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China's Military-Industrial Complex: Is It (Finally) Turning a Corner?

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China's long-ailing military-industrial complex (MIC) appears to have successfully transformed itself and is finally delivering relatively advanced weaponry to the People's Liberation Army (PLA). Rather than any structural/organizational reforms, a dual-use technology-development strategy and increased military spending seems to have had the most impact on modernizing the Chinese MIC.

SINCE THE establishment of the People's Republic, China has strived to become self-reliant in the development and production of armaments. Accordingly it has created the largest military-industrial complex (MIC) in Asia. The Chinese defence industry comprises more than a thousand state-owned enterprises (SOEs), employing some three million workers, including 300,000-plus engineers and technicians. In particular, China is one of the few countries in the world to produce a full range of military equipment, from small arms to armoured vehicles to fighter aircraft to warships and submarines, in addition to nuclear weapons and intercontinental ballistic missiles.

And yet, despite its ambition and scope, China's MIC was for the most part unimpressive. As recently as the late 1990s, China still possessed one of the most technologically backward defence industries in the world. Most indigenously developed weapons systems were at least 15 to 20 years behind that of the West, and quality control was consistently poor. China's defence research and technology (R&T) base was regarded to be deficient in several critical areas, including aeronautics, jet propulsion, microelectronics, computers, and exotic materials, such as composites.

Moreover, decades of effort to reform and modernize the Chinese MIC seemed to accomplish nothing. The defence sector was continually being reorganized and rededicated, and yet the technology gap with the West never seemed to narrow and quality remained poor. The Chinese People's Liberation Army (PLA) continued to rely heavily upon foreign suppliers – particularly from Russia – to supply the most advanced weapons in its arsenal.

China in the 21st century

What a difference a few years makes. Since the turn of the century, China has been churning out

several new types of weapons – in relatively large numbers – that are highly competitive in terms of quality and capability. These include the J-10 fighter, the *Song*-class diesel-electric submarine, the Type-052C destroyer (equipped with an indigenous Aegis-type radar and air-defence system), the HQ-9 long-range surface-to-air missile (akin to the U.S. Patriot air defence missile), and several types of ballistic missile systems. Moreover, rumours abound that China is developing a fifth-generation fighter and other state-of-the-art military systems. Production, sales, and presumably profits are up throughout the Chinese MIC.

What happened? How did China turn around its long-ailing defence sector? Of course, many of the aforementioned weapons programmes had been under development for more than 20 years, and so they were on schedule anyway to enter production in this decade. That fact alone, however, cannot explain the expansion and acceleration in recent arms-manufacturing activity. The answer, it appears, lies in the unique – and perhaps even fortuitous – convergence of several developments.

In the first place, after decades of false starts and fitful progress, Beijing appears to have finally hit upon the right formula to reform and revitalize its MIC. Beginning in the late 1990s, Beijing launched several initiatives intended to inject more market-oriented thinking into the defence industry. These include the introduction of Western management techniques, a new emphasis on quality control, and greater oversight by the Chinese military when it comes to procurement and program management. Efforts were also made to rationalize the country's bloated military-industrial complex, downsizing excess workers and consolidating production. China even injected a modicum of competition, breaking up giant defence SOEs into smaller, contending firms, particularly in the aviation and shipbuilding sectors.

At the same time, one should not make too much of these efforts. Most of these structural reforms are less than a decade old, and it is unlikely that they have had more than a secondary impact on recent progress in China's defence industry. The Chinese MIC remains a state-owned behemoth, and in particular there still exists little real cross-corporate competition within the Chinese defence sector.

R&T strategy

In addition, the Chinese have aggressively pursued a dual-use R&T strategy that stresses the development of advanced civilian technologies – particularly in the areas of electronics and information technologies, aviation, space launch vehicles, satellites, and advanced manufacturing – that can be spun-off to defence products and production. Over the past decade, Beijing has worked hard both to encourage further domestic development and growth in these sectors *and* to expand linkages and collaboration between China's MIC and civilian high-technology sectors – and it appears to be paying dividends.

Above all, perhaps, the local arms industry has greatly benefited from a huge rise in Chinese defence spending – from US\$11 billion in 1998 to US\$59 billion this year, a nearly five-fold real, i.e., after inflation, increase – that has ploughed considerable new funding into the country's MIC. Arguably, simply throwing more money at the problem has had perhaps the greatest impact on the local defence industry: increasing procurement and therefore production, expanding R&T spending, and subsidizing the upgrading and modernization of arms-manufacturing facilities.

Two-track transformation

Consequently, China's military-industrial complex is better-suited than ever to absorb, leverage, and deliver advanced defence-relevant technologies to the PLA. Beijing is currently engaged in an ambitious two-track transformational effort of simultaneously pursuing both the mechanization and informatization of its armed forces. Given this emphasis, the local arms industry is increasingly able to provide the PLA with the advanced military systems it requires. In fact, in recent years Beijing has

greatly reduced its once-sizable arms purchases from Russia, an indicator that China is getting closer to realizing its long-cherished goal of self-sufficiency in arms acquisition.

Of course, China still has a long ways to go. Much of the PLA's arsenal remains antiquated and outmoded, and it will not be replaced anytime soon. Moreover, the West – not just the United States and Western Europe, but even some smaller countries, such as Singapore – continues to outpace China when it comes to military technologies.

Nevertheless, should China continue to dedicate ever-increasing resources to its military-industrial complex – and particularly to its defence R&T base – it could be the breakout arms producer of the 21st Century. This could affect global security in a number of ways. For one thing, it would inject a powerful new player into the international arms market, complicating efforts to control the proliferation of conventional weaponry to unstable and rogue states.

Most critically, it could also mean the rise of a more (in military terms) technologically advanced China that would be increasingly prone to challenge the United States for regional, even global, predominance. A more militarily self-confident China, coupled with its growing economic and soft power, could be more assertive in a number of areas – in the Taiwan Strait, in the South China Sea, and in the “blue-waters” of the Pacific and Indian Oceans – that would upset regional security. As China's military-industrial complex increasingly comes into its own, the repercussions could be far-reaching and, to say the very least, disquieting.

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