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Chinese Objectives in High Technology Acquisitions and Integration of Military and Civilian Capabilities: A Global Challenge*

Integrating military and civilian capabilities to serve the development of a « war prepared » PLA in the context of information warfare is a priority for the PRC. It has been a priority since the beginning of the 2000s when civilian and military integration (军民结合) was qualified as a « strategic objective » by the MIIT (Ministry of Industry and Information Technology).

It remains a top priority today under Xi Jinping, that aims to build a « rich and strong country » (富国强兵). This would be the realization of his « China dream », just as it was the dream of Japan, when, under Meiji at the end of the XIXth century, it launched into an ambitious policy of reform and military development.

China is not the only country to tap into

civilian high tech industries and efficiency to build synergies, to better answer more specific defense development needs.

But China puts a strong emphasis on the necessity, in an asymmetric situation, to fill rapidly technological gaps by accomplishing « technological leaps », a way of thinking which finds its origins in a kind of Maoist voluntarism that was particularly strong during the « Great Leap Forward » period (1958-1962).

Today, the increasing blurring of limits in dual-use technologies greatly contributes to this integration between civilian and military technological development. According to

* This note follows the conclusions of a seminar organized by FRS on October 3, 2017, on « Chinese Role in High Technology Acquisitions ».

« The Science of Military Strategy », published by the Academy of Military Science in 2013, about the operational use of cyberspace, « Regarding that it is hard to distinguish military activities from civilian ones, in cyberspace [we should] insist on combining peaceful and military use, integrating civilian and military use. So [we could] use civilian activity to cover military activity during peaceful times, and combine the forces of civilian and military during wartime ».¹ This strategy also translated into the incorporation of civilian engineers into the military, a new application of the Maoist principle of People's war with modern characteristics.

This effort has been inscribed in a coordinated and long-term effort to build the PRC's defense capabilities, by integrating and mobilizing all the components, of its national power (结合国力) and increase the credibility of its deterrent – in the sense of anti-access – capabilities. Long-term planned development and innovation objectives like « Made in China 2025 », a manufacturing plan adopted in 2015 with a strong focus on hedge dual-use technologies like infotech, robotics, aerospace, ocean engineering, rail transportation, energy, new materials, and medicine are also an integral part of this strategy. According to Xu Dazhe, Director of the China Atomic Energy Agency, « The defense industry is a unique part of the nation's grand plan of 'made in China 2025' ».² This objective is also at the heart of the 13th five-year plan 2016-2020.³

Artificial Intelligence is a good example of what is at the heart of China's high tech ambitions in dual-use technologies for both civilian and military development. In July 2017, the State Council issued a development plan for Artificial Intelligence to become « the first global AI innovation center » by integrating domestic and international innovation resources.⁴

China also wants to gradually build a more « independent » innovation and industrial base for its defense and break the dependencies on foreign imports, mostly from Russia, that are still necessary in spite of impressive technological developments, particularly in the naval and ballistic sectors, in recent years.

1. <https://fas.org/blogs/secrecy/2015/08/china-sms/>

2. « Sky is the Limit for Defense Giant », *China Daily*, 03-09-2015.

3. <http://en.ndrc.gov.cn/newsrelease/201612/P020161207645765233498.pdf>

4. Elsa Kania, « China's Artificial Intelligence Revolution », *The Diplomat*, 27-07-2017.

These efforts benefit from the considerable clout of the Chinese economy, and its image of a major and unavoidable economic and trade power.

China is the second economic power in the world, the first trade power, with financial capabilities and a political system that does not hinder the definition of priorities in terms of international cooperation, whatever the real economic benefits. In terms of cooperation building with foreign entities, China can also offer the attractiveness of an ambitious research and development policy with (officially) a budget representing 2,5% of the GDP until 2020.

