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CMSR provides a centralized home for scholarship and reflections on Chinese military studies and the People's Liberation Army in its many forms. Scholars and practitioners are invited to share their original research on Chinese strategic studies and the PLA including foundational knowledge on the way China shapes its military strategy, research on PLA operations, translations of PLA works, and MCU student research subject areas.

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From the Editor

It is my privilege to welcome readers to the inaugural issue of China Military Studies Review (CMSR), a new academic journal published by Marine Corps University Press. As the director of the Marine Corps War College (MCWAR), I am pleased to introduce this publication as the scholarly centerpiece of a broader effort launched this year: the **China Warfighting Initiative**.

The purpose of CMSR is straightforward—yet essential. This journal will serve as a professional forum for original research and writing that deepens our understanding of the People's Liberation Army (PLA), with a particular emphasis on their capabilities, doctrine, and behavior at the tactical and operational levels. These are the levels at which the Marine Corps will most likely encounter PLA forces in the contested littorals of the Indo-Pacific. Accordingly, CMSR is designed to support the operating force by addressing real-world problems, raising awareness of emerging challenges, and bridging the gap between scholarship and warfighting practice.

While China Military Studies Review is published under the auspices of Marine Corps University, it draws from a wide base of contributors, which include MCWAR and Marine Corps University students and faculty, as well as experts and practitioners from the broader academic, defense, and interagency communities. We welcome a diversity of perspectives and analytic approaches, so long as they advance the journal's core mission: to improve the Marine Corps' intellectual edge in an era of strategic competition.

This publication forms one component of the China Warfighting Initiative (CWI), which we launched this year to advance China-focused education across the Marine Corps' professional military education system. In addition to this journal, the CWI supports faculty and curriculum development, facilitates China-focused wargames and scenario design, and hosts a China Scholars Program—open to PME-attending officers of all grades—for deep-dive study of Chinese military strategy, doctrine, and operational art. MCWAR will also launch a China Warfighting Lecture Series in fall 2025, open to the wider PME and Joint communities, and anticipate the publication of a recurring CWI newsletter to highlight key findings, track developments, and promote ongoing research of operational relevance to the Fleet Marine Force.

As we look to future issues of CMSR, I encourage thoughtful, candid, and evidence-based contributions. The stakes of misunderstanding the PLA are too high, and the margin for error too slim. The Marine Corps must be ready—not just physically, but intellectually—

to fight and win in any future conflict. China Military Studies Review is one small but vital step in that direction.

Semper Fidelis,
Colonel Andrew Kelley, USMC
Director, Marine Corps War College



THE ROLE OF MILITARY-CIVIL FUSION IN PLA STRATEGY

How China's Military-Civil Fusion Strategy Supports PLA Modernization
and Enhances Operational Capabilities
Major Jonathon Lee

Abstract: The People's Republic of China's (PRC) Military-Civil Fusion strategy seeks the rapid modernization of the People's Liberation Army (PLA). The strategy applies a whole-of-society approach to integrate civilian industries, universities, and defense initiatives to develop advanced dual-use technologies. While the strategy has accelerated PLA modernization, internal barriers—such as bureaucratic delays and organizational inefficiencies—hamper the coordination of research efforts and delay technological advancement. Reliance on foreign semiconductor technologies further complicates progress. Failure to swiftly navigate these challenges could hinder the PLA's development and limit the Chinese Communist Party's capacity to project power regionally.

Keywords: People's Republic of China, PRC, People's Liberation Army, PLA, Military-Civil Fusion, MCF, modernization, operational readiness, dual-use technologies, intelligentized

The People's Republic of China's (PRC) implementation of its Military-Civil Fusion (MCF) strategy aims to radically transform the People's Liberation Army (PLA) into an advanced fighting force capable of challenging the United States within the Indo-Pacific region. Analysts within the United States' PLA-watching community emphasize the importance of the PLA integrating military-civil strategic thinking into its overall economic development and national defense planning, aligning economic and social progress with its military requirements.¹ The MCF strategy conceptualizes a whole-of-society approach to enable President Xi Jinping's vision of transforming the PRC into a leading global power. The MCF strategy is pivotal for modernizing the PLA. It fosters collaboration between civilian industries and military operations to enhance technological capabilities and operational readiness. Nevertheless, the PRC is encountering considerable domestic challenges in implementing MCF.

