
China's Military-Civil Fusion Strategy: Building a Strong Nation with a Strong Military

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Abstract

Since Xi Jinping came to power, new concepts and ideas have come to define China's polity. Of which, Military-Civil Fusion (MCF) is one of the significant concepts added to China's national strategy with the aim to integrate the civilian research and commercial sectors with the military and defence industrial base. The MCF is integral to Xi's vision of China Dream of building a strong country with a strong military by enabling the Military to harness the country's rapid economic growth. Here, the quest lies in building capabilities in 'dual-use' technology and infrastructure to enhance China's overall economic and military capability and secure China's position vis-à-vis the West. The challenge for China is to match the speed and scope of the rapid technological pace to create fast or lose the ability to compete. In this context, the paper seeks to understand the civil-military integration in China, under its current form as 'MCF'. The key elements examined are the objectives, goals and policies of the MCF strategy. It also explores the significance as well as the scepticism attached to China's MCF strategy.

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Introduction

What America terms as ‘Civil-Military Integration’ (CMI), the People’s Republic of China (PRC) under the command of President Xi Jinping has named it “Military-Civil Fusion” (MCF, 军民融合). In general, CMI in the United States represents cooperation between the government and the private bodies in research and development; PRC’s MCF is ‘state-led, state-directed programme to leverage all levers of state and commercial power’ to strengthen the Communist Party of China’s (CPC) armed wing the People’s Liberation Army (PLA).

What is noteworthy is that unlike the West, China has no single term to denote CMI; as witnessed in the way the use and terminology of CMI has evolved under different leadership. For instance, CMI has been interchangeably used with terms such as: “military and civilian dual use” (军民两用), “military-civilian integration” (MCI, 军民结), combining peacetime and wartime preparations (平战结合), “nestling the military within the civilian” (寓军于民), “military-civilian fusion-style develop path” (军民融合式发展路子), among others.¹ Here, it is important to note that the language China uses to frame its plans itself becomes a point of query.

While CMI has been phrased differently in the Chinese context, but the essence has remained the same. That is, the aim is to achieve a state of “deep fusion” through the integration of the two essential building blocks: the military, and the civil. Here, ‘military’ includes every aspect of the national defence and force building endeavour; while ‘civil’ refers to fields in the economic and social system that are closely related to national defence and force-building.² The other key observable difference is that unlike the West, China puts ‘military’ before the ‘civil’; this very priority of order calls for significant ‘watch’ to understand—*What are China’s intentions?*

Xi Jinping's Quest for Reforms in CMI

In November 2013, at the Third Plenum of the 18th Central Committee of the CPC, Xi Jinping called for “deepening national defence and military reform”. As the Communiqué emphasised on the:

“objective of building a line of strong armies for this Party under new circumstances, [...] build a modern military force system with Chinese characteristics. We must deepen military structural and personnel allocation adjustment and reform, move adjustment and reform of military policies and institutions forward, and promote the integrated and deep development of the military and the people.”³

Following which, in November 2015, at Central Military Commission's Reform Work Conference, Xi expressed the intent to resolutely implement national defence and military reform as part of a comprehensive strategy to build a strong army and to unswervingly follow the path of building a strong military with Chinese characteristics.⁴ To which, Xi outlined the targets as: to make breakthroughs in military administration and joint operational command; to optimise the military structure, enhance policy systems and civilian-military integration; to build a modern military with Chinese characteristics that can win digital wars and effectively fulfil its duties; and to perfect the military system with Chinese characteristics⁵—resulting into the “most wide-ranging and ambitious restructuring since 1949.”⁶

Underlying these targets, Xi's four-point agenda under PLA's reform called for: adjust China's military leadership and command system, optimise structure and function, reform policies and systems and promote deeper civil-military integration.⁷ What is apparent is that seeking a ‘deeper civil-military integration’ is one of the key ambitions. Highlighting the ‘significance,’ Xi stated:

“Implementing the strategy of military-civilian integration is a prerequisite for building integrated national strategies and strategic capabilities and for realising the Party’s goal of building a strong military in the new era.”⁸

Here, the objective is to promote military development through coordinated efforts in sci-tech innovation in key areas between the military and the civilian sector-with integrated and deep development of the military and the people acting as the bottom line of the MCF. Thereby, Xi’s addition of “military-civil integration” to the reform agenda has confirmed its significant role in PLA’s overall military modernisation and China’s larger national security imperative.

