llama-13B as a foundation, researchers from AMS have developed "ChatBIT," a model tailored for open-source intelligence (OSINT) and military dialogue tasks. [19] ChatBIT appears to be a powerful model, outperforming Vicuna-13B—another Llama-13B-based model developed at Stanford University that allegedly achieved roughly 90 percent of GPT-4's performance—on military-relevant benchmarks such as BLEU and ROUGE that assess translation accuracy and summarization quality ([LMSYS Org](#), March 30, 2023; [Elastic](#),

December 1, 2023). Comparative evaluations consistently suggest that ChatBIT outperforms models like Vicuna-13B on these metrics, highlighting its effectiveness in accurately interpreting nuanced military contexts and ensuring high-fidelity responses. [20]

AMS researchers provide an example of ChatBIT outperforming other models on pertinent tasks. For instance, when asked about the United States Army Research Laboratory, ChatBIT delivered a comprehensive and accurate response detailing the lab's focus on AI, cybersecurity, and drone technology. Vicuna-13B, the model it was tested against, provided an incorrect response. [21] Similarly, when tasked with explaining “combat power contribution rate and combat effectiveness correlation”—metrics for evaluating weapons systems—ChatBIT offered an in-depth analysis, whereas Vicuna-13B only gave a superficial explanation. AMS experts argue that ChatBIT's impressive performance in these tasks demonstrates its readiness for deployment in military Q&A, situational analysis, and operational support tasks.

Figure 3: Image from a paper by AMS researchers demonstrating the training process of ChatBIT, which is based on Meta's Llama.

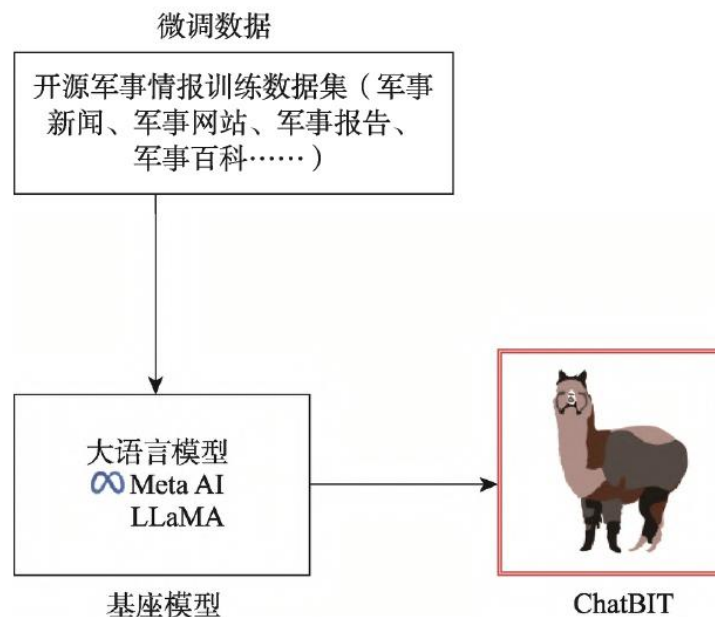


图1 ChatBIT的训练流程

Figure 1 The training process of ChatBIT

(Source: Zhang Huaping et al., “Large Language Model-Driven Open-Source Intelligence Cognition.” See endnote [19])

Conclusion

Meta initially released Llama as an open-source model to support research and non-commercial use; however, the PLA's adaptation of Llama to build models such as ChatBIT illustrates the problems of a trust-based approach to releasing technology into the global commons. Although Llama comes with license agreements that expressly forbid using the software for military purposes, these have proven ineffective in preventing the PLA and affiliated researchers from doing exactly that ([Huggingface](#), accessed October 28). In

practice, these restrictions act as “paper tigers”—stipulations that lack enforceability and fall short of holding entities like the PLA accountable.

The PRC has adapted Meta’s Llama for military and security purposes that are improving the country’s national defense capabilities. Through advanced techniques like LoRA, reinforcement learning, and multimodal integration, PRC researchers have transformed Llama into a tool to meet the intricate demands of military and public security applications. This work underscores the PRC’s commitment to developing AI systems that are integrated, adaptive, and capable of autonomous operation across diverse applications, from predictive policing to electronic warfare.

