UDC 33 **DOI: 10.34670/AR.2023.46.51.006**

The main directions of development of the military industry in China

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This paper has been supported by the RUDN University Strategic Academic Leadership Program.

Abstract

Military aviation in China plays a crucial role in ensuring the country's defense capability. At the present stage, China's aviation is capable of solving a wide range of tasks both in peacetime and in wartime. The aviation industry is one of the most developed branches of China's military industry. It has a significant scientific, technical and industrial base, equipped with modern equipment and allowing the production of various types of military aviation equipment. In general, the industry meets the needs of the Chinese army, and also provides export deliveries of armed military equipment. There is reason to believe that similar processes are taking place in other leading Chinese military-industrial corporations. In fact, we are witnessing the formation of a group of extremely influential global players with increasingly diverse interests around the world, supported by the Chinese government and able to attract significant financial resources for their projects at a time when their competitors in the West are fully feeling the consequences of the global economic crisis. The activities of Chinese military-industrial companies may well become an important factor in relations between China and the outside world, just as it has already happened with the activities of Chinese oil and gas companies.

For citation

Bohao Song, Nezhnikova E.V. (2023) The main directions of development of the military industry in China. *Ekonomika: vchera, segodnya, zavtra* [Economics: Yesterday, Today and Tomorrow], 13 (2A), pp. 98-105. DOI: 10.34670/AR.2023.46.51.006

Keywords

Military aviation, defense industry, China's military-economic potential, military-industrial complex, state corporations.

Introduction

Military aviation in China plays a crucial role in ensuring the country's defense capability. At the present stage, China's aviation is capable of solving a wide range of tasks both in peacetime and in wartime. Nevertheless, the fleet of aircraft and helicopters of the national armed forces requires a significant upgrade, since a significant part of the combat and auxiliary aviation is morally and physically obsolete machines. As of December 1, 2022, compared with American weapons, China's defense budget is $250 billion 240 million, and the US's is $770 billion. There are 14,692 battle tanks in China, and 9,732 in America. There are 42,982 armored personnel carriers in the Chinese side, 48,409 in the United States; filling station – 9,967 units and 19,896 units, respectively [Chinese NORINCO…, www].

There are 73,632 armored vehicles in the United States, and 10,861 in China. MRAP at the same time 10,862 and 2,592 units, respectively; rocket-propelled grenade launchers – 1,366 and 3,160 units, respectively. The total number of artillery belonging to China is 7,642 units, to the United States – 2,840 units. A total of 13,971 military aircraft are in service with the United States, and 4,210 with China. Of these, fighters – 2,689 and 1,532 units, respectively; attack aircraft – 3,109 and 1,320 units, respectively; training aircraft – 3,761 and 405 units, respectively. The United States have a total of 5,561 helicopters, while China has only 1,809. Attack helicopters – 383 units from China and 1,193 units from the States [Chinese defense industry at the present stage, www].

In this regard, in recent years, increased attention has been paid to the development of the aviation industry in China. As part of the ongoing general reform of the military industry, fundamental changes are being made to the organizational structure of the aviation industry, new technologies are being introduced into the process of developing and manufacturing aircraft models, and significant changes are taking place in the mechanism for managing the aviation industry.

This industry is a combination of manufacturing enterprises, research and development institutions engaged in the development, production, modernization and repair of aviation equipment for various purposes, aircraft engines, aircraft weapons, airborne and ground equipment. A feature of the aviation industry is the presence in the industry of a significant number of enterprises involved in the production of civilian products that are not related to core activities. The industry includes over 300 large and medium-sized industrial companies, research institutions and specialized enterprises [Main projects of the Chinese aviation industry, www]. It is based on nine large industrial associations – manufacturers of aviation equipment, which carry out the final assembly of samples of profile products.

Methods

In the study, the authors used some methods such as analysis and synthesis, induction and deduction, historical and logical, abstraction and concretization.

Results

The military industry is the most important component of China's military-economic potential. It has a significant scientific, technical and industrial base, equipped with modern equipment, which allows the production of a wide range of civilian and military products.