Xi’s Push Towards MCF

While under Mao Zedong and Deng Xiaoping, the concept of ‘civil-military integration’ mainly centred on building China’s defence industrial base; the concept has significantly evolved under the successive leadership to include new elements such as military personnel education, logistics, and infrastructure planning and construction. Further expanding the scope, Xi identified new areas under MCF, that includes:⁹ infrastructure, national defence-related sci-tech industry, weapon and equipment procurement, talent cultivation, socialisation of the support system for the military, as well as the mobilisation for national defence for the integration of military and civilian industries.¹⁰ In view of this, in June 2017, Xi articulated the MCF strategy, by stating that:

“We must accelerate the formation of a full-element, multi-domain, and high-return military-civil fusion deep development pattern, and gradually build up China’s unified military-civil system of strategies and strategic capability.”¹¹

China's reforms have been a result of concerns over lack of resources and the need for defence modernisation. However, under Xi, the push forward is driven by the need to coordinate building of China's economy and defence capabilities simultaneously. This is guided by the objective to balance development and security in the overall national strategy, wherein: "[d]eepening national defence and military reforms are [to be] in line with the requirements of the times to realise the Chinese dream of national rejuvenation and China's strong-military dream."¹² In pursuit of which, Xi stressed that "the ideas, decisions and plans of military and civilian integration must be fully implemented in all fields of national economic development and defence building and in the whole processes."¹³

Xi's push forward in MCF is driven by the imminent need to modernise China's defence science, technology, and industrial base given the growing complexity in the security environment and the need for PLA to match the technological demands of fighting and winning "informationised local wars." This is motivated by the desire to make the PLA well-versed in modern technology-driven warfare; wherein, the lessons learnt by the Chinese from the Gulf Wars and Kosovo Crisis emphasized on the decisive role played by technology in modern warfare and conflicts—calling for the need to upgrade defence technology to match the pace of technological innovation. As the inability to match and adapt to the rapidly changing science and technology (S&T) capabilities will call for dire effects on a country's national security. Highlighting this trend at play, PRC's 2015 Defence White Paper suggests:

"The world revolution in military affairs (RMA) is proceeding to a new stage. Long-range, precise, smart, stealthy and unmanned weapons and equipment are becoming increasingly sophisticated. Outer space and cyber space have become new commanding heights in strategic competition among all parties. The form of war is accelerating its evolution to informationization."¹⁴

In this regard, artificial intelligence (AI) is seen critical to next generation warfare, as “War is evolving in form towards informationised warfare, and intelligent warfare is on the horizon.”¹⁵ With AI and other range of technologies such as autonomous systems driving the next RMA, MCF aims to pave the way for PLA to conduct “intelligent warfare.” Fundamentally, MCF offers to ease the PLA’s competition for resources by broadening and strengthening China’s defence industrial base by “leveraging of dual-use technologies, policies, and organisations for military benefit.”¹⁶ Mainly, with technology becoming increasingly ‘dual-use;’ thus, blurring the divided between civil and military, it becomes imperative for China to promote MCF in technology sharing.

This is also aided by the fact that the civilian sector is becoming a potent source of major technological innovation. For instance, as an analysis in *Qiushi* observed that “disruptive technological change in the 21st century now usually starts in the civilian sector.”¹⁷ To cite a few examples, some private companies working with the PLA in supporting the MCF include: Yunzhou Tech, a leader in unmanned surface vessels; Ziyang, a major player in drones and unmanned helicopters; and Kuang-Chi Technologies, which is applying machine learning to its research on military metamaterials amongst others.¹⁸ Similarly, in the field of AI, Tianjin’s new Artificial Intelligence Military-Civil Fusion Innovation Center was established in partnership with the Academy of Military Science; while Qingdao has specialised in undersea robotics systems and is actively exploring applications of AI for this domain.¹⁹ These advancements resonate Xi’s sentiments as expressed at the 19th Party Congress, stating: “We must keep it firm in our minds that technology is the core combat capability, encourage innovations in major technologies, and conduct innovations independently.”²⁰

Furthermore, the MCF is in line with PLA’s military preparedness, which aims at: first, to “win informationised local wars” (信息化條件下的局部戰)—which is considered to be the most likely form of combat

the PLA will face in the future; second, to increase the PLA's ability to carry out joint operations on a modern high-tech battlefield.²¹ Wherein, by adopting the MCF strategy, Xi seeks to sharpen PLA's combat strength through technological innovation and strengthen Chinese-developed innovations in defence technologies. Accordingly, the CPC is systematically reorganising the Chinese S&T enterprise to ensure that new innovations simultaneously advance economic and military development. As a result, the key technologies that China is targeting to excel under MCF includes quantum computing, big data, semiconductors, 5G, advanced nuclear technology, aerospace technology, and AI—with the ultimate aim to exploit the inherent 'dual-use' nature of many of these technologies, which have both military and civilian applications. Arguably, the pressing concern balancing the imperative of economic development with increasing requirements for national defence has motivated Xi's drive for MCF—thus, enabling China to become both an economic and military superpower.