Open-source LLMs like Llama can accelerate innovation and provide valuable tools across sectors, but they also pose risks if not carefully managed. Without oversight, such technologies can be modified for malicious purposes and used in ways that are contrary to developers’ original intentions. These technologies’ dual potential for both innovation and misuse highlights the importance of balanced oversight to maximize the benefits of open-source AI while mitigating risks associated with strategic misapplication.

Sunny Cheung is an associate fellow for China Studies and deputy editor of China Brief at The Jamestown Foundation.

Notes

[1] Zhang Long [张龙], Lei Zhen [雷震], Feng Xuanming [冯轩铭], Yan Xiaopei [阎晓培], Chen Renping [陈仁平]. “Military MLLMs (Multimodal Large Language Models): Applied Analysis, Key Technologies, and Evaluation System Framework.” [军事大模型: 应用分析、关键技术和评估体系框架], 2024.

[2] Zhao Qingtian [赵擎天], Liwei Li [李立伟], Xin Chen [陈鑫], Lizhi Hou [侯立志]. “Requirements and Enlightenment about ChatGPT in Military Applications.” [ChatGPT+ 军事应用需求与启示]

[3] Ji Pengfei [季鹏飞], Hua Songyi [华松逸], Zhang Yuchen [张煜晨], Xiao Mengmeng [肖蒙蒙], Yu Bingchen [余炳晨]. “Current Development Status of Military Large Models and Analysis of Computing Infrastructure Requirements.” [军事大模型发展现状与算力基础设施需求分], *Journal of Dual Use Technologies & Products* [军民两用技术与产品], June 2024, Issue No. 488.

[4] Cui Xiaolong [崔翊龙], Gao Zhiqiang [高志强], Ji Weitong [姬纬通], Shen Jianan [沈佳楠], Zhang Min [张敏], Qiu Xinyuan [邱鑫源]. “Aiwu Large Model+: Development and Empirical Study of Military Large Model System.” [“艾武大模型+”: 一种军事大模型系统的开发与实证], *Journal of Data Acquisition and Processing* [数据采集与处理], Vol. 39, No. 3, May 2024, pp. 588–597.

- [5] Zhang Long [张龙], Lei Zhen [雷震], Feng Xuanming [冯轩铭], Yan Xiaopei [阎晓培], Chen Renping [陈仁平]. "Military MLLMs (Multimodal Large Language Models): Applied Analysis, Key Technologies, and Evaluation System Framework." [军事大模型: 应用分析、关键技术和评估体系框架], 2024.
- [6] Huang Jie [黄洁]. "Insights of Llama 3.1 for the Development of China's AIGC Industry." [Llama 3.1 对我国 AIGC 产业发展的启示], China Outsourcing, 2024, Issue 08.
- [7] Xu Weijun [徐卫军], Deng Hongfei [邓宏飞], Jia Yaofeng [贾耀锋]. "Exploration and Practice of Large Model Technology in Smart Policing." [大模型技术在智慧警务的探索与实践], China Security and Protection [中國安防], June 2024.
- [8] Ibid.; Zhao Qingtian [赵擎天], Liwei Li [李立伟], Xin Chen [陈鑫], Lizhi Hou [侯立志]. "Requirements and Enlightenment about ChatGPT in Military Applications." [ChatGPT+ 军事应用需求与启示]
- [9] Cheng Shi [程式], Ye Chunyang [叶春阳]. "Challenges and Reflections on the Application of Artificial Intelligence Technology in the Construction of 'Smart Public Security'—Based on the Practical Exploration of Yueqing Police Force." ["智慧公安" 建设中人工智能技术应用的挑战与思考——基于乐清公安的实践探索], *Journal of Zhejiang Police College* [浙江警察学院学报], August 2024, No. 4, Ser. No. 204.
- [10] Cui Xiaolong [崔翥龙], Gao Zhiqiang [高志强], Ji Weitong [姬纬通], Shen Jianan [沈佳楠], Zhang Min [张敏], Qiu Xinyuan [邱鑫源]. "Aiwu Large Model+: Development and Empirical Study of Military Large Model System." ["艾武大模型+": 一种军事大模型系统的开发与实证], *Journal of Data Acquisition and Processing* [数据采集与处理], Vol. 39, No. 3, May 2024, pp. 588–597.
- [11] Xu Weijun [徐卫军], Deng Hongfei [邓宏飞], Jia Yaofeng [贾耀锋]. "Exploration and Practice of Large Model Technology in Smart Policing." [大模型技术在智慧警务的探索与实践], China Security and Protection [中國安防], June 2024.
- [12] Zhang Huaping [张华平], Li Chunjin [李春锦], Wei Shunping [魏顺平], Geng Guotong [耿国桐], Li Weiwei [李伟伟], and Li Yugang [李玉岗]. "Large Language Model-Driven Open-Source Intelligence Cognition" ["大语言模型驱动的开源情报认知认领"], National Defense Technology [国防科技], March 2024. 3.
- [13] Peng Haojie [彭皓杰], Zhang Wengyu [张文宇], Chen Ruihai [陈锐海], Zhang Qiyue [张启悦]. "Optimization of Air Combat Self-Defense Jamming Strategy Training Driven by Large Language Models." ["大语言模型驱动的空战自卫干扰策略训练优化"], *Journal of Detection & Control* [探测与控制学报], October 2024.
- [14] Cheng Shi [程式], Ye Chunyang [叶春阳]. "Challenges and Reflections on the Application of Artificial Intelligence Technology in the Construction of 'Smart Public Security'—Based on the Practical Exploration of