The military industry of China has a fairly complex sectoral, intra-industry, organizational and territorial structure and is a set of enterprises engaged in the development, production, repair,

modernization of weapons and military equipment of various types. In general, the national military industry satisfies the needs of the Chinese army in weapons and military equipment, a significant part of which is exported. At the same time, the tactical and technical characteristics of the main part of the equipment produced are in some cases lower than the level of similar samples of leading foreign countries.

This is the result of the country's continuing lag in the field of science and technology, in particular military research and development, the presence in a number of industrial enterprises of significant amounts of obsolete and worn-out equipment and limited opportunities for the production of new materials.

However, in recent years, China has been rapidly catching up with industrialized countries and is currently able to produce individual modern models of armed and military equipment, including high-tech ones, comparable in their technical and technical characteristics to foreign counterparts. Here, a large-scale reform of the military-industrial complex continues, the priority areas of which are [Aviation industry of China, 2021]:

– continuation of the conversion of military production, active use of excess capacity of the defense industries in the interests of the civilian sector of the economy;
– improvement of the management system of the military-industrial complex in order to create a new mechanism for managing defense industry enterprises that meets the requirements of a market economy;
– stimulating the process of transferring advanced technologies created in the system of the military-industrial complex to the civilian sector of industry;
– active involvement of the civil, including non-state, sector of the economy in the process of development and production of military products;
– creation of a system of small-scale military production while maintaining broad mobilization opportunities;
– improving the quality of training of qualified personnel for the military industry to work at all levels of development and production of military-armed equipment.

In recent years, an important direction in improving the efficiency of China's military industry has been the creation of conditions for attracting private enterprises, including those with the participation of foreign capital, into the sphere of military production. This is due to the significant development of the private sector and a significant increase in its role in industry, especially in high-tech industries. Many private enterprises and enterprises with foreign capital have created a modern research and production base, and thanks to stable cooperation ties with leading foreign companies, they have gained access to advanced foreign technologies [ibid.].

According to Chinese experts, non-state enterprises have certain advantages in the field of information technology, the production of element base for the electronics industry, the creation of new materials and energy sources, and modern production technologies. To this end, the regulatory framework governing the participation of non-state enterprises in the production of military equipment has been revised, and some areas of the reform of China's military industry have been corrected.

Since April 2008, the State Council of the People's Republic of China has put into effect the "Regulation on Licensing the Development and Production of Armaments and Military Equipment", which creates a legal basis for the activities of non-state enterprises, primarily private ones with foreign capital.

The document provides mechanisms for the development of market relations in the field of

production of armed and military equipment, ensuring the openness and controllability of the activities of the military industry, the equality of public and private enterprises in obtaining state support, and contributes to the creation of conditions for fair competition [Chinese military-industrial complex under Xi Jinping, 2021].

It is expected that the involvement of the non-state sector in activities in this area will greatly facilitate the receipt of samples of high-tech products and innovative technologies from abroad for the purpose of their use in military production, will reduce the cost of developing armed and military equipment, shorten the R&D time and provide additional investment in development research and production base [Ju Wei, 2021].

In the context of the formation of a mixed economy, one of the main tasks of its reform was the creation of an integrated system of control over the preservation of state property and state property management. Back in 2003, the State Council of the People's Republic of China established the Committee for the Control and Management of State Property, which represents the state as the owner of assets in all large state corporations, including military-industrial ones. All branch corporations of the military industry, as part of a nationwide reform, as well as all large state corporations, were corporatized and transferred under the control of this committee. It was believed that it was corporatization that would attract additional investment from enterprises with private and foreign capital [Hannas, Malvenon, Puglisi, 2020].

Thus, at present, one of the main directions of the reform of the military-industrial complex of China has become the formation of a modern scientific and technical base for military production based on the integration of defense industry enterprises and technologically advanced civilian companies and enterprises, including private and with foreign capital.

According to the Chinese leadership, this will make it possible to create a more competitive and result-oriented research and production structure, which will be included in the country's single economic system as an organic component capable of concentrating the main capacities on the production of civilian products in peacetime, and in time of war quickly switch to meeting the needs of the armed forces.

At present, China's military industry has more than 300 major assembly plants producing various types of armed military equipment, including nuclear weapons, intercontinental ballistic missiles, combat and support aircraft (including nuclear weapons carriers), armored vehicles, artillery systems and small arms, naval technology.