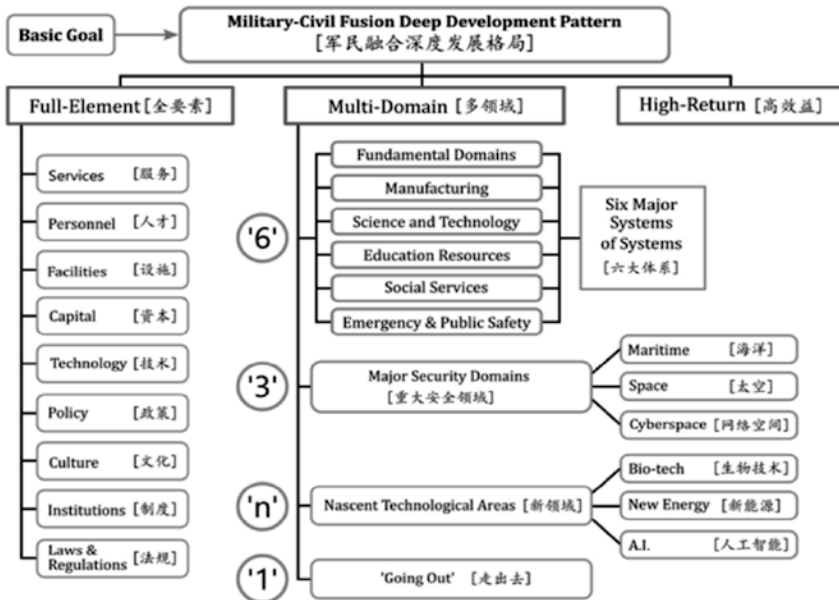
The Concept of MCF in China's National Strategy

In March 2015, Xi elevated MCF into a national strategy (*ba junmin ronghe fazhan shangsheng wei guojia zhanlüe*, 把军民融合发展上升为国家战略) by transitioning it from “early-state fusion” to “deep fusion” a “move to rejuvenate the nation and a strategy to strengthen the armed forces” (关乎国家安全和全局，既是兴国之举，又是强军之策).²² It is to note that it was former Chinese President Hu Jintao in 2007, who was the first to lay the foundation of MCF in Chinese strategic thinking; wherein, at the 17th Party Congress, Hu urged the country to “take a path of military-civilian fusion with Chinese characteristics”—which was intensely pushed further by Xi Jinping.

PLA's National Defense University (NDU) researchers interpret MCF, in the current form to be representing the basic (near-term) and ultimate (long-term) goals of the strategy. Wherein, the 'near-term' goal

of the strategy is to form the “military-civil fusion deep development pattern,” which comprises three core components: full-element, multi-domain and high-return (see Figure 1).²³

Figure 1: Military-Civil Fusion Deep Development Pattern



Source: Adapted from Stone and Wood (2020).²⁴

Table 1: Domains Prioritised under Xi’s MCF Strategy

Six Traditional Domains	Six System of Systems (SoS)*	Three Major Security Domains	“n” Nascent Technological Areas
1. Fundamental (Infrastructure)	1. Fundamental Domain Resource Sharing SoS	1. Maritime	1. Biotechnology
2. Manufacturing	2. Advanced Defence STI SoS with Chinese characteristics	2. Space	2. New Energy

3. Science and Technology	3. Military-Civil Coordinated Technological Innovation SoS	3. Cyberspace Security and Informatisation	3. Artificial Intelligence
4. Education	4. Military Personnel Training SoS		
5. Social Services	5. Socialised Support and Sustainment for the PLA SoS		
6. Emergency and Public Safety	6. National Defence Mobilisation SoS		

**The six SoS are related to the six “traditional domains” that are meant to gradually take shape through the promotion of MCF in these domain.*

Source: Prepared by the Author with reference to Stone and Wood (2020).²⁵

The six SoS as noted above are formed by fusing civilian and defence ecosystems that possess high level of commonality, which were previously operating in silos. The domains as listed in Table 1 and the six SoS form the backbone of Xi’s MCF strategy, as noted in Table 2 that follows.

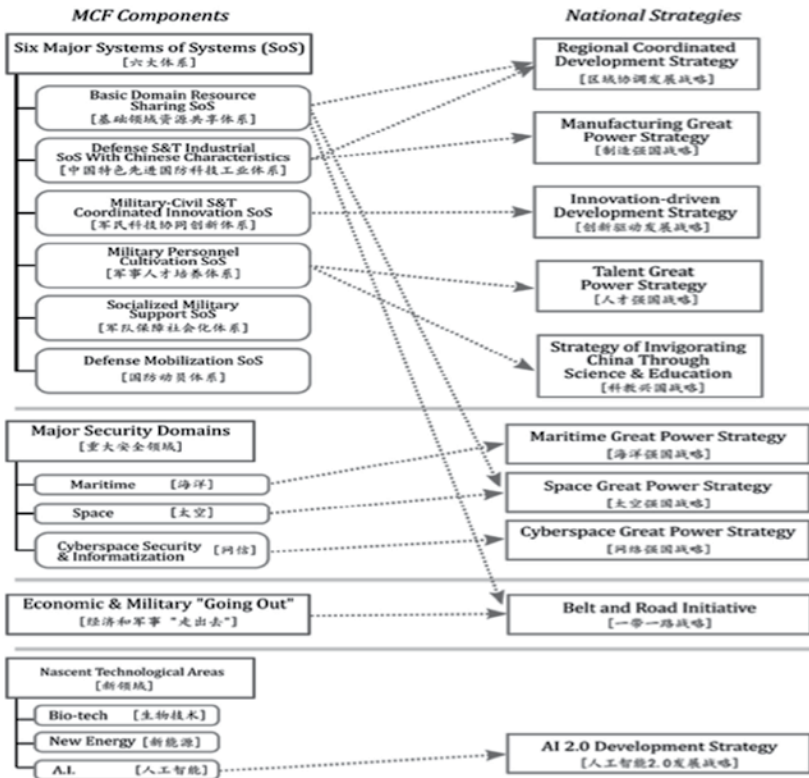
Table 2: The Military-Civil Fusion and the Creation of the Six SoS

