

Geotechnology meets geopolitics

Stephen Nagy examines China's geotechnology strategy and its relationship to the Sino-US artificial intelligence rivalry

The geopolitical rivalry between the US and China has expanded into the geotechnological realm. The race for AI dominance and digital economic sovereignty, including the development of ultrafast 5G mobile systems and automation has the potential to dramatically reshape the global balance of power.

The winner will be able to write the protocols for a new internet (intranet), laying the foundations for the next technological revolution and subsequent digital economic era. It will also have a determining role on reconfiguring the security architecture and dominance by the US in East Asia.

China views AI dominance at four levels: 1) national development strategy; 2) domestic stability; 3) political longevity and sustainability; and 4) international security. To accomplish these four objectives, China is developing a closed intranet system that enables the government to monitor all aspects of digital behaviour through metadata gathering, expansive CCTV monitoring and merging that data with AI's capacity to map out trends, behaviour patterns and to identify people through facial recognition technologies.

This article examines China's geotechnology strategy and its relationship to the Sino-US artificial intelligence (AI) rivalry. Through highlighting the central role AI plays in China's national development strategy, this article hopes to shed light on the implications of Sino-US AI competition for the region and global order. It concludes that AI rivalry between the US and China has the potential to result into two independent digital economies, a Chinese-based, closed intranet system and a non-Chinese-based, open internet system.

The implications are clear, the bifurcation of the global economy into two digital economies will result in the duplication of production networks. This will increase the costs for businesses with global reach.

AI and national development strategy

With access to the metadata of at least one billion digital citizens engaging in uncountable daily digit activities, China has and is accumulating vast amounts of metadata to develop, refine and deploy its AI systems to achieve its strategic objectives. Examining first how AI dominance is related to national development strategies, based on China's *Made in China 2025*/中国制造 2025/*Zhōngguó zhìzào 2025*¹ strategy, China aims to become the world's leading manufacturer of telecommunication, railway and electrical power equipment by 2025 (State Council, 2018).

Much will depend on the outcome of the current trade war and whether China will accept US demands to open its market, stop IPR theft, forced technology transfer and reform of state-owned enterprises

The Center for Strategic and International Studies' (CSIS) Scott Kennedy suggests that the 2025 *Made in China* strategy also includes a focus *"on the entire manufacturing process and not just innovation, the promotion of the development of not only advanced industries, but traditional industries and modern services while maintaining a focus on state involvement with market mechanisms are more prominent than in SEI"* (CSIS, 2015).

He also argues that *"there are clear and specific measures for innovation, quality, intelligent manufacturing, and green production, with benchmarks identified for 2013 and 2015 and goals set for 2020 and 2025"* (Ibid).

Successfully achieving first mover status in the AI-based digital economy through the *Made in China 2025* initiative², China may be able to transition its economy away from heavy manufacturing towards high technology, services and robotics enabling it to shift away from complete the transition away from its current economic growth model. As of November 2018, [China's total GDP](#) is approximately 40% of the GDP being generated by the manufacturing sector and 51.6% of GDP being generated by the services sector.

Comparing to countries within the region, this figure is less than South Korea at [60%](#), Japan at [70%](#) and other East Asian economies in the service sector. It should be noted that both in terms of quality and scale of [service sector jobs](#) being created, there are concerns that neither meets the trajectory needed to escape the middle-income trap (Cai, 2012).

With that in mind, policy makers in Zhongnanhai are cognizant of the role of being the first mover an AI-based digital economy would be in transitioning the Chinese economy towards sustainable high quality technological-based growth. Succinctly, it would allow China to leapfrog its economic development allowing the CCP leadership to achieve twin goals of realizing *"socialist modernization"* by 2035 and to *"have built a modern socialist country that is strong, prosperous, democratic, culturally advanced, and harmonious"* by 2049.

AI and domestic stability

Following the [removal of term limits](#) at the 19th Party Congress in October 2017, President Xi Jinping and the CCP have stepped up efforts to deploy AI-based technologies to foster social cohesion based on a social credit system (Brehm, Stefan, and Loubere. 2018).