Structurally, the enterprises of the military-industrial complex are grouped into military-industrial corporations. Each industry, with the exception of aviation and electronics, has two corporations. In total, there are currently ten of them: nuclear energy, construction of nuclear facilities, space science and technology, space engineering and electronics, aviation industry, shipbuilding industry, heavy shipbuilding, conventional weapons ("northern"), weapons and equipment ("southern"), radio-electronic industry.

Corporations are responsible for organizing the defense R&D and production of the military-industrial corporation within their industry. The issues of planning the development and reform of military-industrial complexes, defense science, the implementation of certain programs for the development of weapons and military equipment, as well as control over the activities of military-industrial corporations are under the jurisdiction of the State Department of Defense Science, Technology and Industry (GUONTP), which is part of composition of the Ministry of Industry and Informatization.

In China, there are 10 large state-owned corporations (Table 1) that act as contractors for fulfilling

the orders of the CBC. More than 800 companies are subordinated to them. Their activities are accountable to the Committee for the Control and Management of State Property of the State Council of the People's Republic of China (economic issues, makes decisions at all stages of the production cycle) and the GUONTP (military-technical and military-economic).

Table 1 - Ten large state corporations of the PRC [Chinese NORINCO…, www]

№	Name	Industry (field)
1	Aero Engine Corporation of China (AECC)	Aviation
2	Aviation Industry Corporation of China (AVIC)	
3	China Aerospace Science and Technology Corporation (CAST)	Rocketry, space exploration
4	China Aerospace Science and Industry Corporation (CASIC)	
5	China Electronics Technology Group Corporation (CETC)	Electronics and Information Technology
6	China Electronics Corporation (CEC)	
7	China North Industries Group Corporation (CNGC, NORINCO)	Armament and military equipment
8	China South Industries Group Corporation (CSGC)	
9	China National Nuclear Corporation (CNNC)	Nuclear energy
10	China State Shipbuilding Corporation (CSSC)	Shipbuilding

From the 90s to the present, the reconstruction of military industry enterprises and the introduction of advanced technologies have continued, which implies the completion of the transfer of the entire military-industrial complex to a qualitatively new technological base over the next decade, capable of re-equipping the army and navy with new-generation serial weapons national development [China's Quest for Advanced Military Aviation Technologies, 2020].

In the future, the development of China's military industry presupposes mainly the further re-equipment of leading enterprises with modern technological equipment and, to a lesser extent, the construction of new plants. Measures will be continued to optimize the financial and economic performance of enterprises of the military-industrial complex, such as reducing various kinds of costs, reducing the number of administrative staff, etc. The development of progressive technological processes, along with the renewal of the machine park and the planned capital construction, will make it possible to introduce into production a number of modern models of rocket, aviation and armored vehicles, artillery systems, as well as warships and auxiliary vessels.

Recommendations and conclusions

Aviation Industry Corporation of China (AVIC) – China Aviation Industry Corporation is a Chinese state-owned company, the country's largest manufacturer of military aircraft. In the Fortune Global 500 ranking for 2019, AVIC ranked 151st, in 2021 – 140th [General company information, www].

AVIC is divided into 12 divisions: Defense, Transport Aircraft, Aircraft Engines, Helicopters, Avionics, General Aviation Devices, Aviation Research and Development, Flight Testing, Market and Logistics, Management, Project Development on Plans and Models, Automobiles.

AVIC was formed in 2008 through the merger of two companies: China First Aviation Industry Corporation (AVIC I) and China Second Aviation Industry Corporation (AVIC II). At the time of formation, the authorized capital of the new company amounted to 64 billion yuan (9.4 billion dollars), at its disposal were 400 thousand employees and assets totaling 290 billion yuan (42.5 billion dollars) [ibid.].

Almost all enterprises of the Chinese aviation industry are concentrated in AVIC, including

military and civil aircraft manufacturing, helicopter manufacturing, engine building, production of on-board systems, etc. The enterprises of the corporation also produce many types of aviation weapons, including air-to-air missiles and some types of anti-ship missiles.

Foreign suppliers and subcontractors are widely involved in the project, and COMAC obviously needs independence from AVIC in order to facilitate the import of foreign components and technologies, as well as to eliminate lobbying pressure from Chinese manufacturers of aircraft components.