Defense Infrastructure	+	Civilian Infrastructure	=	Fundamental Domain Resource Sharing SoS
Defense Technology Industrial Base	+	Civilian Technology Industrial Base	=	Advanced Defense Technology Industrial SoS
Defense Innovation System	+	Civilian Innovation System	=	Military-Civil Coordinated Technology Innovation SoS
Military Personnel Cultivation System	+	National Education System	=	Military Personnel Cultivation SoS
Military Logistics System	+	State Social Service System	=	Socialized Support and Sustainment for the PLA SoS
National Defense Mobilization System	+	State Emergency Management System	=	National Defense Mobilization SoS

Source: Adapted from Stone and Wood (2020).²⁶

While the “ultimate goal” is to build “unified military-civil system of strategies and strategic capability”—weaving the components of the MCF strategy into other national strategic priorities to achieve an organic, powerful, and comprehensive national system of strategies (see Figure 2).²⁷

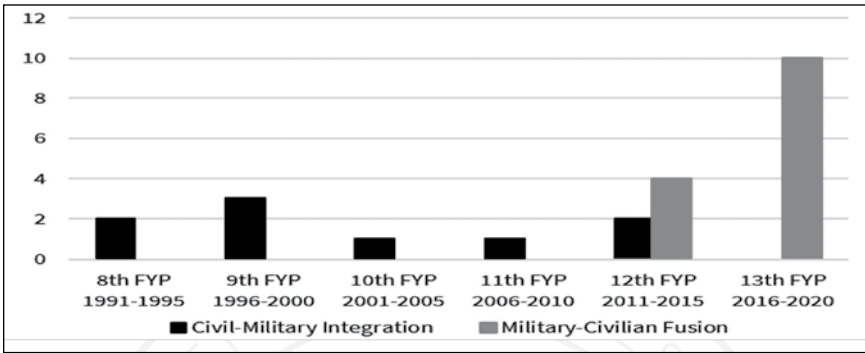
Figure 2: China's Unified Military-Civil System of Strategies and Strategic Capability



Source: Adapted from Stone and Wood (2020).²⁸

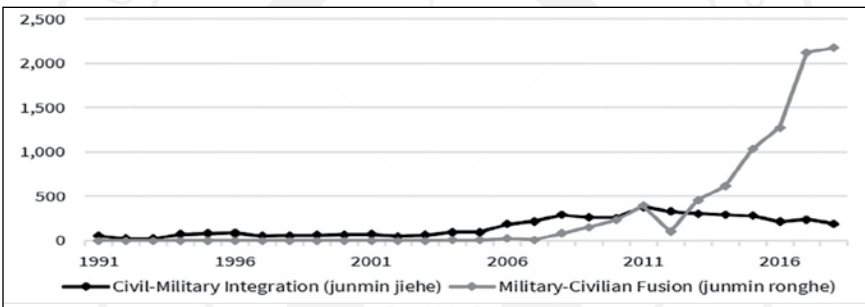
With primacy attached, the MCF was written in the China's 13th Five-Year Plan (FYP) for 2016-2020. While on 21 July 2016, the *Opinion on the Integrated Development of Economic Construction and National Defense Construction (2016 Opinion)* (关于经济建设和国防建设融合发展的意见) was released by the CPC Central Committee, the State Council, and the Central Military Commission.²⁹ Thereafter, MCF has become predominant in Chinese parlance, as highlighted in Figures 3 and 4.

Figure 3: Reference of CMI and MCF in China’s FYP (1991-2020)



Source: Adapted from Fritz (2019).³⁰

Figure 4: Reference of CMI and MCF in Chinese Academic Publications (1991–2020)



Source: Adapted from Fritz (2019).³¹

As noted in Figure 3, CMI was first referred in 1991 and MCF made its first appearance under the 12th FYP with a significant spike under the 13th FYP. As noted, 12th FYP had four references, while 13th FYP (2016–20) referenced the MCF strategy ten times. It also represents the shift in China’s policy position from CMI to MCF. While Figure 4 highlights the increasing discussion of MCF in academic literature—indicative of the increasing civilian involvement in MCF—further clarifying the blurring divide between military and civil the very aim that China seeks to archive under MCF.

