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Beijing Touts Malaria Victory in African 'Discourse Power' Push

国家发展和改革委员会
National Development and Reform Commission
新闻发布会
Press confernce

A December 2023 press conference on the successes of the PRC's health diplomacy. (Source: NDRC)

Executive Summary:

- Beijing cannot and will not replace the United States's former role in overseas aid, but it will seize
 opportunities to portray itself as playing a leading role where doing so aligns with its own programmatic
 interests.
- The PRC views international aid differently to the West, and tends to concentrate funds strategically, such as in countries rich in natural resources.
- The People's Republic of China (PRC) eradicated malaria domestically in 2021, something that it is now highlighting in international media in an effort to enhance its "discourse power" and frame itself as a model for "Global South" countries.

World Malaria Day 2025 fell on April 25 (<u>WHO</u>, accessed May 9). Throughout most of the Western world, the initiative to raise awareness about the deadly disease—which claims an estimated 1 life every minute—was largely ignored. The People's Republic of China (PRC), meanwhile, took note. An article published in the *People's Daily*, the mouthpiece of the Chinese Communist Party (CCP) Central Committee, discussed the state of malaria prevention today and highlighted the PRC's contributions. It noted that the PRC has provided medicine, technological support, assistance building anti-malaria centers, training, and other contributions to global efforts. Most notably, the country has supported a Collaborating Centre for Research and Training on Malaria Elimination in Jiangsu province, providing training to 86 countries and over 2,000 staff (<u>People's Daily</u>, April 28).

The PRC currently faces difficult choices in its approach to assisting global public health programs. In the context of the dismantling of the U.S. Agency for International Development (USAID), there are opportunities for Beijing to promote its achievements in this area of global governance. Doing so, however, presents risks, as it will invite requests for contributions that Beijing is unwilling to make. While keen to notch diplomatic wins and buttress its "discourse power" or "right to speak" (话语权) in the world, Beijing cannot and will not replace the United States's former role in overseas aid. [1] As a case in point, the *People's Daily* article made sure to point out that "insufficient funding is the main obstacle to malaria prevention" (金不足是全球疟疾防治的主要障碍), an implicit rebuke of recent U.S. cuts to health assistance programs overseas.

Telling China's Story Not So Well: Recent Coverage of Malaria Eradication

In Xi Jinping's "new era" (新时代), the PRC has felt aggrieved that its rise in comprehensive national power has not been accompanied by an equivalent rise in influence in the international system. This, in part, has motivated efforts to enhance the country's "discourse power" alongside projects such as the One Belt One Road (一带一路) initiative. It has also informed a more concerted strategy to persuade countries of the "Global South" to support the PRC in international fora.

The PRC sees itself as the leader of the Global South. Although the government does not explicitly frame itself as having a leadership role, this perception comes across in multiple fora through the PRC's words and actions. A December 2024 report titled "China's Vision of the 'Global South' and the way Forward for the Development of Cooperation in the 'Global South' (中国的"全球南方"观与"全球南方"合作发展前瞻) by government think tank the International Cooperation Center (ICC; 国际合作中心/国合中心) makes this clear. It critiques other countries who seek to claim a form of leadership role in the Global South, such as India, and those who it sees as trying to engage to the exclusion of the PRC, such as the West. It also argues that questions of leadership should be "downplayed" (淡化). At the same time, the final section of the report is titled "China Leads the 'Global South's' Development Strategy" (中国引领"全球南方"发展方略), and states that implementing the PRC's three global strategies are key "both to bringing tangible development dividends to the countries of the Global South, but also to injecting new vitality into the building of a community of common destiny for humanity" (不仅为"全球南方"国家带来了实实在在的发展红利,也为构建人类命运共同体注入了新的活力) (ICC, October 10, 2024). [2]

The PRC sees its global health efforts as an important part of its bid to enhance its "discourse power" (Aisixiang, December 28, 2023). Malaria prevention work provides a useful case study to illustrate how the PRC uses its presence in Africa to achieve this end and, as a result, enhance its standing in the international system. Coinciding with World Malaria Day, the BMJ (formerly the British Medical Journal), one of the world's oldest medical journals, published a collection of articles under the title "Malaria control lessons from China" (BMJ, accessed May 9). A collaboration with the Chinese Center for Disease Control and Prevention in Beijing, these articles are part of a broader strategy by which the PRC pitches itself as a model for emulations and positions itself as a fellow developing country (unlike the former colonial powers in the West) to more convincingly advocate for a leadership position among "Global South" countries (BMJ, accessed May 7).

The collection highlights the PRC's recent, impressive efforts to eradicate malaria, which it achieved in 2021 (BMJ, April 22). One article, co-authored by a researcher at the Chinese Academy of Sciences, highlights a series of malaria control projects that the PRC has run with African countries since 2000. In a brief overview of the PRC's own experience, Mao Zedong's 1952 "eliminate the four pests" is cited as a positive public health endeavor (BMJ, April 22). Scholars frequently view this campaign as contributing to ecological imbalances that led to the Great Famine (三年大饥荒) in the years 1958–1961. The policy-induced deaths of tens of millions of one's own citizens arguably does not constitute a public health victory, nor is it worth emulating. These contextual details, however, go unmentioned in the BMJ article.

A letter written in response to—and published alongside—the collection also cites the "four pests" campaign and the PRC's "dynamic zero-COVID" policy positively. It goes further, arguing that "China's traditional culture" emphasizes "the Confucian idea of a continuum between family and state, reinforcing a sense of collective responsibility." This "synergy between state governance and China's collectivist culture" is then promoted as a model that is "relevant for African countries" (BMJ, May 2). That this collection in the BMJ is part of a centrally directed effort to enhance the PRC's discourse power is made explicit in a *Global Times* article published the following day. Headlined "English Media: China's Eradication of Malaria is an Important Experience for the World" (英媒: 中国消除疟疾为全球提供重要经验), it warns that "if the United States's relevant policies change [i.e. if funding is cut], this could deal a severe blow to global health, reversing the last 20 years of hardwon results" (如美国相关政策改变可能对全球卫生合作造成冲击,过去 20 年来之不易的成果将发生逆转) (Global Times, April 23).

PRC Aid is Based on Political Considerations

The PRC touts its wins in the domain of international aid loudly and excoriates U.S. retrenchment just as vociferously. Lost in the discourse is the PRC's vastly inferior support for international development. Part of the problem is that the PRC's mindset behind its engagement with "Global South" countries is not geared toward aid funding, according to a UN official (author interview, May 7). The country does not systematically report its foreign development assistance activities to established international channels, which makes tracking its contributions difficult. According to the country's 2021 foreign aid white paper, however, total foreign aid from the PRC in 2013–2018 reached around \$42 billion—just 14.6 percent of U.S. spending in the same period (State Council Information Office, January 2021; Brookings, March 11). Its aid agency, the China International Development Cooperation Agency (CIDCA; 国家国际发展合作署), was only spun out from the Ministry of

Commerce in 2018, and its work remains dependent on that ministry, as well as on the Ministry of Foreign Affairs, for policy direction.

PRC reluctance to fund foreign aid is also reflected in its overseas lending more broadly. The PRC's financing has become less concessional and more targeted to commercial sectors in recent years, indicating a reduced willingness to shower money on big-ticket infrastructure projects underwritten by long-term loans from policy banks. This is also reflected in the rhetorical pivot in "One Belt One Road" discourse to focusing on "small and beautiful" (小雨美) projects (ODI Global, October 2024; Belt and Road Portal, accessed May 9). Beijing's hesitation when it comes to contributing to global public goods is also reflected in its payments to the World Health Organization (WHO). It pays its "assessed contributions" begrudgingly and reluctantly, complaining that the process for calculating the amount is non-transparent and unfair" (author interview with UN official, May 7). (In another indication of the subjugation of contributions to global goods to political preferences, the PRC also blocks Taiwan from attaining WHO membership).