COMAC (Commercial Aircraft Corporation of China) is a Chinese state-owned aerospace company established on May 11, 2008 in Shanghai. COMAC was founded by the Chinese Government, Shanghai Provincial Government and AVIC. COMAC is owned by the State Property Control and Administration Committee of China (SASAC), AVIC, Aluminum Corporation of China, Baoshan Iron and Steel, Sinochem[en], Shanghai Guosheng Group.

In terms of scale, COMAC with its 6,000 employees16 is, of course, incomparable with AVIC [Ju Wei, 2021].

The volume of civil, including non-aviation, production of AVIC far exceeds the volume of military and aviation, while the main direction of the civil business for the company is the production of cars.

Today, AVIC is the most rapidly reforming of the Chinese military-industrial corporations, which is associated with Beijing's special attention to the development of military aviation and views on the aviation industry as one of the locomotives of future high-quality, high-tech economic growth. AVIC's assets are divided among several subsidiaries holding structures, each of which has a clearly defined production specialization, which should exclude competition between them. These structures enjoy a significant degree of autonomy, and each of them has its own long-term development strategies.

As of now, AVIC Aircraft controls major Chinese manufacturers of combat and civilian aircraft, including Shengyang Aircraft, Chengdu Aircraft, Xian Aircraft, Shaanxi Aircraft. Almost all the most important military programs related to the creation of military aircraft will be concentrated in this company. The company is involved in COMAC's plans to create a new civil aircraft as a subcontractor.

AVIC aims to become one of the world's leading industrial transnational corporations involved in global industrial cooperation, owning assets around the world. This inspiration is supported by the state. The growth of AVIC's global economic interests and the expansion of its presence in various regions of the world in the future means its greater openness to the influence of the world market; at the same time, participation in the implementation of key defense programs guarantees the leadership of AVIC access to the top leadership of China, political influence and authority that are not available even to the largest state-owned companies, not to mention private business. The creation of its own powerful financial divisions, combined with the ability to rely on the resources of the giant Chinese state-owned banking system, can give the corporation an advantage in the fight for the global civil aviation market, for which AVIC has very ambitious plans [van Wyk, 2022].

Despite the small amount of information available, there is reason to believe that similar processes are taking place in other leading Chinese military-industrial corporations. In fact, we are witnessing the formation of a group of extremely influential global players with increasingly diverse interests around the world, supported by the Chinese government and able to attract significant financial resources for their projects at a time when their competitors in the West are fully feeling the consequences of the global economic crisis. The activities of Chinese military-industrial companies may well become an important factor in relations between China and the outside world, just as it has already happened with the activities of Chinese oil and gas companies.

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Основные направления развития военной промышленности Китая

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Аннотация

Военная авиация Китая играет важнейшую роль в обеспечении обороноспособности страны. На современном этапе авиация Китая способна решать широкий круг задач как в мирное, так и в военное время. Авиационная промышленность является одной из наиболее развитых отраслей военной промышленности Китая. Имеет значительную научно-техническую и производственную базу, оснащенную современным оборудованием и позволяющую производить различные виды боевой авиационной техники. В целом промышленность обеспечивает потребности китайской армии, а также обеспечивает экспортные поставки вооруженной военной техники. Есть основания полагать, что аналогичные процессы происходят и в других ведущих китайских военно-промышленных корпорациях. По сути, мы наблюдаем формирование группы чрезвычайно влиятельных

глобальных игроков со все более разнообразными интересами по всему миру, поддерживаемых правительством Китая и способных привлекать значительные финансовые ресурсы для своих проектов в то время когда их конкуренты на Западе могут полностью ощутить последствия мирового экономического кризиса. Деятельность китайских военно-промышленных компаний вполне может стать важным фактором в отношениях между Китаем и внешним миром, как это уже произошло с деятельностью китайских нефтегазовых компаний.

Для цитирования в научных исследованиях

Сун Бохао, Нежникова Е.В. The main directions of development of the military industry in China // Экономика: вчера, сегодня, завтра. 2023. Том 13. № 2А. С. 98-105. DOI: 10.34670/AR.2023.46.51.006

Ключевые слова

Военная авиация, оборонная промышленность, военно-экономический потенциал Китая, военно-промышленный комплекс, госкорпорации.

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