In resonating the MCF strategy, the 2019 White Paper stated: “Building a fortified national defense and a strong military commensurate with the country’s international standing and its security and development interests is *a strategic task for China’s socialist modernization*” [emphasis added]—calling for China to pursue innovation and accelerate military intelligentisation.³² Simplistically put, with this strategy, the private sector will be at the forefront to help modernise China’s defences and develop cutting-edge technologies—areas that were earlier exclusively under the state-owned enterprises (SOEs).

Given the rapid progress in MCF, it becomes imperative to understand the factors that called for Xi’s MCI reforms. As noted, Xi’s such a move came in response to his concerns over “problematic mindsets, *tizhi*³³ barriers, and vested interests” that have restricted the development of MCF in all these years—as “integration is a problem that has yet to be resolved.”³⁴ Prior to Xi, much of what China’s leadership promoted for CMI mainly pertained to basic reforms related to institutional behaviour such as: changes that allowed private companies to begin to contract goods and services to the PLA, or the effort to encourage joint research, technology transfer, and personnel training agreements between civil and military companies, universities, and research institutions—reorienting political, corporate, and military leaders toward collaborative development processes in which they had little to no experience.³⁵ Given the complexity attached, China’s initial CMI reforms mainly focused on four high-priority areas: weapons and equipment development, social support for the PLA, defence personnel training, and defence mobilisation³⁶—which under MCF, the focus areas have been broadened both in scope and scale.

The MCF is also a response to the changing security environment; wherein, China is confronted with “profound changes” in its national security environment and is “responding to the demands of the day for a strong country with a strong military.”³⁷ In light of which, Yu Chuanxin, an expert from China’s Academy of Military Science argues that “the

complex and increasing security threats facing China from foreign and domestic enemies, its economy and society need a strong military that can ensure security, stability, and peace.”³⁸ Owing to this perspective, the core objectives behind Xi’s MCF strategy are mainly three-fold:³⁹ First, building a strong national security state, especially prioritising the development of military, internal security, and information control capabilities across a wide array of domains, of which cyber is of central importance; second, building an advanced defence science, technological and industrial base; and third, forging a dual-use civil-military economy.⁴⁰

MCF encompasses six interrelated efforts:⁴¹ (1) fusing the China’s defence industrial base and its civilian technology and industrial base; (2) integrating and leveraging science and technology innovations across military and civilian sectors; (3) cultivating talent and blending military and civilian expertise and knowledge; (4) building military requirements into civilian infrastructure and leveraging civilian construction for military purposes; (5) leveraging civilian service and logistics capabilities for military purposes; and, (6) expanding and deepening China’s national defence mobilisation system to include all relevant aspects of its society and economy for use in competition and war. This fusion suggests that the aim of MCF is to harness the capability of the civilian sectors, including science, and technology, to advance China’s military, economic, and technological prowess—making MCF an all-encompassing approach.

To implement the MCF strategy, in January 2017, the Central Commission for Integrated Military and Civilian Development (*zhongyang junmin ronghe fazhan weiyuanhui*, 中央军民融合发展委员会) was set up, with Xi Jinping as the head. The Commission acts as the highest level “decision-making and coordination mechanism” for MCF development, and is instrumental in breaking down institutional barriers across the government, military, and industry that have hindered MCF implementation.⁴² In June 2017, at the first plenary meeting of

the Commission,⁴³ Xi called for more efforts to boost joint military and civilian development in the fields of sea, outer space, cyber space, biology and new energy—further expanding the scope, the level and degree of integration wherever it applied. Xi also stressed that the integration must combine state guidance with the market's role, and comprehensively employ institutional/organisational innovation,⁴⁴ policy support and legal guarantee to give full play to military and civilian integration. In doing so, the MCF policy has called for China's academic, corporate and research institutions to invent cutting-age technologies for building China's military and national defence capabilities.

MCF's Significance for China Versus Rising Scepticism

In 2016, at the CPC's Central Politburo meeting, that reviewed and passed the *2016 Opinion*, Xi called the MCF strategy “a grand strategy that benefits the nation, the military, and the people” (一项利国利军利民的大战略);⁴⁵ however, there is yet no exact interpretation to Xi's statement—thus, making it open ended. This very gap calls for suspicion over China's intentions. Here, the query is: *What does the PRC seek to achieve by its MCF Strategy?*

In providing some understanding of Xi's intent, one of the interpretation suggests that MCF can benefit China in four ways:⁴⁶ First, it can support China's transformation into a powerful nation—wherein, defence construction can provide a boost to the slowed economic growth. Second, can help China gain advantages in international technological and military competitions by closing the technological gap with other major powers such as the United States and even surpass them in S&T development. Third, provides China with an excellent opportunity for the improvement of China's governance system—integrating the military and civilian sectors and enabling the creation of a governing system across sectors, government bodies, and domains. Fourth, it supports the strategic goal of building a world-class military by gaining

strong economic strength, scientific and technological strength, and comprehensive national strength.⁴⁷