Yueqing Police Force.” [“智慧公安” 建设中人工智能技术应用的挑战与思考——基于乐清公安的实践探索], *Journal of Zhejiang Police College* [浙江警察学院学报], August 2024, No. 4, Ser. No. 204.

[15] Lee, Guangyun [李广运], Chen, Delei [陈德雷], Yuan, Yafei [袁亚飞]. “Research on the Application of Large Language Model in Computer-Generated Forces.” [大模型在计算机生成兵力中的应用研究] Funded by National Natural Science Foundation (00000000); National High Technology Research and Development Program (863 Program) (2008AA000000); Zhang Long [张龙], Lei Zhen [雷震], Feng Xuanming [冯轩铭], Yan Xiaopei [阎晓培], Chen Renping [陈仁平]. “Military MLLMs (Multimodal Large Language Models): Applied Analysis, Key Technologies, and Evaluation System Framework.” [军事大模型: 应用分析、关键技术和评估体系框架], 2024

[16] Xu Weijun [徐卫军], Deng Hongfei [邓宏飞], Jia Yaofeng [贾耀锋]. “Exploration and Practice of Large Model Technology in Smart Policing.” [大模型技术在智慧警务的探索与实践], *China Security and Protection* [中國安防], June 2024; Cheng Shi [程式], Ye Chunyang [叶春阳]. “Challenges and Reflections on the Application of Artificial Intelligence Technology in the Construction of ‘Smart Public Security’—Based on the Practical Exploration of Yueqing Police Force.” [“智慧公安” 建设中人工智能技术应用的挑战与思考——基于乐清公安的实践探索], *Journal of Zhejiang Police College* [浙江警察学院学报], August 2024, No. 4, Ser. No. 204.

[17] Peng Haojie [彭皓杰], Zhang Wengyu [张文宇], Chen Ruihai [陈锐海], Zhang Qiyue [张启悦]. “Optimization of Air Combat Self-Defense Jamming Strategy Training Driven by Large Language Models.” [“大语言模型驱动的空战自卫干扰策略训练优化”], *Journal of Detection & Control* [探测与控制学报], October 2024.

[18] Lee, Guangyun [李广运], Chen, Delei [陈德雷], Yuan, Yafei [袁亚飞]. “Research on the Application of Large Language Model in Computer-Generated Forces.” [大模型在计算机生成兵力中的应用研究] The Sixth Academic Conference on Systems Engineering, Yunan, China, August 2024.