In Africa, the PRC is likely to be cautious about stepping up where the United States is pulling back. A researcher at Yunnan University's International Relations Research Institute makes this point in an article titled "The Truth About U.S. Strategic Contraction in Africa" (美国对非战略收缩的真相). The author does not hold back on his criticism of U.S. actions in Africa, noting that shuttering USAID could lead to millions of people on the continent contracting AIDS, malaria, and tuberculosis, while characterizing reciprocal tariffs as "robbery" (抢劫). He also frames the PRC by contrast as a "reliable friend and trustworthy partner" (可靠朋友与真诚伙伴). Nevertheless, he warns that the PRC must "avoid the illusion of 'filling the vacuum'" (避免"填补真空" 错觉), noting that the PRC attempting to step up in this way could lead to a backlash if it fails. He argues instead for a more refined policy of deepening cooperation with Africa through targeted efforts on economic and people-to-people ties (Aisixiang, April 28). These include expanding the country's footprint in biotech, vaccines and other pharmaceuticals, and additional areas that align with commercial interests. This approach will be familiar to PRC policy makers—studies have shown that PRC health funding to African countries is positively correlated with those countries that are rich in natural resources, such as Kenya, Zambia, Mauritania, and the Republic of Congo. [2]

Conclusion

U.S. health assistance programs in Africa, even if cut dramatically, may remain higher than the PRC's contributions. The PRC will nevertheless work opportunistically to discredit Western efforts and promote its own agenda. According to a UN official, CIDCA workers at a clinic in Tanzania to which USAID recently cut funding have pasted a "China Aid" sticker directly on top of the USAID logo on the clinic's wall (author interview, May 7). This image perhaps best encapsulates the PRC's zero-sum approach to development assistance, and supports the sense that aid is apportioned more in support of strategic objectives than in pursuit of global public goods.

Arran Hope is the editor of China Brief.

Notes

[1] The CCP sees "discourse power" as a means of asserting its influence in the international system at the expense of that of the United States (<u>Guangming Daily</u>, January 15, 2015).

[2] Dolan CB, Malik AA, Zhang S, Mao W, McDade KK, Svoboda E, et al. (2023) Chinese health funding in Africa: The untold story. PLOS Glob Public Health 3(6): e0001637. https://doi.org/10.1371/journal.pgph.0001637

PRC Logistics Firms in the United States and Mexico Support Military-Civil Fusion



By Cheryl Yu

Officers and soldiers from a Southern Theater Command Air Force base discussed support details with SF Express representatives. (Source: PLA Air Force)

Executive Summary:

- Beijing is expanding global logistics infrastructure under the direction of its military-civil fusion agenda, enabling commercial assets to serve national defense needs.
- Logistics companies with ties to the People's Liberation Army (PLA) have built extensive networks overseas, including in the United States and Mexico. The firm SF Express has built over 950 overseas warehouses worldwide and partnered with actors linked to the Chinese Communist Party's (CCP) united front system.
- In the United States, SF Express operates through over 20 subsidiaries and collaborates with WorldCPS, a major Chinese-owned logistics firm—also linked to the united front system—establishing infrastructure that could be leveraged for dual-use purposes under the military-civil fusion development strategy.
- In Mexico, PRC logistics firms, including SF Express, YTO Express, and Alibaba's Cainiao, have rapidly
 expanded their presence through acquisitions, dedicated shipping lines, and infrastructure projects,
 aligning commercial growth with the CCP's military-civil fusion objectives.

The Chinese Communist Party (CCP) sees its global logistics networks as serving purposes that extend beyond the purely economic. The Party has long emphasized the integration of civilian infrastructure into its national defense strategy, and logistics is a key component of this military-civil fusion agenda. The Party is keen to enhance and expand its overseas logistics operations. In March 2025 at the annual Two Sessions meetings in Beijing, Premier Li Qiang (李强) told the assembled representatives of the National People's Congress (NPC) that it is necessary to "improve the cross-border delivery and logistics system, and strengthen the construction of overseas warehouses" (完善跨境寄递物流体系,加强海外仓建设) (Xinhua, March 12). The comment formed part of his remarks on trade in the Government Work Report, the People's Republic of China (PRC) government's most authoritative annual policy document. By expanding its reach overseas through private—or nominally private—companies, the Party retains the option to repurpose these assets for military use when needed.

Private Logistics Firms Must Support the Military

Under the military-civil fusion development strategy, the PRC treats logistics infrastructure assets as supporting both economic and defense objectives. At its second plenary meeting in September 2017, the Central Military-Civil Fusion Development Committee promoted a reconceptualization of logistics: "Modern logistics is military-civil fusion logistics" (现代后勤就是军民融合后勤). The meeting also called for "proactively leveraging the spatial advantages of a modern, nationwide logistics network to systematically advance the development of military-civilian fusion logistics" (主动利用现代物流网络等布局完善、通达全国的空间优势,成体系推进后勤军民融合发展) (Xinhua, September 22, 2017). Logistics is mentioned as a category in the "Catalog of Construction Projects Closely Related to Both Economic Development and National Defense (2016 Edition)" (经济建设与国防密切相关的建设项目目录(2016 年版)) (NDRC, accessed April 16). The determination of projects is co-managed by the National Development and Reform Commission (NDRC) and the Central Military Committee's (CMC) Office for Strategic Planning (战略规划办公室) (NDRC, December 27, 2017).

Private logistics companies are required to support the military. In March 2021, an op-ed published in the armed forces' mouthpiece, the *PLA Daily*, stated that "logistics companies should fulfill their statutory national defense obligations and contribute to the development of military logistics" (应当担起法定的国防义务,为军事物流发展助上一臂之力) (PLA Daily, March 26, 2021). Companies also have been encouraged to expand overseas for military purposes. A professor affiliated with the Joint Service College of the PLA National Defense University has argued, also in the *PLA Daily*, for internationalizing civilian logistics in order to "build an overseas military logistics support system" (构建海外军事物流保障体系) (Sangin City Newspaper, October 22, 2018; PLA Daily, November 28, 2019). Another article published in the state-owned magazine Security Line (警戒线) by an author affiliated with the Army Service Academy also suggested that private companies expand overseas logistics networks. The author recommended the government adopt a flexible approach in which logistics assets are "not to be owned but to be used" (不为所有,但为所用), utilizing cooperative, entrusted, and commercialized models to tap into both domestic and international logistics resources (Security Line, April 2, 2020).

Government policy supports the expansion of logistics networks abroad. The "Five-year Plan on Modern Logistics for the 14th Five-Year Plan Period" ("十四五"现代物流发展规划) considered its existing logistics infrastructure "strong domestically but weak internationally" (内强外弱). As a result, it announced plans to accelerate the development of a globally integrated logistics network, including "encouraging large logistics enterprises to engage in the construction, cooperation, and resource-sharing of overseas ports, overseas warehouses, and distribution networks" (鼓励大型物流企业开展境外港口、海外仓、分销网络建设合作和协同共享) (General Office of the State Council, December 16, 2022). Policies like this and those contained in annual government work reports have paved the way for the emergence of private logistics companies that not only expand the PRC's commercial presence abroad but also serve as potential nodes in the People's Liberation Army's (PLA) global support infrastructure.

PRC Logistics in the United States: The Case of SF Express

SF Express (顺丰速运), a PRC company, has signed military-civil fusion cooperation agreements on logistics with the CMC and the PLA. Since the launch of the military-civil fusion logistics system in 2016, SF Express has participated in multiple pilot projects providing services to the military (PLA Daily, January 23, 2018). This includes collaborating with the CMC Logistic Support Department's Transport and Delivery Bureau (运输投送局) on the launch of an air cargo logistics route from Chengdu to Lhasa. The firm also signed a five-year agreement on "Air Force Logistics and Military-Civil Fusion Strategic Cooperation" (空军后勤物流军民融合战略合作协议) with the PLA Air Force Logistics Department. The deal covers transportation and distribution, warehouse management, procurement, information integration, scientific research and innovation, capacity building, military support services, and supporting infrastructure. It also includes organizing a joint resupply exercise with the Air Force Logistics Department using drones in Yunnan and Shaanxi (PLA Daily, November 6, 2017, January 23, 2018; Xinhua, January 28, 2018; DSB.cn, December 12, 2018). In the past few years, SF Express has also provided services like warehouse logistics and cargo transportation for military units, troops, and military-linked companies (WireScreen, accessed May 5).

SF Express is clearly committed to following PRC national strategy. In December 2017, the company's head, Wang Wei (王衞), delivered the following statement (<u>Sina</u>, December 13, 2017):

"[SF Express] will actively respond to the national military-civil fusion development strategy. Leveraging its long-standing expertise and capabilities in supply chain management, SF Express will provide warehousing logistics, material procurement, and other supply chain services tailored for specialized materials and unique application scenarios to the military, military-industrial enterprises, and social clients, thereby facilitating the transformation and upgrading of the military procurement supply chain." [1]

PRC reports reference a "special logistics division" (特种物流事业部) set up by SF Express. This division has apparently conducted visits and research at relevant PRC central government ministries and military branches, including within the Army, Navy, Air Force, Armed Police, and Joint Logistics Support Force (Shenzhen UAV Industry Association, October 26, 2017).

