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### **Title**

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### **Permalink**

<https://escholarship.org/uc/item/3dq7x6d2>

### **Journal**

SITC, 2010(Policy Brief 5)

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### **Publication Date**

2010-09-01



# Policy Brief No. 5

September 2010

## *Contemporary Chinese Defense Industry Reforms and Civil–Military Integration in Three Key Organizations*

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### Summary

This brief highlights key points on three Chinese government and military organizations involved in managing defense science, technology, and industry: 1) the State Council’s State Administration for Science, Technology and Industry for National Defense (SASTIND); 2) the General Armament Department (GAD) of the People’s Liberation Army; and 3) the Ministry of Industry and Information Technology’s Civil–Military Integration Promotion Department (CMIPD). This brief calls attention to important ongoing organizational reforms in Chinese defense science, technology and industry by discussing 1) the post-2008 division of responsibilities between SASTIND and CMIPD; 2) GAD’s role in the defense industries and PLA defense research; and 3) civil–military integration (CMI) in the Chinese defense science, technology and industry system.

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*The Study of Innovation and Technology in China (SITC) is a project of the University of California Institute on Global Conflict and Cooperation. SITC Policy Briefs provide analysis and recommendations based on the work of project participants. This material is based upon work supported by, or in part by, the U.S. Army Research Laboratory and the U.S. Army Research Office through the Minerva Initiative under grant #W911NF-09-1-0081. Any opinions, findings, and conclusions or recommendations expressed in this publication are those of the author(s) and do not necessarily reflect the views of the U.S. Army Research Laboratory and the U.S. Army Research Office.*

## **ORIGINS AND RESPONSIBILITIES OF SASTIND AND CMIPD**

Both SASTIND and CMIPD were created through March 2008 State Council reforms that consolidated and rearranged a number of existing government bodies into larger “super-ministries.” Reforms dissolved the Commission for Science, Technology, and Industry for National Defense (COSTIND) and shifted most of its responsibilities and personnel to SASTIND. SASTIND was placed under the new Ministry of Industry and Information Technology (MIIT), which in addition to most of COSTIND’s former responsibilities also absorbed the former Ministry of Information Industry, industry management elements of the National Development and Reform Commission, and the State Tobacco Monopoly. CMIPD was created as one of 27 MIIT departments, and is staffed in part by former COSTIND personnel.

The subordination and dismemberment of COSTIND appears to have divided and reduced the power and influence of its former staff. In protocol terms, GAD may be seen as a bureaucratic winner, as SASTIND’s director is now treated as equivalent in rank to a junior deputy. Where COSTIND and GAD were once on an equal footing, the new protocol parity is between GAD and MIIT. This is demonstrated in recent regulations, such as a May 2010 defense enterprise licensing regulation signed and authorized by GAD and MIIT.

While SASTIND and CMIPD are both key regulatory agencies in the new State Council defense industry management structure, the former is the primary successor to COSTIND, and handles the great majority of defense industry regulatory duties. SASTIND’s official responsibilities for the defense industries are distilled down to two main tasks—defense industry major projects and ensuring defense industry core capabilities—but these essential duties give it a broad administrative purview. SASTIND has extensive linkages to other defense industry organizations, including close integration with the China National Space Administration and China Atomic Energy Authority. SASTIND issues defense industry regulations and inspects their implementation, directly allocates research funds through programs such as the Defense Basic Research Program, and determines,

with GAD, which enterprises may and may not engage in weapons and equipment research and production. SASTIND also serves as the government sponsor for numerous defense industry societies and certifies key defense research laboratories and technology centers.

CMIPD’s influence on the defense industries is less direct. Soon after the 2008 reforms, it was announced that CMIPD would lead the development of an integrated system of standards for both military and civilian products. This is an ongoing project that is expected to take at least five years to complete. It will require CMIPD to coordinate with numerous existing technical standards organizations in the PLA, the defense industries, and the civilian economy. Outside of this project, CMIPD has made few headlines, and it appears that the department will focus mainly on working behind the scenes to develop policies to promote civil–military integration (CMI).

Both SASTIND and CMIPD are clearly bureaucratically subordinate to the new MIIT. While the 2008 reforms may correctly be interpreted in part as a victory for GAD, the new organizational structure should also be appreciated as a rational arrangement for moving forward with China’s reinvigorated policy of encouraging CMI, or symbiotic linkages between the defense industry and the civilian economy. This is a major Chinese goal for defense science, technology, and industry.

## **THE ROLE OF GAD**

GAD leads the military’s research and development system and is involved in managing funding programs such as the 863 Program, which it oversees in collaboration with the Ministry of Science and Technology.

In its effort to ensure centralized control, GAD may have created an iron wall around its weapons and equipment development system, which is excessively based on the ground forces. This barrier has inhibited comprehensive and coherent modernization across China’s armed services, which holds back jointness and interoperability that could better support a strong army with credible power projection capabilities. As a result, modernization of weapons and equipment, particularly for the air force and navy, for much of the last twelve years has depended on acquisition of foreign weapons

and equipment, primarily from Russia, but also from the Ukraine, France, Israel, Germany, Switzerland, and the United Kingdom.

Two bright spots for innovation within GAD, however, include its support of China's manned space program and the integration of information technologies across multi-generational armed services' systems. Both of these programs invite innovation and adaptation from foreign and domestic sources, and may serve as bellwethers for faster and broader innovation throughout the PLA; that is, if the post-2007 emphasis on CMI sparks bureaucratic breakthroughs that accelerate weapons and equipment modernization across the PLA's active force.

