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Achieving the PLA's Strategic Support Force talent needs through MCF

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Successful Military-Civil Fusion integration (MCF) is key to realizing China's military space and cyber ambitions. President Xi Jinping has emphasized the importance of this objective[1], and the recently established People Liberation Army's Strategic Support Force (PLASSF) is a case in point. The PLASSF's recruitment policies and relationships with universities and other research institutions highlight the active incorporation of MCF (军民融合) into China's national and military modernization strategies.

PLASSF

The PLASSF contains two deputy theater-level departments: the Network Systems Department (NSD) or "Cyber Force" (网军) and the Space Systems Department (SSD) or "Space Force" （天军）. Some sources also refer to a third department, the "electronic warfare force[2] (电子战部队)." The NSD manages cyber, electronic, and psychological warfare, and the SSD manages various space-based information and defense operations. Both departments support the PLA's joint operations and engage in intelligence and reconnaissance activities in their respective domains – providing an "information umbrella" for the entire PLA.[3]

These mission sets require personnel with advanced knowledge of aerospace, computer network, and communication technologies. Cyber and aerospace-related fields are profitable, and talent is in high demand across numerous industries. Acquiring personnel with these specialized skillsets is a prevailing obstacle due to the limited overall pool of talent in these sectors, specifically those related to computer science (also known as the cybersecurity talent shortage[4]). Therefore, the Chinese military has created mechanisms to gain access to

highly skilled technical expertise, either by direct recruitment or by reaching cooperation agreements with existing civilian organizations.

Talent Acquisition

The PLASSF has become increasingly open in its recruiting strategies and is actively promoting itself to university graduates. Leadership[5] in the PLASSF has revealed that jointly carrying out talent training and recruitment with top-ranking colleges and military-industrial groups is a "practical measure" for strengthening the military and developing MCF. For example, in April 2018, a recruitment network for university graduates posted an advertisement to work with the PLASSF, specifically PLA unit 32035. This unit was recruiting[6] recent graduates of information and communication engineering and stated that their responsibilities would include "tasks such as the monitoring of space targets."

Although the overall number of Chinese graduates in these fields is increasing, it remains a finite amount. In pursuing them, the PLA finds itself competing with a private sector that can offer far higher salaries than the PLA. The military is only one aspect of China's modernization strategy, and these highly skilled professionals are still needed in the private sector to advance China's economy. Therefore, by itself, directly hiring personnel is not a realistic solution to acquiring the necessary talent for the PLASSF.

Military-Civil Fusion Research Cooperation

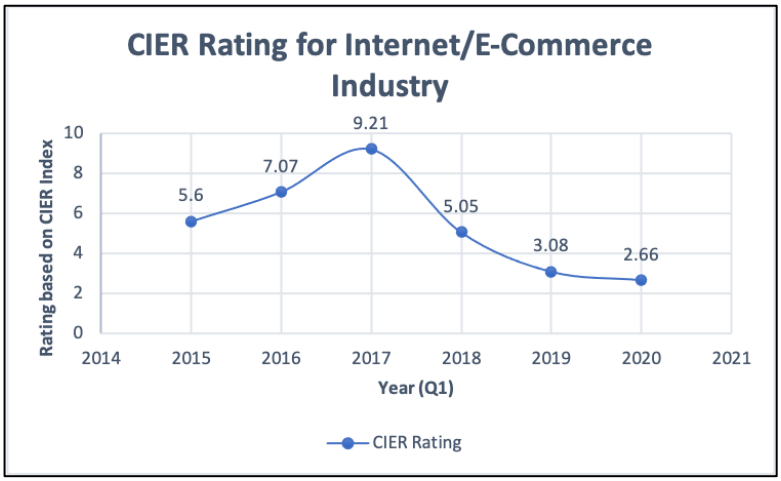
Alongside directly hiring talent, the Chinese military has also pursued MCF by signing strategic cooperation framework agreements with universities and corporations on research projects and initiatives. In 2017, the PLASSF partnered with nine universities[7] (many with science and technology-related universities) to train talent, share high-quality resources, and cultivate new combat strength. As part of these agreements, the military focuses on training and recruiting high-quality talent, promoting exchanges between experts and scholars, building practical training bases, and deepening research. Furthermore, individual PLASSF units are conducting research projects with universities. In June 2018, Tsinghua University, Beijing Institute of Technology, and the People's Liberation Army 32039 unit jointly undertook a project titled the "Integrated Demonstration and Verification of On-orbit Processing and Real-Time Transmission of Space-Based Information Networks." These projects incorporate academic resources and scholarly research into the development of PLASSF units. Although the NSD has been more discrete with recruitment and

partnerships than its SSD counterpart, it also works closely with affiliated universities such as the PLA Information Engineering University.

Future Challenges and Opportunities

Given the demand for personnel with advanced technical skills, the incentives vary for joining the PLASSF. In early November 2018, the PLA opened public recruitment for the first time, including for the PLASSF. Interviews[8] with candidates revealed that motivations came from nationalistic ideals of wanting to serve in the military, receive military benefits, and develop skills and capabilities through working on "cutting edge projects." China's tech giants[9] [10] in large cities started hiring employees at a slower pace due to economic uncertainty in 2019. The PLA offers a stable network and job opportunities, especially after the coronavirus epidemic brought challenges for new graduate employment opportunities in various sectors.[11]

During the onset of COVID-19, employment opportunities decreased for new college graduates in addition to 5.4 percent of tech firms experiencing job cuts.[12] Apart from reduced positions due to COVID, the IT management and project coordination jobs held the highest starting salary but low employment opportunities for new graduates during the second quarter of 2020.[13] While private tech and internet companies are not the highest sources of employment (Figure 1), they still provide lucrative opportunities where recruitment is increasing, such as in emerging tech cities. The tech sector also bounced back after the first quarter decline and received increased government support.[14] In March 2020, President Xi Jinping promoted a new digital industrial economy proposing significant initiatives in the technology sector, with investment in key developmental areas such as 5G and artificial intelligence.[15] Therefore, national pride and patriotism might not provide enough motivation for integrating the needed talent into the PLASSF, given prominent attention to the development of the private tech sector.



Year (Q1)	Rank
2015	1st
2016	1st
2017	1st
2018	2nd
2019	5th
2020	6th

Figure 1. These figures are based of China's Institute for Research employment Index which measures the degree of tension of correspondence between supply (job vacancies) and demand (job seekers) in the labor market.
http://www.cier.org.cn/Info.asp?Catid=457

The military industry has often partnered with the private sector to acquire necessary resources for combat capabilities. However, the PLA's cyber- and spaced-based departments demand an advanced level of expertise and knowledge in a highly scientific field. The PLASSF's various initiatives to fill positions and enhance its technological combat capabilities through partnering with universities widens its talent pool, which certainly assists in recruitment. Yet, while the Chinese government has created policies and committees to stress the importance of civilians participating in the military industry, attracting personnel for the military takes a direct approach. In the future, the PLA may need to create more programs to increase incentives for personnel to leave or bypass the private sector to join the PLA. Other militaries face similar challenges, such as the United States,[16] which has also signed agreements with universities for research and training and has created a program, Cyber Direct Commissioning Program[17], to recruit more talent. Time will reveal whether the PLA's approach to tackling this problem, and to national Military-Civil Fusion integration more broadly, are enough to attain the needed personnel to advance the missions of the PLASSF.

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