SF Express has been expanding its reach overseas, aligning with government guidance. The company's 2024 annual report stated that it has continuously strengthened its networks in Europe and the United States through "multi-modal" (多模式) approaches (SF Express, March 28). The company currently has over 950 overseas warehouses and controls 882 registered companies around the world (Sohu Stock/SF Holdings, March 28). Its global "air network layout" (全球航网布局) includes a hub in Ezhou that serves the European and North American markets, and one in Shenzhen that connects to Southeast Asia, Japan, and South Korea (SF Express, March 28). The former hub in Ezhou, Hubei Province, known as the SF International Cargo Airport and operating as part of the Ezhou Huahu International Airport, has been listed as an important military civil fusion development project since its establishment in 2015 (Jiangxi National Defense Education Network, May 26, 2016; National Engineering Laboratory for Logistics Information Technology, December 2018; China National Defense Newspaper, March 7, 2018). The company controls 24 subsidiaries in the United States and seven in Canada. These could be used to serve dual-use functions in a future conflict scenario.

SF Express uses collaboration as a way to expand overseas, often via people and organizations connected to the CCP's united front system. For example, it works closely with WorldCPS (天马物流集团) to provide logistics services (WorldCPS, November 14, 2018). Headquartered in Los Angeles, Chinese-language media describe WorldCPS as the largest Chinese-owned warehouse and logistics company in the United States, offering services such as cross-border e-commerce fulfillment, warehousing, and last-mile delivery. The company operates seven large-scale overseas warehouses across major U.S. cities, including Los Angeles, New York, Chicago, San Francisco, Portland, Dallas, and Atlanta, with a total warehouse area of 500,000 square feet and more than 50 loading docks (EDI Media, November 19, 2021). WorldCPS's founder and chairman, Luo Hao (罗豪; also known as Steven Luo), has played prominent roles in multiple overseas organizations linked to the PRC's united front system (Sino US Times, December 29, 2019). Luo has also been recognized by united front-affiliated media as a representative figure in U.S.-China relations. The Sino US Times named him one of the "Top 40 Outstanding Chinese in America" in 2019, an award organized to commemorate the 40th anniversary of diplomatic relations between the two countries (Economic Daily, December 30, 2019). Given its extensive U.S.-based infrastructure, WorldCPS's close collaboration with SF Express raises concerns that this network could be leveraged by SF Express to support PRC defense objectives within the United States.

Mexico

Companies that have expressed support for military-civil fusion have also steadily expanded their logistics presence in Mexico—the United States's largest trade partner. Three companies that maintain operations or assets in Mexico have signed strategic cooperation agreements with the PLA Air Force. These agreements focus on building "systematic, structured, and fully integrated" (成系统、整建制、全覆盖) logistics systems that "transform military logistics into a bridge that converts national economic capacity into air force combat power" (将军事物流打造为国民经济向空军战斗力转化的纽带) (China Youth Daily, December 15, 2017). The three companies are Kerry Logistics (嘉里物流聯網) (now acquired by SF Express), YTO Express (圆通速递), and China Post Express & Logistics (中国邮政速递物流/中国速递). In 2021, SF Express gained control of two logistics companies in Mexico through its acquisition of Kerry Logistics (SF Holding Co., Ltd., March 28). In 2020, YTO Express—which, like SF Express, also has a department for military-civil fusion—launched a dedicated Mexico line (Sohu, January 8, 2019; Yuguo, January 8, 2020). In November 2024, China

Post Express & Logistics issued a procurement announcement for setting up overseas institutions, including in Mexico, signaling continued expansion of its network (China Post, November 1, 2024).

YTO Express also works closely with Cainiao Smart Logistics Network (菜鸟网络科技; aka China Smart Logistics Network) to expand its network in Mexico (YTO Express, August 31, 2020). Cainiao, controlled by Alibaba, describes itself as the world's largest provider of cross-border e-commerce logistics (Cainiao, accessed May 2). In March 2022, Cainiao established its first sorting center in Mexico (First Logistics, March 29, 2022). Since officially entering the Mexican market in early 2024, Cainiao has continued to increase investment in logistics infrastructure, including the construction of cargo terminals, port facilities, distribution centers, and overseas warehouses (Cainiao, March 24). Its distribution system now covers 20 Mexican states. The head of Cainiao, Wan Lin (万霖), is a board member of YTO Express. He is also a "specially invited representative" (特邀代表) at the Chinese People's Political Consultative Conference (CPPCC), the central organization of the united front system (People's Daily, June 12, 2021). He is a U.S. Green Card holder and an expert as part of the "National High-end Foreign Experts Recruitment Plan" (高端外国专家引进计), formerly the Thousand Talents Plan—another part of the united front system (MOST, January 26, 2019; YTO Express Group Co., Ltd., April 18, 2019). As part of the Party's system of influence and control, these commercial logistics networks in Mexico may serve economic interests today but could serve the Party's defense objectives in future, under the military-civil fusion framework.

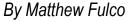
Conclusion

The PRC's push to globalize its logistics infrastructure through private companies is part of a strategy in which commercial expansion serves national defense. Framed publicly as efforts to stabilize trade and boost cross-border e-commerce, these initiatives are deeply rooted in the PRC's military-civil fusion development strategy, which seeks to ensure that civilian assets can be mobilized for military use when needed. As PRC logistics firms continue to expand their presence abroad, their growing global footprint introduces new risks for host countries. Understanding the dual-use nature of these networks is essential for crafting policies that safeguard economic openness without compromising national security.

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[1] Translation: "顺丰集团将积极响应国家军民融合发展战略,基于顺丰集团长期积累的供应链管理专业技术和能力,向军队、军工企业和社会客户提供面向特种物资和特殊应用场景的仓储物流、物资采购等供应链服务,助推军队采购

Hong Kong's IPO Market Gets Boost From PRC Firms





Bloks Group Limited launches on the Hong Kong Stock Exchange. (Source: Sina Finance)

Executive Summary:

- Hong Kong's IPO market is on track for its strongest year since 2021, raising \$2.3 billion in the first quarter
 of 2025—driven entirely by PRC-based companies. Consumer brands like Mixue and Guming led the
 listings, benefiting from Beijing's stimulus measures and public enthusiasm for AI innovations like
 DeepSeek.
- Upcoming listings are expected from sectors prioritized by President Xi Jinping, including biotech, AI, EVs, and logistics. High-profile companies including Insilico Medicine, Avatr Technology, and Lens Technology are preparing for Hong Kong IPOs, further reinforcing the city's role as China's offshore capital hub.
- Despite strong momentum, U.S.-PRC trade tensions and PRC's internal economic challenges—such as
 property sector instability and weak consumption—threaten long-term outlooks. Still, renewed U.S.
 delisting threats may drive more PRC firms to pivot toward Hong Kong, potentially accelerating its
 resurgence as a global listing destination.

Hong Kong's market for initial public offerings (IPOs) is poised for its best year since 2021. After a strong first quarter, the market is continuing its hot streak. Bubble tea maker Auntea Jenny (Shanghai) Industrial raised HK\$273 million (\$35 million) in its market debut and began trading on the Hong Kong Stock Exchange on May 8 with a listing price at the top of its range, with the stock jumped 40 percent on its first day of trading (STCN, May 8). The previous day, Breton Technology, a maker of electric dump trucks, raised HK \$148 million (\$19 million) (Sina, May 7).

The emergence of the artificial intelligence (AI) model DeepSeek and signals that the PRC government is more willing to support consumption and adopt a more pro-business stance than in recent years have contributed to these gains. In the medium term, however, U.S. President Donald Trump's sweeping tariffs, Beijing's retaliatory actions, and structural weaknesses in the economy heighten the risk of a broad economic downturn. From Beijing's perspective, preserving Hong Kong's role in its broader economic strategy will be key to navigating through the current uncertainty. The financial data from so far in 2025 suggests that it is succeeding.

Mainland Firms Dominate First Quarter Listings

In the first quarter of 2025, Hong Kong's IPO market raised \$2.3 billion as 15 companies went public on its main bourse (South China Morning Post, March 31). "HKEX had a strong start to the year, with Q1 2025 being the Group's best quarterly results on record," chief executive Bonnie Chan said in a report on the January-March period (HKEX, April 30). Sentiment has been buoyed by the PRC's recent stimulus measures and excitement about technology linked to DeepSeek's latest AI models. The quarterly performance was also the strongest since the second quarter of 2021 and saw a nearly fourfold increase in proceeds over the \$613 million raised during the same period in 2024. Average deal size reached HK\$1.2 billion (\$155 million)—up 195 percent year on year (KPMG, April 1). The companies that listed all came from a variety of industries, from financial services to healthcare to consumer goods.