While some Chinese analysts argue CMF as a “strategic requirement” [zhanlüe xūqiú, 战略需求] and the only way to build a military capable of winning informationised wars.⁴⁸ It is believed that MCF is essential to achieve optimised resource allocation for defence building and economic development by integrating the military and the civilian resources. As Chen Yushu and Li Shandong, researchers from China’s PLA NDU, in their book *Building Wealthy Nation and Strong Military by Deepening Integrated Military and Civilian Development* argue that:⁴⁹

“the MCF strategy will greatly enhance the comprehensive national strength of China and contribute to the endeavour of building a wealthy nation and a strong military; however, the military-civilian integration for the research and production of weaponry should be market-oriented and feature ‘openness, competition and sharing’.”⁵⁰

In Tai Ming Cheung’s view, “military-civil fusion remains a top priority for the Xi regime, and perhaps even more so as China finds itself in an increasingly fierce and coupled techno-security competition with the US and its allies.”⁵¹ More importantly, MCF is a “central component in Xi’s grand vision and strategy of China’s long-term geostrategic and geo-economic development, and especially to his goals of becoming a leading global power by the mid-2030s.”⁵² While MCF surely is providing a boost to China’s military prowess, but is raising red alarms for others.

As already noted, Xi’s MCF strategy remain open ended to interpretation. Given no clarity and the constant changes to the concept, there is an increasing scepticism over the implications of the MCF for the world at large. Of all, America seems to be more wary of Beijing’s intentions, as the US Secretary of State Mike Pompeo stated, “Even if the Chinese Communist Party gives assurances about your technology

being confined to peaceful uses, you should know there is enormous risk to America's national security."⁵³ As Pompeo pointedly notes, MCF's:

“goal is to ensure that the People's Liberation Army has military dominance. And the PLA's core mission is to sustain the Chinese Communist Party's grip on power—that same Chinese Communist Party that has led China in an increasingly authoritarian direction and one that is increasingly repressive as well. It runs completely at odds with the tolerant views that are held here in this area and all across America.”⁵⁴

America's such an attitude is driven by the perception that PRC's MCF constitutes “a major security challenge to us [United States], its neighbours, and any country with a stake in the open international order.”⁵⁵ The concern lies in the fact that MCF can “make *any* technology accessible to *anyone* under the PRC's jurisdiction available to support the regime's ambitions”—while it “is in part about economic power, but it is also, quite centrally, about augmenting Beijing's *military* power” [emphasis added].⁵⁶

What is worrisome about MCF is that the full scope of China's MCF strategy is much broader than simply being public-private partnerships. As noted by the Pentagon, some of China's leading e-commerce companies are directly supporting the PLA by providing them with drones for logistics; while some Chinese shipping companies are contributing to cross-sea transport drills, providing capabilities that could be leveraged for an amphibious landing on Taiwan or in the South China Sea⁵⁷ thus, raising concerns over China's intentions behind its MCF strategy.

What calls for severe scrutiny is that by its MCF strategy, China is encouraging civilian enterprises and companies to undertake classified research and get involved in weapons production. Given this approach, the CPC is accused of adopting unlawful measures to bolster its own military

capabilities. According to the US State Department, China is acquiring key technologies by means of: investment in private industries, talent recruitment programs, directing academic and research collaboration to military gain, forced technology transfer, intelligence gathering, and outright theft.⁵⁸

With no more barriers between civil and military, under MCF the Chinese civil sector has been enlisted directly into the country's military industrial complex, which holds global ramifications. Given this dynamic, it is argued that the joint research institutions, academia, and private firms are all being exploited to build the PLA's future military systems—often without their knowledge or consent.⁵⁹ Thus, making MCF another manifestation of the 'China Challenge'.

Conclusion

Xi Jinping's push for 'military-civil fusion' is aimed to build China into an economic, technological and military superpower with MCF acting as the lynchpin to China's strategic goal of becoming 'world class military' by 2049. While there is no clear direction on the way China is practising MCF, this has resulted into scrutiny over Chinese intentions. Owing to the scepticism, one cannot dismiss the competitive and security challenge that is posed by it. To which, one cannot ignore the risks posed by the MCF strategy, which is invariably linked to China's geopolitical ambitions both to protect and advance Chinese interests. China's expanded efforts under military-civil collaboration needs a close attention. Thus, with MCF, Xi's quest lies in building a strong China with a strong PLA.

Notes

1. Alex Stone and Peter Wood (2020), *China's Military-Civil Fusion Strategy: A View from Chinese Strategists*, Montgomery, AL: China Aerospace Studies Institute, Air University. Available online at <https://www.airuniversity.af.edu/Portals/10/CASI/documents/Research/Other%20topics/CASI%20China's%20Military%20Civil%20Fusion%20Strategy-%20Full%20final.pdf?ver=2020-06-15-152810-733>, accessed on September 12, 2020.