[19] Zhang Huaping [张华平], Li Chunjin [李春锦], Wei Shunping [魏顺平], Geng Guotong [耿国桐], Li Weiwei [李伟伟], and Li Yugang [李玉岗], “Large Language Model-Driven Open-Source Intelligence Cognition” [“大语言模型驱动的开源情报认知认领”], *National Defense Technology* [国防科技], March 2024. 3.

[20] Ibid.

[21] Ibid.

PRC-Manufactured Weapons Abound Among African Militant Groups

By Adam Rousselle



A screenshot from the movie Hotel Rwanda, in which a Hutu warlord shows off his PRC-made machete.
(Source: [Douban](#))

Executive Summary:

- Weapons manufactured in the People's Republic of China (PRC) are increasingly falling into the hands of militant groups across Africa, with key contributors being state-owned defense contractors like Norinco. However, it is unclear how the weapons reach these groups.
- Militant groups such as Mali-based JNIM and the Democratic Republic of Congo's M23 are employing PRC-manufactured arms in their operations, with evidence suggesting the potential involvement of Chinese criminal syndicates and corruption within PRC defense firms and African militaries.
- Extensive access to PRC-manufactured weapons by countries like Rwanda and Uganda, both of which support rebel groups, underscores the growing influence of PRC defense contractors in Africa, potentially contributing to regional conflicts.
- Beijing's experience in Myanmar, where it supports both the government and rebel groups, may offer insights into its role in African conflicts, raising concerns about how escalating conflicts could strain Beijing's partnerships and jeopardize its regional investments.

Weapons manufactured in the People's Republic of China (PRC) are increasingly falling into the hands of militant groups across Africa as PRC defense contractors expand their influence in the region. Many African governments have signed arms deals with Beijing, with the PRC becoming the continent's leading supplier of weapons this year. It is unclear how weapons are falling into the hands of militants, though corruption is likely playing a part in the influx of PRC-manufactured arms on the continent. Corruption has been rampant in recent years within the PRC's military-industrial complex, reaching right to the top of the system. At the same time, the likelihood of corrupt activities by PRC arms companies in Africa—that operate far from regulatory oversight by Beijing—is high, as is the involvement of Chinese criminal groups that are also active in the region.

In late September, the Mali-based, al-Qaeda-affiliated Jama'at Nasr al-Islam wal Muslimin (JNIM) continued to escalate its presence in Africa's Sahel region, executing attacks that claimed over 70 lives in Bamako (Xinhua, [September 18](#); [September 20](#)). JNIM has access to large numbers of PRC-manufactured weapons. This is one of several instances of non-state actors having access to substantial quantities of PRC military equipment—Myanmar constitutes another prominent case.

Mali-based Terrorist Group Maintains Extensive Arsenal of PRC Weapons

Propaganda videos and footage released by the Malian military reveal substantial stockpiles of weapons produced by PRC state-owned defense contractor Norinco (中国兵器工业集团; 北方工业), including a Type 80 machine gun, a Type 81-1 assault rifle, and at least two Type 69 rocket-propelled grenade (RPG) launchers equipped with high-explosive anti-tank projectiles ([Militant Wire](#), September 22). While the images also display weapons from other countries such as Russia, Romania, and older Soviet Union models, most of the arms pictured are of PRC origin.

Norinco has increasingly expanded its role in supplying militaries throughout the Sahel, particularly in Mali. A video released last summer shows Malian special forces outfitted with a broad array of PRC-manufactured weapons and equipment, including Norinco-produced CS/VP11 Lynx all-terrain vehicles equipped with W85 anti-aircraft machine guns, as well as JS 9mm submachine guns produced by Jianshe Industries (云南建设工业集团) ([Bilibili](#), August 27, 2023). Last month, during the Forum on China–Africa Cooperation (FOCAC) in Beijing, Mali secured another contract with Norinco to provide additional weapons to its military ([Embassy of the PRC in India](#), September 2; [Military Africa](#), September 3).