¹ *Science of Military Strategy 2020*, In Their Own Words series (Montgomery, AL: China Aerospace Studies Institute, Air University, 2022), 36.

Understanding the implications of these challenges is crucial to assess the effectiveness of MCF in achieving the PRC's strategic objectives.

MCF fosters collaboration between civilian industries and the military by integrating the university sector and research institutions to support the development of an intelligentized force. The intelligentized force concept aims to gain a military edge over the PRC's geopolitical competitors by leveraging emerging disruptive technologies, such as artificial intelligence (AI) and autonomous systems, to integrate automation and shorten the decision cycle across the PLA.² Achieving intelligentization requires the MCF strategy to focus on six lines of effort: (1) integrating the PRC's defense industrial base with its civilian technology and industrial base, (2) integrating science and technology across military and civilian sectors, (3) synthesizing military and civilian expertise, (4) building military requirements into civilian infrastructure, (5) leveraging civilian logistical capabilities for military purposes, and (6) expanding the PRC's mobilization plan for use in competition and conflict.³ This approach centers on incorporating science, technology, engineering, and mathematics (STEM) research and development (R&D) initiatives at universities through military funding to pursue AI and autonomous systems, driving modernization.⁴ The pledge of PLA funding spurs an explosion in privatized research, with several hundred Chinese universities signing up for MCF initiatives. Many of these universities launched their own MCF platforms and national defense laboratories to support PLA STEM requirements.⁵ Key to these requirements is the focus on integrating advanced military-civilian dual-use technologies within the PLA, including technologies such as deep learning, machine vision, and intelligent robots.⁶ Yet, as the PRC learned during its prolonged cybercriminal campaign against the United States, codeveloping technology with the university sector increases the vulnerability of intellectual property (IP) to cyber espionage activities. Managing the risk of cyber espionage required the Chinese Communist Party to establish state secrecy protocols to protect PLA R&D. As Zi Yang describes, "universities seeking MCF participation need to reorganize themselves according to the Office of the Central Secrecy Commission requirements and submit to repeated secrecy inspections."⁷ Despite these stringent requirements, continued collaboration between universities and the PLA drives innovation and the development of advanced dual-use technologies. In turn, this innovation positions the PLA to accelerate its achievement of an intelligentized force by 2035.

The MCF strategy enhances PLA modernization and operational readiness by establishing a central oversight committee, leveraging civilian logistics capabilities, and

² *Science of Military Strategy 2020*, 174.

³ *Military and Security Developments Involving the People's Republic of China, 2024: Annual Report to Congress* (Washington, DC: Department of Defense, 2024), 24.

⁴ Manoj Joshi, *China's Military-Civil Fusion Strategy, the US Response, and Implications for India* (New Delhi: Observer Research Foundation, 2022), 19.

⁵ Elsa B. Kania and Lorand Laskai, *Myths and Realities of China's Military-Civil Fusion Strategy* (Washington, DC: Center for a New American Security, 2021), 14.

⁶ *Science of Military Strategy 2020*, 179.

⁷ Zi Yang, "Opening Up while Closing Up: Balancing China's State Secrecy Needs and Military-Civil Fusion," *Asia Policy* 16, no. 1 (2021): 59.

deepening defense mobilization. The Central Military-Civil Fusion Development Committee (CMFDC), headed by Xi, comprises 26 high-level leaders representing the Politburo Standing Committee, the State Council, and the Central Military Commission. The CMFDC leads, manages, and oversees the MCF ecosystem to address deficiencies in top-level coordination and management systems.⁸ High-level membership in this committee ensures sufficient political clout and critical mass within the leadership elite to offer steady administrative guidance for integrating state-owned enterprises (SOEs), privately owned enterprises (POEs), and the PLA. Cross-sector alignment ensures that all parties are aware of the strategic direction of innovation requirements while creating a pathway to establish and support logistics needs for power-projection purposes. The PLA Joint Logistics Support Force (JLSF) and the PLA Air Force (PLAAF), in particular, leverage e-commerce and logistics companies to create dual-use logistics hubs. Cooperation agreements with China Railway Express, China Postal Express and Logistics, JD Logistics, and Deppon Logistics have significantly enhanced the JLSF and PLAAF's overseas logistics and basing infrastructure, enabling the PLA to meet its power projection requirements.⁹ The establishment of these dual-use logistics hubs significantly deepened the PRC's national defense mobilization MCF, enabling a coordinated military-civilian response to crises through a modernized transportation and distribution system designed to project and sustain the PLA's global reach.¹⁰ Thus far, the MCF strategy has proved broadly successful, assisting with revolutionizing the PLA to expand its antiaccess/area-denial capabilities beyond the first island chain.¹¹ With the acceleration of the Fourth Industrial Revolution technologies, including AI, big data analytics, and autonomous systems, the PRC's MCF strategy has positioned the PLA to respond to contingencies with a nationally coordinated response force.