All 10 of the largest IPOs were mainland PRC firms. This is unsurprising given Hong Kong's increasing dependence on the PRC mainland. At an investment forum in November 2024, PRC Vice Premier He Lifeng (何立峰) reaffirmed Beijing's intention to continue supporting the city as an international financial center. Li Yunze (李云泽), minister of the PRC's National Financial Regulatory Administration (NFRA; 国家金融监督管理局), echoed that message. He predicted that, with strong policy backing, Hong Kong's international financial center "will radiate lasting vitality and create new glories" (焕发历久弥新的生命力,再创辉煌). Li noted that roughly 80 percent of PRC businesses that have listed offshore have gone public in Hong Kong, adding that the city's fortunes "have always been closely linked to those of the motherland" (香港的命运从来都与祖国紧密相连) (National Financial Regulatory Administration, November 19, 2024).

Hong Kong also remains integral to the PRC's economic statecraft. Its liquid capital markets and comprehensive, globally connected financial infrastructure provide enormous benefits to the PRC's comparatively closed system. The special autonomous region (SAR) of the PRC boasts the world's preeminent offshore renminbi market (China Brief, October 20, 2023). It is also the PRC mainland's largest source of realized foreign direct investment, accounting for nearly 60 percent of the national total at the end of 2023. In Guangdong Province, where most Hong Kong investment in the mainland is concentrated, direct investment

from the city reached over renminbi (RMB) 114 billion (\$160 billion) in 2023 (<u>Trade and Industry Department</u>, <u>HKSAR Government</u>, February).

The consumer markets segment led the Hong Kong IPO market both in terms of funds raised and total deals closed in the last quarter. A standout trend was the clustering of large beverage listings: bubble tea firm chain Guming (古茗) raised \$232 million in February after setting the price of its shares at the top of an indicated range, followed by Mixue Ice Cream and Tea (蜜雪冰城) raising \$444 million in March (Hong Kong Economic Times, February 13; Sina, March 3). Both companies have prospered. Mixue dominates the low-cost fresh beverage market, with the average cost for its drinks at just RMB 6 (less than \$1). It has high profit margins thanks to its ability to efficiently build economies of scale and keep raw material costs low (STCN, March 4). Guming targets smaller cities and townships, a relatively new market in which growth is currently outpacing higher-tier cities and municipalities. By the end of 2023, the brand ranked second nationwide for fresh bubble tea in terms of total sales and number of stores (The Japan Times, February 12). Both companies' shares have performed well since their respective listings: Mixue's has risen 70 percent and Guming's 57 percent (Yahoo Finance, accessed April 22).

Another sizable first quarter listing was Shanghai-based toymaker Bloks Group (布鲁可), which raised \$215 million in January with demand from individual investors particularly strong (Sina, January 10). Unlike many PRC toymakers that depend on exports, Bloks targets the vast domestic market with low-priced licensed toys and collectibles. It has managed rapid top-line growth despite a sluggish economy: revenue surged 156 percent in 2024 to RMB 2.2 billion (\$300 million). However, unlike Mixue and Guming, it is yet to turn a profit, posting a RMB 400 million (\$55 million) loss in 2024 (Dahe Fortune Cube, March 26).

Besides the consumer segment, industrial offerings—including the mining and precious metals sectors—also drew investor interest. Chifeng Jilong Gold Mining Co. (赤峰黄金) raised HK\$2.8 billion (\$360 million) and Nanshan Aluminum (南山铝业) raised HK\$2.3 billion (\$300 million) (KPMG, April 1).

Burgeoning Deal Pipeline in Strategic Sectors

Several weeks into the second quarter of 2025, Hong Kong's IPO pipeline continues to look promising. Companies in more strategic sectors favored by PRC President Xi Jinping are likely to list in the coming months, including biotechnology and AI.

In March, the Chinese Communist Party's (CCP) theory journal *Qiushi* republished a speech Xi delivered in June 2024 at a national technology conference (Xinhua, June 24, 2024; Qiushi, March 31). [1] The speech highlighted both biotechnology and Al as integral to the PRC's goal of becoming a scientific and technological powerhouse. As he stated at the outset of the speech, "When science and technology prosper, the nation prospers; when science and technology are strong, the country is strong" (科技兴则民族兴,科技强则国家强), adding that the PRC should be "world-leading" (居于世界前列) and "make leaps in economic strength, national defense, and comprehensive national power" (经济实力、国防实力、综合国力整体跃升).

Chongqing-based electric vehicle maker Avatr Technology (阿维塔科技) may list in the second half of 2025. Backed by state-owned giant Changan Automobile (长安汽车), which has a 41 percent stake in the company,

and Huawei, the firm reportedly plans to raise up to \$1 billion. Proceeds would fund new models and fuel the firm's overseas expansion (<u>BossMind</u>, March 12).

Apple iPhone glass supplier Lens Technology (蓝思科技) announced in March that its board had approved a plan to list in Hong Kong. The Shenzhen-based company also counts Samsung, Huawei, Xiaomi, Tesla, BYD, and Meta Platforms among its clients. In its filing, the company said its Hong Kong listing would "advance the company's global strategic layout, enhance its international brand image and boost overall competitiveness" (進一步推進公司國際化戰略,提升公司國際品牌形象,增強公司核心競爭力,及提升公司經營管理水平). About 68 percent of Lens Technology's sales were from outside the PRC in 2023 (HKEX, March 13).

China Southern Logistics (南航货运), the cargo arm of China Southern Airlines (中国南方航空), is also considering a Hong Kong IPO after withdrawing an application to list in Shanghai in February. The deal is expected to raise hundreds of millions of dollars (Hong Kong Economic Times, April 16).

Even a U.S.-based firm, Insilico Medicine, which has facilities in Hong Kong, is weighing a Hong Kong listing. The firm's leadership says that it is yet to decide on a timeline, but the Al-driven drug-discovery firm recently raised capital at a valuation above \$1 billion, underscoring "growing interest in the potential use of Al to discover groundbreaking new drugs," according to Bloomberg (Bloomberg, March 13). Insilico earns revenue from licensing assets to clients such as PRC's Fosun Pharma (复星药业) and Exelixis Inc.

Part of the growing investor interest has been catalyzed by the arrival in January of DeepSeek's open-source generative AI model, R1, which has energized the technology sector (China Brief, February 11, March 19, March 28). Rao Yi (饶毅), a prominent scientist who leads the IDG/McGovern Institute for Brain Research at Peking University, recently described DeepSeek as the biggest shock to come out of China for 185 years. This number is an allusion to the beginning of the so-called "century of humiliation" (百年国耻) that ended in 1945—prior to the founding of the PRC—but which nevertheless figures prominently in CCP discourse decrying the West's technological hegemony (SCMP, February 7). Despite these promising signs, it remains to be seen how long this moderate spike in optimism lasts.

Strong Headwinds

Hong Kong's IPO market may look upbeat so far in 2025, but two interrelated risks could curb deal flow. First is the rapidly worsening bilateral relationship with the United States, following President Donald Trump's hiking of tariffs against the PRC, which has been met with retaliatory measures from Beijing. Second are structural weaknesses in the PRC economy, which include lingering property sector fallout, chronic overinvestment, and tepid domestic consumption, all of which are exacerbated by regulatory uncertainty. It is unclear whether the Trump administration will end up lowering tariffs to a level that will meaningfully change PRC exports' access to the U.S. market, or if Beijing will agree to make any concessions in any eventual deal.

Beijing has repeatedly condemned the U.S. for "tariff barriers and trade bullying" (关税壁垒和贸易霸凌) but officials publicly exude confidence in their approach. In the long term, according to Deputy Director of the National Bureau of Statistics Sheng Laiyun (盛来运), the tariffs "will not change the general trend of China's

continued long-term economic improvement" (改变不了中国经济持续长期向好的大势) (Xinhua, April 16).

Economists outside the PRC are unconvinced. They argue that the new tariffs could slow the PRC's economy this year, something that has been reflected in institutions lowering their growth forecasts for the PRC (Oxford Economics, April 11). Goldman Sachs said in an April report that it expects Beijing to further intensify policy easing, projecting 60 basis points of policy rate cuts compared to 40 basis points previously. However, the report added, "even these significant easing measures are unlikely to fully offset the negative effects of the tariffs" (The Wall Street Journal, April 11; Goldman Sachs, April 17). Similarly, absent meaningful stimulus measures from the central government in Beijing, consumption is unlikely to budge in the near future. Consumer sentiment remains close to record lows, according to OECD data (Trading Economics, accessed April 23).