Playing on the PRC's Power of Attraction

As a result, in spite of the transparency of its objectives in the fields of dual research and development and technology, the PRC attracts a lot of interest from foreign institutions, governments and technological enterprises, in the name of international cooperation, and in the hope, for private enterprises, to increase the chances of access to the Chinese market. Foreign research centers in critical fields like aerospace are impressed by the momentum of Chinese interest – and money invested – that contrast with the financing difficulties they may face in their own country.

Europe, after the financial crisis of 2008, prolonged in some countries by a significant economic slowdown, has been a specific target of Chinese investments in countries eager to attract Chinese money.⁵ And Chinese foreign investments have increased in large volumes, from 2,7 billion dollars worldwide in 2002 to 84,2 billion dollars in 2012 with further acceleration from 2012 to 2016, reaching a record 111 billion dollars for the US and Europe, in sectors like energy, automotive, machinery, robotics, infotech, and communication.⁶

Moreover, the more « technical » and « scientific » the field of research, the less awareness there is of the specificities of the Chinese political system and the potential negative effects of developing cooperation with research centers and companies that are integrated into a centralized system of control. The same fascination did exist during the cold war with

5. Karolina Lopacinska, « The Expanded Presence of Chinese Companies on the European Market as a Practical Realization of the "Go Global" Strategy », *International Relations and Diplomacy*, May 2017, vol. 5, n° 5, 270-279.

6. https://www.bakermckenzie.com/-/media/files/newsroom/chinesefdi_infographic.pdf?la=en

the Soviet Union. It can only be increased, in the case of China, by the « hybrid nature » of the system, both relatively opened in economic terms and still ideologically and politically rigorously controlled.

In spite of its attractiveness and apparent openness, the Chinese communist Party (CCP) and its Central Military Committee (CMC) remain at the top of the decision-making process. Because of the specificity of the political system, civilian and military integration, as well as Chinese foreign investments and cooperation, can rely on a very centralized capacity to mobilize all resources (diplomatic, trade, financial) of the Party-State. One of the most significant expressions of this capacity to mobilize all sectors whatever the cost and economic rationality is, of course, the belt and road initiative (BRI) launched by President Xi Jinping, under the name of OBOR (One Belt One Road) in 2013.

For the Chinese civil-military apparatus, the ambition is also to tap into the financial capabilities of state or collective Chinese civilian enterprises in high tech sectors that have the opportunity to develop « civilian » cooperation programs with foreign private companies attracted by the potential of the Chinese market. This is one of the ways for China to go around the constraints of arms sales embargo established by the EU and the United States after the violent repression of the democratic movement on Tiananmen Square in 1989.

China's foreign investment strategy, supported by large investment funds targets foreign high tech companies in sectors useful for its own civilian and military development.

Robotics, observation, sonar or video-games industries, for instance, are specific targets as their dual technology potential is vast and essential for the development of the PRC military capabilities.

In all these sectors, small or very small enterprises and startups are a particularly vulnerable target. One instance is the Saclay scientific hub in France, where China declared itself ready to support more than 200 startups financially.

As for international cooperation in research and development, all sectors of state-controlled and oriented research, the Chinese Academy of science, universities, like the Nanjing University for Aeronautics, that was at the forefront of institutional and scientific cooperation with foreign engineer schools like French Ecole Centrale since 2005, and research centers, are mobilized.

Research projects are chosen with foreign institutions, following the demands of the Chinese side. Chinese engineers are formed, and opportunities are given to universities and research centers with strong links to the military to become part of high-end technology projects like LIAMA (Sino-European Laboratory for Informatics Automation and Applied Mathematics).⁷

The role of « technological » or « science parks » (科技园) in the sector of dual technologies inside China is essential in that field. These technological parks group research centers, laboratories, high tech national or joint venture enterprises to get better access to foreign technologies.