While the MCF strategy has enabled the rapid modernization of the PLA, the PRC faces considerable domestic challenges with its implementation, including structural and institutional barriers, a lack of incentives for POEs, and reliance on foreign-owned advanced technologies. SOEs, which form the basis of the PRC's military-industrial base, are often lumbering and inefficient in driving innovation. As the traditional custodian of the defense industrial base, SOEs maintain a significant advantage in resources and capital over privatized start-ups. Consequently, SOEs prioritize maintaining their monopolization of the sector rather than fostering a culture of innovation. Concurrently, there is a lack of incentives for privatized technology firms to pursue dual-use technologies with the defense industry. As Elsa Kania and Lorand Laskai describe, "high tech firms outside of the traditional defense industry, few companies have found sufficient incentives to actively participate in supporting national defense . . . [over more lucrative] commercial applications."

⁸ Tai Ming Cheung, *Innovate to Dominate: The Rise of the Chinese Techno-Security State* (Ithaca, NY: Cornell University Press, 2022), 106.

⁹ Joshi, *China's Military-Civil Fusion Strategy, the US Response, and Implications for India*, 21.

¹⁰ *Military and Security Developments Involving the People's Republic of China 2024*, 29.

¹¹ Richard Bitzinger, "China's Shift from Civil-Military Integration to Military-Civil Fusion," *Asia Policy* 16, no. 1 (2021): 24.

Furthermore, Lauren Yu-Hsin Lin and Curtis J. Milhaupt found that, until 2018, fewer than 60 percent of SOEs and 26 percent of POEs had adopted decision-making provisions that supported party compliance. The low adoption rates among SOEs and POEs indicate that compliance is more often a symbolic gesture, questioning the effectiveness of party control over innovation. Consequently, the low adoption rates suggest that state-driven coercion to force collaborative innovation and integration between SOEs and POEs has had limited success. The PRC's reliance on foreign semiconductor technology further complicates its defense programs, with 2 percent of the PLA's official defense budget apportioned to purchasing semiconductors for MCF programs. However, the United States has implemented tighter trade restrictions on Chinese technology companies, such as Semiconductor Manufacturing International Corporation and Huawei Technologies, restricting the sale of end-user licenses for equipment that could be used for military purposes. Consequently, demand for high-tech semiconductors within the defense industrial base outpaces supply, significantly impacting MCF R&D initiatives. Semiconductor supply concerns, combined with the structural and institutional barriers between SOEs and POEs, threaten to stagnate the development of advanced dual-purpose technologies.

Implementing the MCF strategy serves as a crucial foundation for the modernization and operational readiness of the PLA. The integration of civilian industries, universities, and the PLA enables the PRC to adopt a whole-of-society approach to leveraging the development of advanced technologies, granting the PLA a decisive advantage over its geopolitical competitors. The establishment of the CMFDC exemplifies Xi Jinping and the CCP's commitment to this strategy, streamlining processes across all sectors. This strategy, however, faces considerable domestic challenges that jeopardize its effectiveness. The prioritization of SOEs maintaining their monopoly over the defense industrial base, combined with a lack of interest from POE start-ups in developing dual-use technologies and a reliance on the foreign semiconductor industry, hinders the full realization of the MCF strategy. Navigating these complexities will determine the PLA's ability to evolve into an intelligentized force and shape the PRC's standing in the global balance of power, influencing geopolitical stability in the region. As the world shifts away from globalization, future scholarship can build on this analysis by examining the PRC's ability to overcome disrupted supply chains and technological isolation from Western markets to achieve its goals of intelligentization.