The deteriorating business environment in Hong Kong is another headwind that Beijing has so far been unable to rectify. Xi Jinping met with international business leaders at the end of March and gave a speech thanking them for supporting the PRC's development. Xinhua coverage led with the headline "Foreign business leaders reaffirm China as oasis of certainty" (FMPRC, March 28; People's Daily, March 29; Xinhua, March 31). However, some American firms are nonetheless reducing their manufacturing dependency on the PRC. In a 2024 survey by the American Chamber of Commerce in China (AmCham China), about 30 percent of respondents said that they were considering or had begun manufacturing or sourcing diversification, exceeding the prior record of 24 percent in 2022 (AmCham China, January 2025).

Conclusion

Trade tensions and structural weakness in the PRC economy are likely to impact Hong Kong's IPO market going forward. For now, however, the Hong Kong Stock Exchange's strong year is continuing. The SAR remains the preferred offshore venue for PRC companies seeking international capital, and Beijing has heightened the city's importance as the country's primary offshore financial hub, allowing it to be far more open from a financial perspective than any mainland PRC city.

Hong Kong could further benefit if the U.S. revives its long-standing threat to delist PRC companies from U.S. exchanges if they continue to refuse U.S. auditing oversight. When asked about this possibility in a recent television interview, U.S. Treasury Secretary Scott Bessent said, "everything's on the table" (Reuters, April 17). Roughly 286 PRC companies are listed on the New York Stock Exchange, Nasdaq, and NYSE American, with a combined market capitalization of \$1.1 trillion. During the first Trump administration, these companies faced the threat of delisting following the passage of the Holding Foreign Companies Accountable Act (HFCAA) in December 2020. As a result, PRC firms including Alibaba, JD.com, and NetEase all chose either a dual-primary listing or secondary listing in Hong Kong. Some industry insiders in fear similar threats from the second Trump administration. "History is likely to repeat itself," predicts Tom Chan Pak-lam, honorary president of Hong Kong's Institute of Securities Dealers (SCMP, April 11). Much remains uncertain as preliminary trade talks begin between Washington and Beijing, but Hong Kong's role as a critical financial center as part of the latter's economic strategy looks set to continue.

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Notes

[1] The full title of the conference was the Nationwide S&T Conference, National Science and Technology Awards Conference, and the Conference of Academicians of the Chinese Academy of Sciences and the Chinese Academy of Engineering (全国科技大会、国家科学技术奖励大会、两院院士大会).

Weaponizing the Electromagnetic Spectrum: The PRC's High-powered Microwave Warfare Ambitions



By Tin Pak and Yu-cheng Chen

The FK-4000 air defense weapon system utilizes high-power microwaves to disable unmanned aerial vehicles. (Source: China Aerospace Science and Industry Co., Ltd. (CASIC))

Executive Summary:

- The People's Liberation Army (PLA) is rapidly expanding its arsenal of high-power microwave (HPM) weapons as part of its broader strategy to achieve dominance in the electromagnetic spectrum. Recent breakthroughs—including the deployment of mobile-platform HPM systems—signal the PLA's intent to integrate these capabilities into its asymmetric warfare toolkit, enabling disruption of adversary electronic systems.
- HPM development in the People's Republic of China (PRC) is closely linked to its evolving doctrine of "cyber-electromagnetic space" warfare. The PLA's emphasis on informatized warfare highlights HPM weapons as a bridge between kinetic and non-kinetic operations, targeting adversaries' command, control, and communication infrastructure.
- Strategic lessons from the Russia-Ukraine war and the PLA's own military modernization agenda suggest
 that HPM capabilities could play a decisive role in future conflicts, including a Taiwan contingency. The
 PLA is likely to synchronize HPM strikes with cyberattacks to paralyze critical infrastructure, enabling rapid
 battlefield advantage. This trajectory poses new challenges for the U.S. and its regional allies seeking to
 protect their C4ISR networks against electronic disruption.

The PRC broke new ground in its high-powered microwave (HPM) technology this past year. At the Zhuhai Air Show in November 2024—a biennial expo that is a major platform for showcasing advances in the aerospace industry—the PLA showcased at least three novel HPM ground-based weapons. These reportedly included the newly designed anti-drone Hurricane 2000 and Hurricane 3000 model HPMs (Foreign Military Studies Office, February 26). The third HPM system was the FK-4000, an anti-drone platform capable of precision single-point attacks and intercepting drone swarms, according to its designer, the China Aerospace Science and Technology Corporation (CASC) (CAST, November 12, 2024). These new weapon systems build upon rapid improvements in HPM industrial-programming software and the development of mobile-platform HPM systems.

The growing investment in HPM technology underscores the People Liberation Army's (PLA) strategic emphasis on asymmetric capabilities. As an asymmetric weapon capable of quickly disabling an adversary's electronic systems, HPMs target the central nodes that hold technologically advanced militaries together, making them a critical weapon in future conflicts. The PLA's pursuit of HPM capabilities aligns with its broader strategic objectives and contributes to its vision of informatized and intelligentized warfare.

PRC Path to Dominating HPM Research and Development

The PRC's interest in electromagnetic pulse (EMP) weapons can be traced back to the Cold War era. U.S. and Soviet nuclear tests in the 1960s revealed that high-altitude nuclear detonations produced EMPs that disabled or destroyed electronics. [1] Following these tests, the PLA strategists were quick to integrate these nuclear EMP weapons into their broader approach to information and cyber warfare (Science of Military Strategy, January 2020). They viewed these weapons as an effective asymmetric capability designed to even the playing field against technologically superior adversaries, such as the United States, which relied on an array of electronics for their increasingly integrated networks of weapons and communication equipment.

Recent PLA research has shifted toward non-nuclear EMP technologies, particularly high-power microwave (HPM) weapons, to achieve the same battlefield effects without nuclear escalation. HPMs are directed energy weapons that emit concentrated high-frequency EMPs at a target to damage and disable its electronic systems. In 2017, HPM development made headlines in the People's Republic of China (PRC) as the State Council awarded Huang Wenhua (黄文华) the highest national award for scientific development for his work on HPMs. Huang, the deputy director of the PRC's Northwest Institute of Nuclear Technology, led a team that reportedly designed an HPM weapon capable of being armed as a ship-borne antimissile weapon (U.S.-China Economic and Security Review Commission, November 14, 2019).

The PRC now dominates HPM research globally. A RAND report estimated that, as of 2022, 90 percent of all new HPM-related patents globally belong to PRC-affiliated researchers and organizations (RAND, April 24, 2024). The level of development in this field is notable, exemplified by the release of Yaoguang, a newly open-sourced HPM development software, created by the University of Electronic Science and Technology of China. According to a study published by the university, Yaoguang can perform full 3D radiation pattern simulations in just 12 minutes, significantly outperforming comparable U.S. tools in computational efficiency. [2] These advancements align with Beijing's emphasis on electronic warfare as part of its broader military modernization agenda. [3]

A Range of Active and Potential HPM Weapons

The new Hurricane 2000, Hurricane 3000, and FK-4000 HPM system showcased at the recent Zhuhai Air Show are deployed on the backs of trucks. The Hurricane models are capable of rapidly rotating and engaging targets in the air above them and reportedly can disable hundreds of drones in short succession with an estimated effective range of 2–3 kilometers (<u>Foreign Military Studies Office</u>, February 26). Details regarding the FK-4000 HPM's capabilities remain limited. These new weapon systems build upon the HPM device developed by the PRC's Southeast University in 2023, a honeycomb-shaped device capable of emitting multiple EMP beams at distinct targets. **[4]** Alongside earlier developments, such as Huang Wenhua's 2017 shipborne HPM weapon, these advancements indicate the PLA's expanding strategy to deploy advanced HPMs on mobile platforms.

The PLA maintains a large arsenal of cruise and hypersonic missiles that could potentially deploy HPMs based on similar U.S. weapon systems. These are ideal for first strikes due to their difficult detection and high survivability. The current size of the PLA's cruise missile arsenal is unknown; that said, a 2010 U.S. Department of Defense report estimated the PLA had 200–500 operational HN-2 cruise missiles (DOD, January 1, 2010). In 2019, the PLA unveiled its new hypersonic glide missile system, the medium-range DF-17 (CSIS, April 23, 2024). This missile, traveling at high speeds, can maneuver as it approaches a target, further complicating anti-defense measures.

