



# Beyond Bitcoin: Could China Embrace Blockchain for Defense and Security Applications?

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For the full article, see: <https://jamestown.org/program/beyond-bitcoin-china-embrace-blockchain-defense-security-applications/>

**OE Watch Commentary:** Since January 2016, bitcoin has skyrocketed from less than \$1,000 and nearly peaking at \$20,000 in December—a 2,100 percent increase. Despite its volatility, euphoria over bitcoin along with other cryptocurrencies has spread across the globe and nowhere has this been more evident than China. However, despite official concern about cryptocurrency, the technology that underpins bitcoin, known as distributed ledger technology or blockchain, is being evaluated for application by other Chinese industries and sectors. Specifically, it has piqued the interest of a small group of cyber security experts and media in China that view blockchain as holding great promise for application across China's broad national security interests and apparatus.

Even though China has quickly become a global leader in cryptocurrencies, fear of the currency's potential use in illicit purchases on the dark web, money laundering, and offshoring of badly needed currency have left Chinese authorities unnerved. As a result, the government began cracking down in the last quarter of 2017. In September, a notice was issued to shutter cryptocurrency exchanges, restrict any new ICOs, and ban the trading of digital cryptocurrency under the pretext of reducing financial risks.

Meanwhile, the rest of the world is charging ahead with new and innovative ways to leverage the blockchain. Indeed, many of these uses are interchangeable with defense and security priorities. One groundbreaking proposal in National Defense Science and Technology (NDST) in 2016 and a concentrated release of associated articles on June 2, 2017 asserts that China should consider blockchain in military and security operations. While these articles are in no way an official indication of China's current or future use of blockchain, the articles do offer a glimpse of the novel ways in which this technology could be leveraged. Moreover, it would seem that the technology would align with the civil-military application goals tied to the broad "informatization" campaign enshrined in China's 2015 Military Strategy and 13th Five-Year Plan for Informatization (2016-2020) among others.

Of the three researchers that contributed to the NDST (2016) article, each of whom holds a PhD and is focused on cyber security, one in particular stands out: Zhu Qichao. Dr. Zhu Qichao is not only the director of the Center for National Security and Strategic Studies at the National University of Defense Technology in Beijing, but also a colonel in the PLA and a thought leader in China's artificial intelligence efforts. In the article, three main areas of military and security employment were outlined: intelligence operations, weapons life cycle and personnel management, and military logistics. This foundational approach may very well frame future Chinese security-related blockchain endeavors and perceptions.

For intelligence operations, the ability to discretely "pay intelligence professionals and informants" is critical. Blockchain allows participants to apply for one or more accounts, regardless of "national and geographical restrictions," with no direct correlation between different accounts. Touting the weapons life cycle and personnel management advantages, blockchain would allow Chinese military and security-related commercial and industrial partners as well as leadership to maintain secure information transfers and communications to include sensitive studies, combat readiness statuses, and production timelines.

Finally, as military logistics becomes more "smart" or "intelligent", blockchain can improve the entire logistics enterprise by making it more robust, dynamic, and resilient by creating small, interconnected networks. As a result, this new enterprise is less risky and more survivable since it avoids a "centralized management strategy" that is over-reliant on a few critical information centers or other key geographical sites. The NDST's recommendation was reprised a year later in a slimmed down, summation in Liberation Army Daily by Zhang Min. This article gained significant traction as it was widely circulated and republished in a variety of Chinese media outlets to include *Xinhua* (*Xinhua*, *China Military Online*, *China News*; June 2, 2017).

Despite these benefits, blockchain is not a panacea for China's security challenges. First, the issue of confidentiality for the large amount of classified military information and where those "densities" of information would be stored on the blockchain needs to be addressed. Second, constructing these various blockchain would require a substantial amount of resources (power, programmers, processing power, etc.) and dedicated nodes. Third, because blockchain architecture is decentralized, its communications would bypass a centralized server, thereby raising regulatory and control issues. Finally, the authors allude to the fact that the "liberalism" at the heart of blockchain architecture may be irreconcilable with the degree of control with which Party and military leadership would likely seek to exercise, even though it is not specifically stated in such terms.

