



Comparing Giants: Military-Civil Integration Strategies in the United States and People's Republic of China

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Principal Argument

The Chinese model of Military-Civil Fusion is more explicitly focused on innovating and developing technology for military end-use whereas the United States has a less explicit emphasis on how technology developed will be ultimately “spun on” or “spun off” for military and/or commercial end-use.

The emphasis on military end-use, or lack thereof in the US, reflects existing levels of deep integration between the Defense Industrial and Technological Base (DITB) and Commercial Industrial and Technological Base (CITB) in the US; Beijing, on the other hand, is trying to stimulate intersectoral and public-private collaboration through explicitly dual-use research areas, sectors, and technologies so as to achieve a similar level of integration and ensure ongoing MCF projects and initiatives are being applied in military settings.



Case Study #1 – Commercial Companies

Department of Defense (DOD) programs, with certain exceptions, do not necessarily prioritize military over commercial applications of technologies; certain programs do not even require military end-use and emphasize unrestricted commercialization.

- Promotion efforts for small business engagement programs omit requirements for military-use technology; however, defense-specific programs such as DARPA and DIU include requirements for applications to focus on priority military research areas.
 - Funding agencies which engage in collaboration include the Department of Health and Human Services, Department of Homeland Security, and Department of Commerce, among others.

PRC state-directed investment vehicles, enterprises, and government bodies include “MCF” in their mission statement, corporate title, and even contract agreements.

- Industrial parks mandate enterprises to commit to supporting and advancing the mission of MCF through collaboration with state-owned enterprises (SOEs), People’s Liberation Army (PLA) armament and technology offices, and Central Military Commission (CMC) departments.
 - There is little confusion in the PRC over what collaboration with the CMC and PLA means for ultimate end-use; certain firms have even altered their entire operational trajectory to embed themselves within the MCF innovation and R&D ecosystem.



Case Study #2 – Universities & Colleges

Universities enjoy a wide variety of projects, funding, and engagement with the US Government (USG) while retaining institutional neutrality and autonomy. Certain universities, however, do house important federally-funded research & development centers (FFRDC) and laboratories.

- Institutions of higher education regularly collaborate with USG on research topics both related and unrelated to security and defense that may ultimately possess componentry or technology which can be repurposed for military end-use.

In the PRC, the vast majority of relevant institutions are supervised by the Ministry of Education (MOE) or the Ministry of Industry and Information Technology (MIIT), among other PLA- and CCP-controlled ministries and offices.

- Overseen by MIIT, the “Seven Son’s of National Defense” often determine research trajectories based off of instruction on which areas of military and technological research should be prioritized.
- MOE plays a similarly interventionist role in the higher education ecosystem by assisting in forging cooperative relationships between military organs, commercial companies, and universities.



Case Study #3 – Government Offices & Ministries

Key CMC offices driving MCF include: (1) The CMC Science & Technology Commission, (2) Central Commission for Military-Civil Fusion Development, (3) Military Science Research Steering Committee, and (4) The Science & Technology Commission's National Defense S&T Rapid Response Small Group

- The prominence of the CMC in these efforts, as opposed to the PLA, underscores the political nature of MCF and the desire for Beijing to use MCF as a strategic vehicle to expand and enhance control over China's dynamic tech sector.
- Organizational reshuffling in 2015/16/17 PLA reforms moved various offices under the jurisdiction of the CMC and demonstrates the emphasis placed on military end-use for engaged institutions and entities.

USG offices and agencies include (1) The Office of the Undersecretary of Defense for Research & Engineering, (2) the Defense Advanced Research Projects Agency (DARPA), and (3) the Defense Innovation Unit (DIU)

- These offices govern USG engagement with private firms and entities to enhance national security and retain America's technological edge over adversaries. They also enjoy streamlined access to OSD and other important military and political officials in the defense bureaucracy unlike other interagency counterparts.
- They also regularly fund and facilitate projects which prioritize commercialization over military adaptation/reorientation as discussed in the "Commercial Companies" case study section. Despite these organizations being housed under the DOD, they retain substantial autonomy and discretion in accepting, funding, and actively supporting civilian-led projects.



Case Study #4 – Legal Foundations

Legal foundations in the PRC, or lack thereof, which facilitate technology acquisition, intellectual property (IP) protection, and broadly support advancement's in MCF strategy are transcribed in the National Intelligence, Cybersecurity, and National Security laws.

- PRC law can compel and even force companies to share technology at any given moment. This reflects the importance Beijing places on control over the private sector and how the explicit military focus of MCF supports the ability to *fight* and *win* a war.
- Despite drawing inspiration from the American model, until the PRC can implement policies which protect the knowledge shared by commercial firms, they will continue to struggle in achieving a similar level of integration.

The United States legislative code safeguards the privacy and integrity of the technologies which are developed or employed in partnerships through the Federal Acquisition Reform Act, Bayh-Dole Act, Federal Technology Transfer Act, and Defense Funding Act, among many others.

- The US model provides instructions for how companies can engage in collaborative research as well as how intellectual property and knowledge are protected within partnerships.
- The emphasis on protection and integrity bespeaks the level of public-private integration in the United States. Sufficient rules protecting IP and governing technology acquisition is crucial in constructing an ecosystem in which private firms naturally collaborate with USG – precisely, because it is in their interest.