2. The military component includes armed forces, national defence technology, industry, facilities, mobilisation, education, resources, as well as the major operational domains. While the civil component includes national science and technology and industrial system, the national talent education and training system, the national social services system, the national emergency management system, as well as emerging domains and nascent technological areas such as maritime, space, cyberspace, and artificial intelligence that are closely linked to the generation of “New Type Combat Capabilities.” For details, see Jiang Luming [姜鲁鸣], Wang Weihai [王伟海] and Liu Zuchen [刘祖辰], *Initial Discussion on the Military-Civil Fusion Strategy* [军民融合发展战略探论], Beijing: People’s Press, p. 15.
3. “Communiqué of the Third Plenary Session of the 18th Central Committee of the Communist Party of China,” China.org.cn, January 15, 2014. Available online at http://www.china.org.cn/china/third_plenary_session/2014-01/15/content_31203056.htm, accessed on September 5, 2020.
4. The fundamental guidelines for deepening reform were stated explicitly: to use the scientific theory of the CPC as its pointer; to use the goal of building a strong army as its guide; to use military strategies and policies under new circumstances as its overall direction; to remove systematic, structural and policy barriers as well as policy problems as its focus; to adopt the modernisation of the military as its orientation; and to unleash the combat capacity and vigour of the military as its aim. For details, see “Building a strong army through reform,” *Xinhuanet*, March 16, 2016. Available online at http://www.xinhuanet.com//mil/2016-03/16/c_128804009.htm, accessed on September 5, 2020.
5. Ibid.
6. Joel Wuthnow and Phillip C. Saunders (2017), *Chinese Military Reforms in the Age of Xi Jinping: Drivers, Challenges, and Implications*, China Strategic Perspectives 10 Washington DC: NDU Press, p. 1.
7. Guoli Liu (2017), *China’s Foreign Policy in a Changing World*, London: Palgrave Macmillan, p. 59.
8. Quoted in “Xi calls for deepened military-civil fusion,” NPC and CPPCC Annual Sessions 2018, *Xinhuanet*, March 12, 2018. Available online at http://www.xinhuanet.com/english/2018-03/12/c_137034168_2.htm, accessed on September 10, 2020.
9. “China names key areas of military-civil integration,” *CGTN*, June 21, 2017. Available online at <https://news.cgtn.com/news/7741444d30517a6333566d54/index.html>, accessed on September 10, 2020.
10. Ibid.
11. Alex Stone and Peter Wood (2020), *China’s Military-Civil Fusion Strategy*, n. 1, p. 23.
12. Xi Jinping (2017), “Secure a Decisive Victory in Building a Moderately Prosperous Society in All Respects and Strive for the Great Success of Socialism with Chinese Characteristics for a New Era,” Delivered at the 19th National Congress of the Communist Party of China, October 18, 2017. Available online at http://www.xinhuanet.com/english/download/Xi_Jinping’s_report_at_19th_CPC_National_Congress.pdf, accessed on September 15, 2020.
13. “China names key areas of military-civil integration,” *CGTN*, n. 9.

14. Ministry of National Defense of the People's Republic of China (2015), "China's Military Strategy," May 2015. Available online at <http://eng.mod.gov.cn/Database/WhitePapers/>, accessed on September 11, 2020.
15. "Full Text: China's National Defense in the New Era," *Xinhuanet*, July 24, 2019. Available online at http://www.xinhuanet.com/english/2019-07/24/c_138253389.htm, accessed on October 20, 2019.
16. Brian Lafferty (2019), "Civil-Military Integration and PLA Reforms," in Phillip C. Saunders, et al. (eds.) *Chairman Xi Remakes the PLA: Assessing Chinese Military Reforms*, Washington DC: National Defense University Press, p. 632.
17. *Ibid.*, p. 635.
18. Elsa B. Kania (2019), "In Military-Civil Fusion, China Is Learning Lessons From the United States and Starting to Innovate," *Real Clear Defense*, August 27, 2019. Available online at https://www.realcleardefense.com/articles/2019/08/27/in_military-civil_fusion_china_is_learning_lessons_from_the_united_states_and_starting_to_innovate_114699.html, accessed on September 19, 2020.
19. *Ibid.*
20. Xi Jinping (2017), "Secure a Decisive Victory," n. 12.
21. Amrita Jash (2019), "Xi Jinping's World-Class Military: Not Only Fights, But Also Wins Wars," *Indian Defence Review*, 34(1), Jan-Mar 2019, p. 48.
22. Alex Stone and Peter Wood (2020), *China's Military-Civil Fusion Strategy*, n. 1.
23. The "full-element" attribute defines the types of resources shared between the military and civilian sectors; the "multi-domain" attribute identifies the domains prioritised for MCF development. Taken together, they provide a roadmap for MCF development, explaining how China plans to achieve the deep fusion pattern. While subject to modifications, these areas, outlined in the chart below, serve as the "backbone" of the MCF strategy. The last attribute—"high return"—describes the effects Chinese leaders and MCF strategists hope to derive from MCF development.
24. Alex Stone and Peter Wood (2020), *China's Military-Civil Fusion Strategy*, n. 1, p. 28.
25. *Ibid.*, p. 30.
26. *Ibid.*, p. 31.
27. *Ibid.*, pp. 36-38.
28. *Ibid.*, p. 38.
29. As of writing, the 2016 *Opinion* is believed to be the only public (partial summary) authoritative document on MCF development to date. Since then, MCF has come to the forefront and entered a stage of rapid development.
30. Audrey Fritz (2019), "China's Evolving Conception of Civil-Military Collaboration," CSIS, August 2, 2019. Available online at <https://www.csis.org/blogs/trustee-china-hand/chinas-evolving-conception-civil-military-collaboration>, accessed on September 22, 2020.
31. *Ibid.*
32. "Full Text: China's National Defense in the New Era," n. 15.