The PLA could potentially attach their HPMs to its HN-2s or DF-17s, similar to the U.S. military's Counter-electronics High Power Microwave Advanced Missile Project (CHAMP)—an HPM device attached to an AGM-86 cruise missile that can attack seven different targets in under one hour (<u>Air Command and Staff College</u>, 2020). This requires advanced technology to ensure precision strikes from a fast-moving platform. The PRC's advancements in synchronization technologies and their development of mobile-platformed HPMs indicate their capability to develop such weapon systems. The PRC is also heavily investing in EMP shielding technologies to protect its military and civilian infrastructure (<u>Qin Feng et al.</u>, September 1, 2023). Some studies focus on PLA operational platforms, including research on EMP shielding for warships, aircraft, and strategic facilities, ensuring the PLA's resilience in high-intensity electronic warfare environments, emphasizing the importance of maintaining dominance in this domain (<u>Li Yuebo et al.</u>, 2023).

HPMs are Critical to PLA Informatized Warfare

The PLA has sought to integrate HPM weapons into its operational doctrine, emphasizing their role in disabling enemy command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR) systems, in addition to serving as an anti-access weapon in aerial and naval spaces (RAND, February 17, 2011). Senior PLA officials and defense strategists have consistently underscored the importance of electromagnetic spectrum dominance (Center for Strategic and Budgetary Assessments, October 5, 2017). The PLA's official publications, such as the 2015 defense white paper "China's Military Strategy" (中国的军事战略), highlight electromagnetic superiority as essential for future conflicts. The military's mouthpiece, PLA Daily, has also explored the strategic evolution of electromagnetic warfare, emphasizing how EMP weapons have become critical to modern warfare as forces become more technologically advanced (Xinhua, May 26, 2015; PLA Daily, May 26, 2022).

HPM weapons are critical for the PLA's strategy of informatized warfare that seeks to dominate the information space through advanced electronic and cyber capabilities. This strategy emphasizes targeting technologically advanced adversaries' deep reliance on electronics, using EMPS to disable their integrated network of C4ISR infrastructure. Based on this strategic outlook, the Central Military Commission (CMC) has issued directives emphasizing the need to enhance the PLA's electromagnetic capabilities, with CMC Chairman Xi Jinping reinforcing the importance of informatized warfare (National Defense Science & Technology, 2022).

Central to the PLA's informatized warfare strategy is its evolving concept of "cyber electromagnetic space" warfare (网络电磁空间作战). The *Science of Military Strategy*, one of the PLA's most authoritative doctrinal publications, dedicates an entire chapter to this integrated domain, emphasizing the fusion of electronic and cyber technologies to conduct multi-layered information attacks (<u>Science of Military Strategy</u>, January 2020). This integrated concept differs from that of the United States, which does not combine the two into a singular domain (<u>Institute for National Defense and Security Research</u>, May 2022). The Institute for National Defense and Security Research states that the PLA's doctrine further diverges from the U.S. conception of cyber warfare in that it incorporates kinetic cyber attacks into its framework to a greater degree, alongside soft attacks. HPMs are seen as the bridge between these two types of cyber attacks as they can either temporarily disable or physically destroy electronic devices, meeting the threshold for both types of attacks. Within this framework, cyberspace is related to the electromagnetic spectrum, as both are components of an integrated operational domain. Thus, when the PLA's *Science of Military Strategy* declares that "victory in war begins with victory in cyberspace" (战争的胜利先从网络空间开始), it entails the importance of EMP weapons, including HPMs (Science of Military Strategy, January 2020).

In an offensive context, HPM attacks could neutralize enemy communication networks, disrupt power grids, and disable electronic command systems, degrading an opponent's ability to coordinate a response. [5] For instance, in a Taiwan contingency, HPM strikes could target critical infrastructure such as command centers, radar installations, and missile defense systems, severely weakening Taiwan's ability to resist a PLA assault (Wuthnow et al., eds., 2023). PLA strategists emphasize EMP weapons as part of joint electronic and cyber warfare operations, whereby HPM attacks would be synchronized with cyberattacks to paralyze Taiwan's digital networks and power grids, forcing an early battlefield advantage.

From a defensive perspective, HPMs are an important anti-access weapon. Land-based HPMs can serve as a cost-effective air defense system against missiles and aircraft. Shipborne HPMs can deny enemy ships access to sea lanes. HPMs are also gaining importance as unmanned aerial vehicles (UAVs) and unmanned underwater vehicles (UUVs) play a larger role in modern combat, as HPMs can intercept swarms of small and digitally controlled attack systems.

Two primary goals lie behind the PRC's HPM research and development. The first is to achieve an asymmetric warfare advantage, using cost-effective means to neutralize high-tech adversaries without engaging in direct kinetic conflict. The second is to use paralyzing strikes (against radar air-defense systems, for example) to pave the way for conventional attacks (Association of the United States Army, July 1, 2019). [6]

Russia Provides Object Lesson for Electronic Warfare

The PRC has closely studied recent conflicts to refine its HPM application theories. Since Russia's invasion of Ukraine beginning in February 2022, PLA research has emphasized the importance of early-stage cyber-electromagnetic dominance. [7] Russia's use of electronic warfare (EW) to disrupt Ukraine's communications systems and disable UAVs have shown Beijing how HPMs could shape the battlespace. [8] Although neither has used any HPM weapons specifically, lessons can still be gleaned from the overall EW doctrines of the parties to the current conflict.

Russia launched a wave of EW attacks against Ukrainian S-300 and SA-11 surface-to-air-missile batteries at the outset of the conflict, allowing for Russian missiles to strike Kyiv (RUSI, November 7, 2022). Weapons like Russia's Khibiny pod, a jamming device attached to fighter jets, and Krasukha, a mobile land-based jamming device, were likely used in these EW strikes. The latter devices more recently have been effective at disrupting the fire and control systems of Ukraine's U.S.-supplied HIMAR missiles. Ukrainian anti-missile defenses were eventually reconstituted as Russia scaled back its EW attacks to avoid also impacting its own forces. Both sides have also used EW weapons for anti-access and denial purposes. Hand-held anti-drone guns that disrupt radiowave signals between drones and the operators on the battlefield are common (Hague Center of Strategic Studies, February 7, 2023). Russian drone and missile attacks on critical infrastructure such as power plants demonstrate the potential impact HPMs could have if used to disrupt such systems in a future conflict. These operations have left millions of Ukrainians experiencing regular blackouts and inconsistent energy supplies.

Taking lessons from the war in Ukraine, the PLA's emphasis on electromagnetic dominance has grown. Russia's use of EW weapons to disrupt Ukraine's C4ISR systems, particularly in the realm of aerial defense, has proven effective, as have defensive EW weapons degrading enemy UAV and guided missile attacks. PLA analysts also recognize the psychological impact of potential HPM attacks against critical infrastructure. EMP-induced blackouts and communication failures can create fear, confusion, and operational paralysis among adversaries. [9] Consequently, the PLA is integrating HPM weapons into broader cognitive and psychological warfare strategies to weaken enemy resolve.

Conclusion

PRC investment in HPM weapons reflects broader strategic objectives; namely, countering U.S. conventional superiority by asserting dominance in the cyber and electromagnetic space. The PRC's near monopoly of HPM patents, which ensures its dominance in research in this field, should be a particular concern for the United States. For those in the PLA's crosshairs, like Taiwan, PLA development of new aerial and ship-borne HPMs indicates greater offensive EMP capabilities that will threaten their C4ISR systems and critical infrastructure.

The PLA views EMP warfare, particularly HPMs, as critical to modern warfare. Further advances are crucial to Xi Jinping's vision of building a modernized PLA force by 2035. They also align with the PLA's informatized warfare doctrine, which emphasizes advancing cyber, space, and electromagnetic capabilities. So long as the PLA continues to believe the cyber-electromagnetic space is where the "victory of war begins," HPMs will play a critical role in any future conflict.

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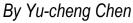
Notes

- [1] Yang Ji, Li Yuchun, Liu Qiushi, et al. "Spatial Distribution Characteristics of High-altitude Nuclear Electromagnetic Pulse" [高空核電磁脈衝的空間分佈特徵]. *Equipment Environmental Engineering* (裝備環境工程) 21, no. 10 (2024): 151–157.
- [2] Li Bin, Xu Li, Wang Hao, Yin Junhui, Hu Quan, Hu Yulu, Yang Zhonghai. "Computational Electromagnetics and Electromagnetic Industry Software." Journal of University of Electronic Science and Technology of China, Vol. 53, No. 6, 2024, pp. 803–815. DOI: 10.12178/1001-0548.2024248.
- [3] Pei, Gaofei, et al. "Simulated Analysis of Electromagnetic Pulse inside Ship Mast in High-power Electromagnetic Circumstance." New Technology and New Processes (新技術新工藝) no. 9 (2023): 29–37.
- **[4]** Zhu, Yuanjiang, Yang Kang, Bao Qiuxiang, Xu Yu, Jiang Weixiang, and Song Shiqian. "Design and Verification of Broadband Multi-Beam Transmission Using Digital Arrays." Journal of University of Electronic Science and Technology of China 52, no. 6 (November 2023): 818–825. https://doi.org/10.12178/1001-0548.2023077.
- [5] Liu, Lun'gang, et al. "Electromagnetic Pulse Weapons: Major Threats to Civil Defense Command and Communication Systems and Countermeasures." *National Defense Mobilization* (國防動員), no. 7 (2023): 8–9.
- [6] Ge, Jun, et al. "Research on Intelligentized Warfare and Countermeasures for Combat Capability Construction." *National Defense Technology* (國防科技) 43, no. 6 (2022): 107–113.
- [7] Li Xin Hui et al. "Analysis of the application of unmanned intelligent equipment in the Russian-Ukrainian conflict from the perspective of the kill chain" *Command Control & Simulation* (指揮控制與仿真) 46, no. 5 (2024): 6–12. For more on PLA lessons from Russia's war in Ukraine, see China Brief, March 28.