To elaborate, AI-based technology working synergistically with ubiquitous CCTV cameras and the [WeChat](#) or WeChat-related applications allows the central government to monitor, track and reward or penalize public and private behaviour that the authorities of the CCP consider incompatible with CCP's [China Dream](#) and socialism with Chinese characteristics objectives, as formulated in Xi Jinping's [Thought on Socialism with Chinese Characteristics for a New Era](#).

This kind of Orwellian monitoring has serious implications for those contemplating action against the authorities. First, the pervasive social monitoring through AI-based technologies means that the CCP can assign digital and non-digital citizens a fluid social credit score that fluctuates depending on whether the citizen in questions is in obedience with rules and regulations stipulated by the CCP. Those that are in line with rules and regulations receive higher social credit scores and subsequently preferred access to various social welfare privileges issued by the Central government (Cheung and Chen, 2018). Conversely, those that consistently engage in behaviour that the CPP designates as not sociably desirable have lower social credit scores.

The consequences can be severe for those with [low social credit](#). For example, low social credit citizens may not be able to get a loan, buy train or airplane tickets or access other social welfare benefits provided by the state. As of 2018, scholars researching AI and social credit in China find that it is *"complicated system that focuses primarily on financial and commercial activities rather than political ones"* (Liang, Das, Kostyuk, and Hussain, 2018).

In short, AI-based technology consolidates domestic stability by forcing citizens to behave in ways that the state deems in accordance with China's national objectives and priorities.

AI and political longevity and sustainability

Leaders in China have reflected on the Chinese civilization's history and critical junctures that have led to dynastic transitions in the past that resulted in civil war, warlordism, institutional decay and most recently the so-called "*century of humiliation*" under foreign powers. Their take home message from this historical reflection is that when was China strong, prosperous and stable it had a strong central governing institution.

With the above lessons of history in mind, the leaders of Zhongnanhai understand AI-based social surveillance and social credit system as a tool to preserve a strong centralized governing body, while at the same time securing the CCP's own position as the sole and central governing body of China. AI technology allows the CCP to increase its role in **all aspects of Chinese society** and thereby consolidate its position as the singular organizing body in modern China.

By virtue of being in all aspects of Chinese society, the CCP has realized the French philosopher Michel Foucault's **panopticon** written about in his monograph *Discipline and Punish* in which the political, social and economic behaviour of Chinese citizens is being modified to fit the desired mold of those in power, the CCP.

In the Chinese case, AI and surveillance technologies ensure that no countervailing political currents take root in the Chinese political context, nor does information that the CCP deems counter to its national narrative have a conduit for transmission to its citizens. Technological dominance ensures that the CCP controls how citizens think about politics and governance through censorship, through selective access to history, news narratives and to existing disunity in China regarding governance and the optimal form of governance for China.

Illustrative examples of this distorting effect on historical and news narratives are plentiful. For example, following the [Umbrella Movement](#) in Hong Kong that was attempting to secure the one-country, two-systems model and to ensure that Hong Kong citizens could choose their own political leaders as agreed upon in the [Joint Declaration](#) when Hong Kong was reunified with Mainland China.

The narrative in Mainland China about the movement was one that focused on a separatism movement. While a very small minority did advocate independence, the Umbrella Movement and the post-movement sentiment in Hong Kong was neither about independence or separatism, it continued to focus on maintaining the robust one-country, two systems agreement.

The same can be said about shaping how Chinese citizens view democracy, interventionism and human rights. Domestic portrayals of US politics focus on the mercurial leadership of President Trump, how split government and partisanship make for ineffective government, etc.

Foucault's panopticon with Chinese characteristics will no doubt strengthen social control and reduce political dissent in Mainland China, consolidating politico-social control ensuring that the CCP's rule is as sustainable as it is long lived.