In recent years, JNIM has funded much of its expansion by running a protection racket associated with the illicit harvesting and trade of southern Malian rosewood, a highly valued tropical hardwood prized for its distinctive color and durability ([ISS Africa](#), June 19). In 2018, Malian whistleblower Amadou Traoré exposed the extensive deforestation and criminal activities tied to Mali's rosewood trade, prompting several international investigations ([Corruption Anonymous](#), September 13, 2023). Reports suggest that most of Mali's exported rosewood ends up in the PRC, with PRC criminal syndicates operating in Mali and Senegal playing essential roles in the trade ([South China Morning Post](#), May 22, 2022; [PPLAAF](#), September 11, 2023). In the PRC, the trade of illegally exported Malian wood is so widespread that several online retailers sell it on Aicaiyou (爱采购), a business-to-business platform operated by PRC tech giant Baidu ([Aicaiyou](#),

October 10). However, the origin of JNIM's vast cache of PRC-manufactured weapons and the group's relationship with PRC criminal syndicates remains unclear. Although villagers in southern Mali have reported that local PRC crime syndicates pay protection money to JNIM, these reports remain unsubstantiated ([ECOWAS](#), November 2023). Such factors call for further investigation.

PRC Defense Contractors Benefit From Worsening Conflict in the Eastern DRC

In the eastern Democratic Republic of Congo (DRC), the March 23 Movement (M23), predominantly composed of Tutsi rebel forces, continues to devastate the region using PRC-manufactured weapons, including an assault on the provincial capital of Goma and the plundering of vast quantities of minerals ([United Nations](#), February 20; [Africa Defense Forum](#), March 5). Photos of seized M23 weapons and equipment released by the Congolese military underscore the PRC origin of these extensive supplies, particularly from Norinco and Xinxing (中国新兴进出口有限责任公司), a firm specializing in military uniforms and tactical gear. In an interview with a local news outlet, Congolese-Belgian defense analyst Jean-Jacques Wondo Omanyundu noted, "the M23 weapons seized by the FARDC [the Congolese military] are almost all Chinese-made" ([China Global South Project](#), July 12, 2022).

A recent UN Security Council report concludes that M23 receives substantial financial and material support from neighboring Rwanda and Uganda, both of which have acquired significant quantities of PRC-manufactured weapons ([United Nations](#); [ReliefWeb](#), June 4). In recent years, Rwanda has made large purchases of artillery systems and other arms produced by Norinco and other firms. A Shanghai-based firm called Deekon Group even uses images of the Rwandan military uniforms it produces for promotional purposes on its website ([Deekon Group](#), October 8). The PRC and Rwanda also maintain close military and defense ties, with Beijing deploying an official defense attaché to Rwanda earlier this year ([Embassy of the PRC in Rwanda](#), February 21). Uganda's military, meanwhile, has purchased arms from Norinco and another Chinese firm, Poly Technologies (保利科技有限公司; 保利科技), according to a 2021 investigation by a Ugandan journalist ([The Independent \[Uganda\]](#), December 19, 2021). In November last year, Norinco partnered with the Ugandan military to establish a research center focused on unmanned aerial vehicles (UAVs) in the country ([MODVA](#), November 29, 2023). The extensive access of Rwanda and Uganda to PRC-manufactured weapons, along with their support for the M23 movement, highlight the likely source of the rebel group's large PRC-made arsenal.

To counter the escalating threat from M23, the DRC military has also turned to the PRC defense industry, purchasing its first batch of three CH-4 attack drone systems from China Aerospace and Technology Corporation (CASC; 中国航天) last year ([Africa Intelligence](#), May 22, 2023). Later that year, Norinco became embroiled in controversy in the DRC when its subsidiary, Norin Mining, attempted to acquire cobalt and copper mines outside Lubumbashi, in the Katanga province, south of the M23-led insurgency in North Kivu province. The DRC state-owned mining conglomerate, Gécamines, moved to block the sale, claiming it had not been properly informed of the decision ([Africa Confidential](#), October 11). Although Lubumbashi is approximately 900 miles south of M23-controlled territory in North Kivu, the group conducted extensive attacks in the city during its 2014 offensive ([BBC](#), January 7, 2014).