[8] Zhang Yujie, Wang Wei, Xiong Zheng, and Dai Jingke. "Analysis of Joint Communications and Communication Confrontation in the Russia-Ukraine Conflict." *Defense Industry Conversion in China* (中國軍轉民) 1 (2024): 197–199.

[9] Yang Yang and Zhang Zhaoxin. "Electronic Warfare Systems in Future Wars and Their Impact." *Equipment* (裝備), no. 12 (2021): 44–45.

Taiwan Exposes More PRC Military Infiltration Cases





Taiwan's President Lai Ching-te holds press conference following high-level national security meeting. (Source: <u>Taiwan's Office of the President</u>)

Executive Summary:

- Recent infiltration cases indicate that the Chinese Communist Party (CCP) has significantly intensified non-military espionage operations targeting Taiwan's military, demonstrating strategic diversification beyond traditional military threats.
- Data reveals a sharp rise in prosecuted espionage cases over 2021–2024, with military personnel (active and retired) comprising approximately 66 percent of indicted individuals.
- The CCP's infiltration objectives encompass gathering sensitive military intelligence, psychological and cognitive warfare—including inducing military personnel to pledge surrender or create surrender videos and recruiting senior military officials to form internal networks designed to undermine Taiwan's security from within.
- Responding to these threats, President Lai Ching-te announced a comprehensive 17-point national security initiative in March 2025, explicitly addressing CCP infiltration methods, raising public awareness, and signaling to the international community Taiwan's unwavering determination to counter China's covert influence operations—measures as essential as traditional military preparedness.

An acute rise in espionage cases uncovered in the last two years led Taiwan's president Lai Ching-te (賴清德) to unveil a 17-point national security initiative in March this year. The initiative is aimed at countering the threat of infiltration by the Chinese Communist Party (CCP), which it defines as a "hostile external force" (境外敵對勢力) (President Office, March 13). The announcement follows a series of recent criminal cases that have exposed efforts by the CCP to subvert Taiwanese society in pursuit of its objective of national unification. These efforts are part of a spectrum of approaches the Party deploys, and are complementary to coercive military tactics that have also risen significantly in recent years (China Brief, January 17).

CCP infiltration operations still target the same kinds of people as they always have—mainly retired and active-duty military personnel—but their objectives have shifted from simply gatheing intelligence to engaging in cognitive warfare. By encouraging their targets to declare their support for the CCP, including in the event of a conflict, the Party seeks to undermine resilience in Taiwan. Responses from Taipei have been mixed. Despite an unusually harsh sentence for a former Air Force Colonel in late 2023, recent national security cases have either been dismissed or led to minimal punishment (China Brief, November 10, 2023). Lai's initiative is crafted in part to counter the apparent rise in espionage cases and instil morale among the people.

The CCP's Covert Front Targets the Military

The CCP's espionage strategy is rooted in the strategic thinking of Mao Zedong (毛泽东). Mao once said that there are two types of warfare: open and covert (<u>People's Daily</u>, September 5, 2015). For the latter, the fundamental goal is to create internal chaos within adversary states and weaken them from the inside, referred to as the "covert front" (隐蔽战线). Mao borrowed this thinking from the putative strategist Sunzi (aka Sun Tzu), who wrote in the *Art of War*—which includes a chapter dedicated to the use of spies—that "the best possible [strategy] is to subdue the enemy without fighting" (不戰而屈人之兵, 善之善者也) (<u>Chinese Text Project/The Art of War</u>, accessed May 5).

The CCP's covert front involves dispatching agents to carry out various secret activities, including espionage, intelligence gathering, developing underground organizations, and conducting influence operations. [1] It has been active against Taiwan since the founding of the People's Republic of China (PRC) in 1949, when using intelligence agents to infiltrate Taiwan's military became a significant part of the PRC's covert operations (Macau Legal Paper, September 16, 2024). At that time, operations targeted high-ranking officers and collected intelligence to undermine the morale of Taiwan's armed forces and support its strategy for unification. [2] These operations have continued to various degrees ever since (Focus Taiwan, March 13).

Since 2021, the number of espionage cases prosecuted in Taiwan has risen dramatically. From three in 2021 and five in 2022, they increased to 14 in 2023 and 15 in 2024. In the last two years, the number of indicted individuals was 48 and 64, respectively—a significant jump over the preceding two years (see Figure 1). Among the cases prosecuted in 2024, military personnel, including active and retired service members, accounted for two thirds (66 percent) of the defendants (see Figure 2). This indicates that Taiwan's military systems have remained key targets for CCP infiltration efforts (National Security Bureau, January 12).

The CCP recruits agents through diverse channels. Its intelligence agencies make contacts through criminal gangs, underground banks, shell companies, temples, and civic groups. Despite this array of approaches, retired military personnel nevertheless continue to play a critical role (Kuma Academy, February 14).

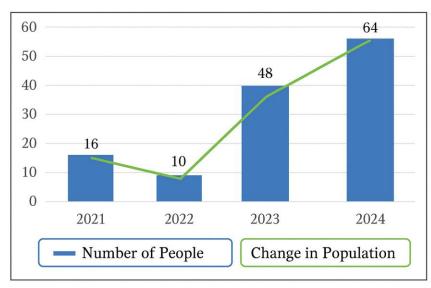


Figure 1: Comparison of the Number of Indictments in Espionage Cases (2021-2024)

(Source: Kuma Academy, February 14)

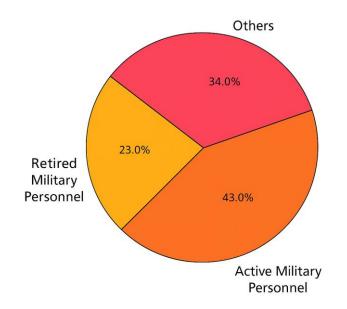


Figure 2: Composition of PRC Infiltration Targets in Taiwan 2024

(Source: Created by author)

CCP Acquires Secrets, Secures Surrenders, Funds Armed Groups

Acquiring military secrets remains a key intelligence goal. For example, in March 2025, Taiwan's judicial authorities prosecuted a retired Air Force Major for allegedly leaking information to PRC intelligence agencies about Taiwan's Indigenous Defense Fighters (IDF)—jets that may be equipped with Hsiung Feng III (雄風三型) medium range supersonic missile—and about strategies to counter PLA operations (CNA, March 12). Taiwan's Ministry of National Defense emphasized during parliamentary inquiries that the leaked documents were merely intended for academic discussion and were produced before the formal development of the Hsiung Feng III missiles and, as a result, did not involve actual military operational data or pose a substantial threat to national security (CNA, March 13). Extensive media coverage sensationalized the incident, however, with headlines such as "Hsiung Feng III Missile Secrets Stolen" (雄三飛彈機密遭竊), "Pilot Betrays Taiwan" (飛官賣台), and "Serious Leak from the Air Force" (空軍爆嚴重洩密案) (BCC News, March 12; CTS, March 12; Upmedia, March 12). This inevitably led to considerable public concern about the potential impact on Taiwan's national security. This second-order effect may have not been an intended outcome, but it aligns with another CCP intelligence goal.