Blockchain has yet to prove its military and security bona fides in China. However, as the technology becomes more mainstream, regulated, and slowly sheds its illicit reputation, it is very likely that its use will proliferate across the public and private sectors in China. Even if China continues its crackdown on cryptocurrencies in the future, the technology behind it has been recognized as having intrinsic value and utility for Chinese defense issues. **End OE Watch Commentary (VornDick)**

(continued)



## Continued: Beyond Bitcoin: Could China Embrace Blockchain for Defense and Security Applications?

*“With stronger policy support, China will work to establish uniform military and civilian standards for infrastructure, key technological areas and major industries, explore the ways and means for training military personnel in civilian educational institutions, developing weaponry and equipment by national defense industries, and outsourcing logistics support to civilian support systems.”*

**Source:** “Full text: China’s Military Strategy,” Xinhua, 26 May 2015. [http://www.chinadaily.com.cn/china/2015-05/26/content\\_20820628\\_5.htm](http://www.chinadaily.com.cn/china/2015-05/26/content_20820628_5.htm)

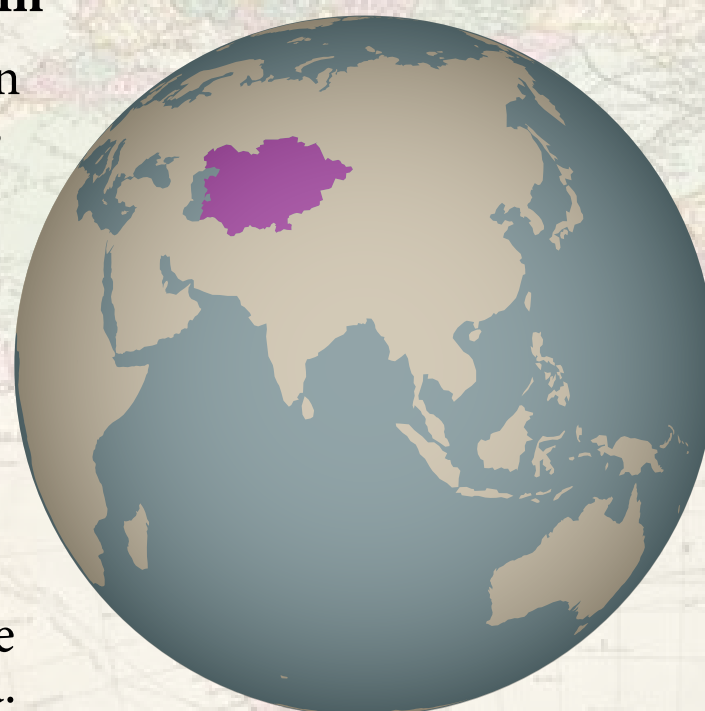
*...China’s armed forces will deepen logistics reform in relevant policies, institutions and support forces, and optimize strategic logistics deployment. They will innovate the modes of support, develop new support means, augment war reserves, integrate logistics information systems, improve rules and standards, and meticulously organize supply and support, so as to build a logistics system that can provide support for fighting and winning modern wars, serve the modernization of the armed forces, and transform towards informationization...*

*...With stronger policy support, China will work to establish uniform military and civilian standards for infrastructure, key technological areas and major industries, explore the ways and means for training military personnel in civilian educational institutions, developing weaponry and equipment by national defense industries, and outsourcing logistics support to civilian support systems...China will devote more efforts to science and technology in national defense mobilization, be more readily prepared for the requisition of information resources, and build specialized support forces...*

## Compendium of Central Asian Military and Security Activity

**By Matthew Stein**

Since Central Asian states gained independence in 1991, new regional military and security alliances have been created (some of which are Russian-led), new military partnerships with non-NATO countries have been established, a number of joint military exercises have been conducted, over a dozen high-profile incidents of violence and civil unrest have taken place, and military installations have been used by foreign militaries. While this activity gained attention, it has not been collectively compiled. A compilation of this activity can serve as a guide for current and future military and security involvement in Central Asia.



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