Corruption at Defense Contractors and the Myanmar Example Raise Further Questions

The PRC's defense contractors are increasingly flocking to African markets, with the PRC surpassing Russia as the continent's largest weapons supplier this year ([ADE](#), July 23). Norinco, which manufactures a wide range of weapons from handguns to tanks, has been at the forefront of this expansion, operating offices in over 70 countries. Its latest expansion into Dakar, Senegal, signals growth intentions in the West African market ([Norinco](#), October 8; [SCMP](#), August 21, 2023). According to its website, Norinco controls mining sites across Africa (including gold, cobalt, and palladium mines), is deeply involved in the regional copper trade, and plans further expansion ([Norinco](#), October 8). Although there is insufficient evidence directly linking these companies to the militant groups who are using their weapons, recent developments within the PRC shed more light on these companies' practices.

Beijing has taken punitive actions against at least two senior Norinco executives since 2021 in response to corruption charges. In October 2021, PRC authorities charged former Norinco Chairman Yin Jiaxu (尹家绪) with bribery and seeking illegal profits for relatives and friends ([People's Daily](#), October 25, 2021). According to an official readout, Yin received "huge sums" of money and gifts, and held top positions at the company from 2002 until his 2018 retirement ([Global Times](#), April 4, 2021; [CCDI](#), September 30, 2021). Last December, authorities removed then-Norinco Chairman Liu Shiquan (刘石泉) from the 14th National Committee of the Chinese People's Political Consultative Conference amid an anti-corruption investigation into the defense and aerospace sector ([China Brief](#), February 2; [Global Times](#), March 3). Liu had previously held senior roles at the state-owned China Aerospace Science and Industry Corporation (CASIC; 中国航天科工).

These high-level disciplinary actions highlight the prominence of corruption within some of the PRC's top defense contracting firms. Given the distance between operations in African countries and oversight by Beijing authorities, corrupt backchannels may be funneling the transfer of PRC-manufactured weapons to African militant groups for personal gain. Coupled with the involvement of Chinese criminal elements in Africa and the potential for internal corruption within the militaries of affected nations, this situation merits further investigation as a possible source of these weapons ([OCCRP](#), May 25, 2022; Africa Report, [August 12](#); [May 14](#)).

The PRC's experience in Myanmar may offer insights into this involvement in internal African conflicts, such as those in Mali and the DRC. For decades, Beijing has supported Myanmar's ruling government while simultaneously providing material and financial backing to various armed resistance groups ([China Brief](#), March 17, 2023; [MLM](#), July 31; [South China Morning Post](#), August 25). Both JNIM in Mali and M23 in the DRC hold significant value for the PRC due to their access to rare and high-value resources. It is plausible that Beijing may unofficially support one or both groups to secure its continued resource access. However, if such claims are substantiated, they could damage the PRC's reputation in Africa. Moreover, as seen in Myanmar, further conflict escalation could endanger Chinese investments and those of other nations. Moreover, JNIM's prolonged conflict with Wagner mercenaries fighting for the Malian junta—coupled with the

group's use of PRC-manufactured weaponry—may strain the PRC's "no limits" partnership with Moscow, particularly regarding African matters ([Xinhua](#), January 2, 2021).

Conclusion

The expanding presence of PRC defense contractors in Africa and the increasing use of PRC-manufactured weapons by militant groups warrant deeper investigation. However, such inquiries will likely prove challenging due to the frequently opaque nature of business dealings in these regions. What remains clear is that the growing prevalence of PRC-manufactured weapons among powerful militant groups in Africa has considerable implications as Beijing moves to dominate the African arms market. These implications include regional security, as non-state actors gain further access to advanced PRC weaponry and equipment, and geo-strategic concerns, as resource-based conflicts can potentially disrupt global supply chains. Given current trends, these threats will likely intensify as PRC defense contractors seek greater access to the continent's arms markets.

Adam Rousselle is an author and researcher whose areas of focus include geopolitics, political economy, and non-state actors. He is the co-founder and principal analyst of Between the Lines Research.