GAD is now, twelve years after its establishment, a fully-fledged fourth general department for the PLA, with a full portfolio of responsibilities. In terms of managing the defense industry, it plays an important role as the industry's main customer, and has also actively engaged the industry as a regulator. Among GAD's regulatory initiatives are several that have implications for CMI. Current arrangements for weapons and equipment producer licensing, provision of research and development support through funding programs and defense key laboratory accreditation, and collaboration with CMIPD on military-civilian dual-use technical standards development, all encourage this trend.

## **ORGANIZATIONAL INTERACTION AND CMI**

There is significant interaction between the military and government organizations managing defense science, technology, and industry. For example, GAD and SASTIND jointly determine which enterprises may engage in weapons and equipment research and production. Both organizations are involved in the processes by which National Defense Key Laboratories and Defense Industry Advanced Technology Research and Application Centers are established. CMIPD will likely need to work with GAD to prepare its civil-military integrated standards system.

This collaboration, and the 2008 creation of SASTIND and CMIPD, must be viewed in the context of a renewed Chinese emphasis on CMI, as

a means of enhancing both military modernization and national economic development. In the 2007 Party Work Report, Hu Jintao applied the Scientific Development Concept (*kexue fazhanguan*), to the defense industries, calling it a new guiding principle to "promote innovation in military theory, technology, organization, and management." In the same report, he encouraged CMI as an important foundation for building "sound systems of weapons and equipment research and manufacturing."

The Chinese terms for CMI, either *Junmin Jiehe*, *Junmin Yitihua*, or, more recently, *Junmin Ronghe*, refer generally to mutually supportive interaction and resource sharing between the military and civilian spheres. Additional statements on CMI made by Hu Jintao in 2009, for example, indicate the concept's breadth: Hu stresses "establishing and building a civil-military integrated weapons equipment research and production system, military talent training system and guarantee system, improving the national defense mobilization system, and continuing to open up new prospects for civil-military integration." The term has also been applied to PLA domestic disaster relief and logistics outsourcing to civilian suppliers ("*Shehuihua*"). In the context of defense science, technology, and industry, CMI measures include dual-use science and technology research, sharing resources such as expensive laboratory equipment and teaching resources, civilian enterprise participation in weapons and equipment research and production, civilian investment in defense enterprises, and military and civilian common technical standards.

The current Chinese defense science, technology, and industry system's structure and regulatory policies support CMI in many ways. Organizational arrangements at the ministry, provincial, and research-academia-industry levels combine with SASTIND and GAD defense industry policies to encourage CMI in ways which ultimately support both the civilian economy and the PLA's drive to become a modern force.

At the ministry level, in addition to the integration of SASTIND with the civilian MIIT, CMI linkages include SASTIND's close relationship to both the China National Space Administration and China Atomic Energy Authority. Overlapping

leadership between organizations facilitates coordination, technology transfer, and resource sharing between military and civilian aerospace and nuclear programs.

At the provincial level, reforms underway since 2008 are relocating defense science, technology, and industry offices and CMI promotion offices under civilian economic management departments. This transition is similar to the change from COSTIND to SASTIND under MIIT. In their new position, these provincial offices are responsive to both SASTIND and local civilian economic managers. These offices also serve to link the defense industries with their military customers by holding work meetings for the defense industries within their provinces, which are attended by representatives from GAD and local defense industry enterprises.

At the research institute, university, and industrial enterprise level, the ongoing establishment of National Defense Key Laboratories, Defense Industry Advanced Technology Research and Application Centers, and Defense Industry Enterprise Technology Centers at civilian and military institutions provides support for technology transfer and talent exchange between the defense industries and civilian research systems. Key point research facilities have been certified by SASTIND and GAD since the 1990s, but appear to be increasing in both number and variety. At least 20 Defense Industry Advanced Technology Research and Application Centers and 66 Defense Industry Enterprise Research Centers have been certified since 2007.

In addition to these structural mechanisms, since 2007 a series of regulations have liberalized rules for civilian participation and investment in the defense industries. New GAD and SASTIND regulations for licensing weapons and equipment producers have opened up defense contracts to civilian enterprises, enabling private companies to provide research and development services directly to the military. The defense industry remains dominated by the ten defense conglomerates and their subsidiaries, but it is possible that in the future the balance will shift more towards private actors, particularly if retired military personnel

see increasing opportunities in a growing private sector contracting industry.

GAD and SASTIND funding programs for military and dual-use technology research also promote CMI. Civilian universities are eligible for funding administered through a number of GAD and SASTIND defense science and technology programs. Programs such as the SASTIND Defense Basic Research Program tap both military and civilian talent and laboratory resources to support PLA weapons and equipment development. The longstanding 863 Program is another example of research funding for dual-use technologies that blurs the line between civilian and defense research and development resources.

## CONCLUSIONS

The post-2008 division of responsibilities between SASTIND, CMIPD and GAD's role in the defense industries, and the PLA's defense research system both support ongoing CMI efforts in the Chinese defense industries. Responsibility for defense industry management is now distributed between military and government organizations, and SASTIND, GAD, and CMIPD collaborate on issues such as defense industry enterprise licensing, defense laboratory certification, and dual-use standards development. The organizational arrangement of SASTIND and CMIPD under MIIT affirms and supports the Chinese objective of increasing CMI, which is also supported through regulatory policies and structural arrangements throughout the Chinese defense science, technology and industry system.

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