33. *Tizhi* is a general term for the systems, institutions, methods, forms, etc., involved in matters related to the institutional setup, leadership affiliation, and management authority of state organs, political party organizations, enterprises, and public institutions.
34. Alex Stone and Peter Wood (2020), *China's Military-Civil Fusion Strategy*, n. 1, p. 23.
35. Brian Lafferty (2019), "Civil-Military Integration," n. 16, p. 638.
36. *Ibid.*, p. 639.
37. Xi Jinping (2017), "Secure a Decisive Victory," n. 12.
38. Brian Lafferty (2019), "Civil-Military Integration," n. 16, p. 634.
39. Tai Ming Cheung (2019), "From Big to Powerful: China's Quest for Security and Power in the Age of Innovation," EAI Working Paper, April 2019, p. 3. Available online at https://igcc.ucsd.edu/_files/great-powers/gp_reading_cheung.pdf, accessed on September 20, 2020.
40. *Ibid.*
41. Office of the Secretary of Defense (2020), "Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2020," p. vi. Available online at <https://media.defense.gov/2020/Sep/01/2002488689/-1/-1/1/2020-DOD-CHINA-MILITARY-POWER-REPORT-FINAL.PDF>, accessed on September 10, 2020.
42. Greg Levesque (2019), "Military-Civil Fusion: Beijing's "Guns AND Butter" Strategy to Become a Technological Superpower," *China Brief*, 19(18), The Jamestown Foundation. Available online at <https://jamestown.org/program/military-civil-fusion-beijings-guns-and-butter-strategy-to-become-a-technological-superpower/>, accessed on September 15, 2020.
43. The second meeting of the Commission was held in 2018.
44. CMI reforms in organisational innovation must focus on "three systems": (a) *management system* that features unified leadership and coordination between the PLA and local governments; (b) *operational system* in which work is led by the state, driven by demand, and unified by market operations; and (c) *policy system* that features a well-conceived set of policies (which covers all necessary areas), a complete set of policy linkages, and effectively encourages desired outcomes.
45. Cited in Alex Stone and Peter Wood (2020), *China's Military-Civil Fusion Strategy*, n. 1, p. 26.
46. *Ibid.*, pp. 25-26.
47. *Ibid.*
48. Brian Lafferty (2019), "Civil-Military Integration," n. 16, p. 628.
49. "China names key areas of military-civil integration," *CGTN*, n. 9.
50. *Ibid.*
51. Quoted in Matt Ho (2020), "Has China gone into stealth mode with its military-civil fusion plans?," *South China Morning Post*, June 5, 2020. Available online at <https://www.scmp.com/news/china/military/article/3087785/has-china-gone-stealth-mode-its-military-civil-fusion-plans>, accessed on September 15, 2020.

52. Ibid.
53. U.S. Department of State, “The Chinese Communist Party’s Military-Civil Fusion Policy.” Available online at <https://www.state.gov/military-civil-fusion/>, accessed on September 20, 2020.
54. Michael R. Pompeo (2020), “Silicon Valley and National Security,” U.S. Department of State, January 13, 2020. Available online at <https://www.state.gov/silicon-valley-and-national-security/>, accessed on September 18, 2020.
55. Christopher Ashley Ford (2020), “The PRC’s ‘Military-Civil Fusion’ Strategy Is a Global Security Threat,” U.S. Department of State, March 16, 2020. Available online at <https://www.state.gov/the-prcs-military-civil-fusion-strategy-is-a-global-security-threat/>, accessed on September 20, 2020.
56. Ibid.
57. Noted in Elsa B. Kania (2019), “In Military-Civil Fusion,” n. 18.
58. U.S. Department of State, “Military-Civil Fusion and the People’s Republic of China”. Available online at <https://www.state.gov/wp-content/uploads/2020/06/What-is-MCF-One-Pager.pdf>, accessed on September 20, 2020.
59. Ibid.