CCP infiltration also focuses on cognitive warfare, with the intent to demoralize Taiwan's population. One method used is exemplified by the case of a former colonel at Taiwan's Infantry Training Command, surnamed Hsiang (向). Hsiang was recruited in 2019 by a retired military officer surnamed Shao (邵). According to prosecution documents, Colonel Hsiang signed "pledges of surrender to the CCP" (降共誓約書) on October 2, 2019, and January 12, 2020. In the pledges, he agreed to serve the CCP in the case of a cross-strait conflict (Liberty Times, April 9, 2024). Shao then delivered these pledges to personnel from the Fourth Office of the Xiamen Municipal People's Government in the PRC. In late 2023, Taiwan's Supreme Court sentenced Colonel Hsiang to seven years and six months in prison and, in early April 2024, a disciplinary court further ordered his dismissal (UDN, April 9, 2024). The Taiwan High Prosecutors Office also handed down verdicts on additional espionage cases in late August 2024. These implicated seven active-duty and three retired military personnel.

The most high-profile recent case involved an army pilot enticed to defect by helicopter to a PLA aircraft carrier, surrender military secrets, and persuade another active-duty officer to film propaganda videos publicly declaring their willingness to surrender if war broke out across the Taiwan Strait. The Taiwan High Court sentenced the two men to 13 years 9 years in prison, respectively (CNA, February 14). In a separate case, the Taiwan High Court in February sentenced a temple chairwoman with gang affiliations, surnamed Li (李), to 6 years and 8 months in prison. Her crime was the recruitment of active-duty and retired Taiwanese military personnel under CCP directives to film surrender videos and collect military secrets (RTI, February 25).

CCP intelligence has also targeted senior military leaders and cadres. In 2024, the Taiwan High Prosecutors Office indicted retired Army Lieutenant General Gao (高) and others for allegedly accepting CCP funding to establish armed groups in Taiwan. These groups would serve as internal CCP operatives during wartime, working to subvert Taiwan's government. Gao, after retiring as an Army lieutenant general, served as the head of a pro-unification organization called the "Republic of China Taiwan Military Government" (中華民國台灣軍政府). He frequently traveled between Taiwan and the PRC with his girlfriend, surnamed Liu (劉), and an organization spokesman, surnamed Hou (侯) (CNA, Janaury 22; PTS, January 23). Prosecutors found that

CCP intelligence had recruited Gao, who then developed armed groups that planned subversive operations and promised internal support for a CCP invasion. He also requested up to NTD 9,260,000 (\$305,000) from CCP intelligence (CNA, February 7).

Mixed Legal Judgments Benefit CCP Objectives

High-ranking military officials implicated in infiltration-related cases do not always receive punishments that align with the crimes of which they are accused. For instance, a retired Navy rear admiral surnamed Hsia (夏), allegedly recruited in 2013, brought retired senior Taiwanese officers to the PRC for visits sponsored by united front-affiliated organizations. These visits included attending Huangpu Military Academy Alumni seminars (黃埔軍校同學會座談), commemorative events for Sun Yat-sen's birthday (孫中山誕辰), and the Zhuhai Airshow (珠海航展), the PRC's flagship biennial aerospace expo. Hsia was initially sentenced to five months convertible to a fine, but on appeal he was acquitted due to insufficient evidence (RTI, October 23, 2024).

In a separate case, another retired Navy rear admiral, surnamed Sun (孫), a retired colonel surnamed Liu (劉), and two civilians were accused of recruiting retired Taiwanese military officers on behalf of CCP (Liberty Times, March 15, 2024). The alleged conspirators arranged sponsored visits to PRC and the United States. Their actions violated Taiwan's "National Security Act" (國家安全法), the "Anti-Infiltration Act"(反滲透法), and the "Presidential and Vice-Presidential Election and Recall Act" (正、副總統選舉罷免法), by allegedly organizing activities funded by the CCP to influence retired military personnel, encourage political interference, and bypass legal registration requirements for foreign influence.

The Kaohsiung Branch of Taiwan's High Court, which heard the case, found all defendants not guilty (PTS, February 25), citing insufficient evidence to prove coordination with a foreign hostile force or intent to undermine national security. According to judicial officials familiar with espionage prosecutions, CCP operatives often exploit family visits as cover and conduct covert funding via complex financial routes, making it difficult to trace money trails. Additionally, organizations funded by the Taiwan Affairs Office are not consistently classified as foreign hostile entities in legal proceedings, which further complicates prosecution. These legal ambiguities raise the threshold for conviction, resulting in many cases being dropped despite credible suspicions (CNA, April 21). The ruling may still be appealed. In the meantim, it has already sparked widespread public debate (CNA, January 9).

These judicial actions impose only limited—if any—restrictions on the high-ranking retired officers accused of misconduct. Such outcomes impact morale within Taiwan, eroding people's confidence in Taiwan's ability to resist PRC coercion and in the strength of its institutions. This could also shape external views on and confidence in Taiwan's capacity to effectively counter CCP infiltration.

Taiwan Moves to Strengthen Counterintelligence

Taiwan's National Security Bureau argues that recent espionage breakthroughs are due to enhanced internal security awareness. The string of cases could be attributed to stronger counterespionage work, but it could also reflect an increase in CCP infiltration in Taiwan (UDN, January 12).

In response to concerns about the level of infiltration, Taiwan's Minister of National Defense on March 13 confirmed plans to expand the military's counterintelligence capacity, revise procedures governing access to classified information, and partially restore military tribunals targeting severe offenses such as treason and collaboration with enemies (<u>Liberty Times</u>, March 13; <u>CNA</u>, March 13). Authorities also plan to amend regulations governing veterans affairs, expanding restrictions and suspending benefits for those who are implicated with infiltration cases (<u>Liberty Times</u>, March 13).

On the same day, President Lai used a press conference to introduce a 17-point initiative specifically aimed at countering the CCP's infiltration threats (<u>President Office</u>, March 13). Besides defining the CCP as a "hostile external force" (境外敵對勢力), the initiative included enhanced military counter-infiltration measures. Other ministries have also begun aligning policies with the broader national security strategy. For example, the Ministry of National Defense announced plans to restructure Taiwan's military judicial system as part of the broader counter-infiltration strategy. Following President Lai's 17-point initiative, the MND proposed reinstating military courts to prosecute service members accused of espionage or violating their constitutional duty of loyalty to the nation. These revisions to the Military Justice Law—which had previously been limited to wartime application—aim to address long-standing legal gaps and improve the prosecution of internal national security threats (MND, March 13).

In parallel, the Ministry of National Defense also introduced a comprehensive personnel vetting mechanism, which includes the review of digital file records and the establishment of a security clearance certification system. This framework is designed to proactively detect individuals who pose internal security risks and to use such data to guide personnel assignments and uphold national defense integrity (<u>PTS</u>, April 20).

The timing of the announcement was intended to carry additional political weight. Lai's press conference took place on the 20th anniversary of Beijing's passage of the "Anti-Secession Law" (反分裂國家法) in March 2005, which many analysts view as a legal foundation for the PRC's potential use of force against Taiwan. (MFA, March 14, 2005). By framing its countermeasures within the concept of resisting "hostile external forces," the Taiwanese government implicitly asserted a narrative of mutual non-subordination, preemptively responding to possible PRC efforts to reassert its "One China" framework. This rhetorical shift served as both a legal and political counter to the CCP's increasingly aggressive posture and as a clear message to the world rejecting Beijing's annexation plans while reaffirming its dedication to democratic prosperity (MAC, March 14). This was noticed by some commentators in the PRC, who reacted strongly in response. For instance, Bao Chengke (包承柯), assistant director of the Institute for East Asian Studies in Shanghai, argued that Lai's statement could provoke Beijing into using legal, military, and economic measures to counter "Taiwan independence" (台独) activities (World Journal, March 14).

Conclusion

The CCP's covert operations have successfully infiltrated Taiwan's senior military ranks. They have gone beyond intelligence gathering, guiding and funding armed groups that are actively planning "wartime internal support" (戰時內應/武裝內應) operations. By deploying drones and other equipment, they also monitor Taiwanese military activities and help prepare for a potential invasion (China Brief, December 20, 2024).

President Lai's 17-point national security initiative directly addresses the increasing threats CCP infiltration efforts pose. By responding to the CCP's evolving operational methods, Taiwan is strengthening its counterespionage capabilities. These measures not only enhance public awareness of the security threats Taiwan faces but also signal to the international community that Taiwan is determined to counter those threats. It is currently too early to assess their impact, but future trends in the number of cases tried in court and the sentences that are delivered as a result will be critical indicators of the measures' success.

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Notes

[1] See Mattis, Peter, and Matthew Brazil. *Chinese Communist Espionage: An Intelligence Primer.* Annapolis, Maryland: Naval Institute Press, 2019. Chapter 1.

[2] 林威杰 [Lin Weijie]. 战后中共在中国台湾的隐蔽战线——洪国式个案探微 [The Covert Front of the CCP in Taiwan region after the World War II: A Case Study of Hong Guoshi]. *Taiwan History Studies* 2 (2024): 65–76.