These Industrial parks can be built in cooperation with foreign high tech countries like the project of a Sino-German industrial park in Shenyang, to integrate « Germany's innovation capacity with Chinese cost advantage ». This project should encourage the participation of companies like BMW, BASF, KUKA, EUGART or SIEMENS.⁸

The Interest of China in Foreign Technology Clusters

The same ambition to build synergies is also evident in China's investment strategies in some countries that have the ambition to create technology-based clusters of regional development. One example of such an approach is the Futuroscope technopôle near Poitiers in France.⁹ The objective of the technopôle, was to support IT innovation with a mix of Universities, institutional research centers, State and European funding, IT incubators and private companies in the high-tech sectors.

10% of French research in the engineering field is done at the Futuroscope in critical sectors for China like telecommunication, aeronautics and wind tunnels and new materials. The PRC has selected all these sectors as essential to the development of its civilian-military capabilities.

The Futuroscope, supported by local politicians with national influence and close links

7. <https://www.inria.fr/europe-international/parteneriats-internationaux/asie-oceanie-russie/international-lab/liama>

8. http://epaper.syd.com.cn/syrb/html/2015-06/13/content_1075711.htm

9. Carlos Scheel, Daniel D. Bretones, « The Impact of technology-based Cluster and Regional Development: The Case of the Grand Poitiers Futuroscope Technopole », *Univerita Empresa, Bogota*, June 2011.

to China, very early attracted the interest of ZTE, one of the major Chinese state telecom company that had the ambition to set up a research center in 2005 and its European maintenance pole at the Futuroscope technopôle in 2010 with promises of hundreds of new jobs for the region.¹⁰

A Sense of Urgency: The Chinese Perception of the Strategic Context of Cooperation Building

The strategic context as seen by the PRC is interesting. China considers that the period of opportunities to achieve its dream is dipping. Since Obama decision to « pivot » to Asia, Chinese strategists and leaders feel that the US presence in Asia is increasing rather than diminishing, and threatens the PRC core interests in the region. This policy, in spite of uncertainties, has been firmly reasserted after the election of Donald Trump, particularly at the occasion of his long trip to Asia in the beginning of 2018.

Beyond these strategic evolutions, China also follows the ongoing technological developments in the US carefully and consider that the deployment of new capabilities like THAAD is directly aimed at the PRC, threatening what China believes strategic stability at its borders.

As a result, for the PRC, the strategic situation in its environment is not improving, contrary to the overconfident image often projected. This is that feeling of urgency that explains the call of Xi Jinping since he came to power in 2012 to the PLA to be more « combat ready », implement institutional reforms launched in 2015, fight corruption and, moreover, actively develop its capabilities in all domains, including the high-tech ones.

Possible responses

In spite of its attractiveness, China's ambition and aggressive investments behavior in recent

years has led to an increased awareness of the issues at stake and to counter reactions from some countries, in Japan, the United States but also, more recently, in Europe.

In September 2017, the EU decided to adopt more stringent rules for Chinese investments in sensitive or essential sectors, supported by individual countries like France or Germany.¹¹ In France, President Macron and the Prime Minister decided to extend the field of industries or economic interests considered too sensitive to be allowed to be taken over by China. The most recent case has been Toulouse Airport, where, on February 25, the French government decided to block a 10% increase in Chinese investment, to keep a majority control.

In February 2018, Prime Minister Edouard Philippe announced that new categories had been added to the ones specified since 2014, where foreign investments need to be approved by the State. These categories are artificial intelligence, space, big data and semi-conductors, added to energy, transportation, telecom, water, and health.

Another sensitive field is the domain of research cooperation, where an exchange of experiences and information on, for instance, in-depth screening of potential students or researchers, or guidance for universities and research centers between like-minded countries could help better understand the patterns and objectives of Chinese dual civilian-military integration policy and their consequences for cooperation programs.

In all these fields, identification of loopholes in investment and export control and consultations between EU countries, the United States and Japan concerning investment and export control – including the control of re-export – legislation are a necessity, in the context of globalization and the challenges of an « open world » lacking truly shared vision and universally accepted norms and rules of the game.◇

10. Idem.

11. <http://ec.europa.eu/trade/policy/accessing-markets/investment/>

The opinions expressed in this text are the responsibility of the author alone.

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