AI and international security

While much of China's focus on AI is domestically oriented, there is an important international dimension that focuses on the economy and military security in China's periphery and globally. Economy (2018), Deutch (2018) and Li (2018) view China's AI push through the lens of 'China's new revolution', 'China's New Great Leap Forward', or as 'Industry 4.0' respectively. Each stress that China views AI domination as critical to China's economic stability, autonomy and sustainability.



Importantly, China's quest for AI dominance in the digital economic arena has the end goal of ensuring the Chinese economy is 'open' to outside investors based on China's understanding of cyber-sovereignty (Segal, 2018). This means investors and businesses wishing to enter the Chinese market will have to accept the conditions, protocols and regulations of a Chinese closed digital economy. This may include a closed digital platform that does not protect privacy, IPR or it may demand that all digital information be localized making its use by a non-Chinese firm invasive and risky. [Future prospects](#) of securing these guarantees are low as the CCP increases its role in all aspects of Chinese society.

Another important consequence for businesses and the global production network of this closed digital system is its impact on supply chains, transaction costs and businesses and allies being forced to choose between a China-based closed digital platform and a non-Chinese (US) led open platform.

It is conceivable as the Sino-US rivalry deepens that the US may demand allies and its own businesses to eschew doing business with China as part of a broader strategy to constrain China's economic growth and technological edge through first mover digital hegemony.

In the security realm, digital hegemony has consequential advantages for securing China's core interests that were outlined in the whitepaper [China's Peaceful Development 2011](#) which stress 1) state sovereignty; 2) national security;

3) territorial integrity; 4) national reunification; 5) China's political system established by the Constitution and overall social stability; 6) basic safeguards for ensuring sustainable economic and social development.

If China is the **first mover in the AI revolution** it will be able to furbish its existing **anti-access/anti-denial missile systems** (A2/AD) with AI technologies that will enhance their ability to evade US naval and other capabilities in China's periphery. This would erode many of the US security assets within the region, weaken the US extended deterrence and *raison d'être* of the existing alliances in the region.

At the same time, AI equipped A2/AD systems would significantly increase the costs (Johnson and Johnson, 2018) of a conflict with China and compel the US to locate its naval assets far beyond the first island chain. The consequences on for the US security guarantees and ability to freely navigate the ECS and SCS would be immediate and likely usher in a Chinese version of the Monroe Doctrine with China having exclusive control over both the ECS and SCS.

Sino-US geotechnology rivalry: from competition to cooperation?

The race for AI hegemony and dominance of the emerging digital economy is currently characterized by competition and a zero-sum outcome. The question remains is China and the US can move this race away from a zero-sum equation to a win-win equation characterized by cooperation? If they cannot, the outcome of the competition will be extremely disruptive on the regional and global economy as well as the US guaranteed East Asian security architecture.

Much will depend on the outcome of the current trade war and whether China will accept US demands to open its market, stop IPR theft, forced technology transfer and reform of state-owned enterprises (SoEs).

As this article stresses throughout, first mover status in the AI domain is not just about economic development but also social stability and cementing the CCP's position as the central and permanent governing organization in China. As a result, we should not expect China to back down in the trade war or its quest for AI hegemony. ■

Stephen R Nagy is a Senior Associate Professor of Politics and International Studies at the International Christian University, Tokyo

ABOUT THE AUTHOR

Stephen R Nagy is originally from Calgary, Canada. In December 2017, he was selected as a Distinguished Fellow at Canada's Asia Pacific Foundation (APF) and an appointed China expert with Canada's China Research Partnership. He also holds fellowship positions with the Canadian Global Affairs Institute (CGAI) and the Japan Institute for International Affairs (JIIA). Concurrently, Stephen is a Senior Associate Professor in the Department of Politics and International Studies at the International Christian University, Tokyo. He was selected for the 2018 CSIS AILA Leadership Fellowship in Washington.

Endnotes

- 1. For more on China 2025 see: United States Chamber of Commerce. 2017. "Made in China 2025: Global Ambitions based on Local Projections," Accessed November 2nd 2018.*
- 2. Since the beginning of the US-China trade war in July 2018, the "Made in China 2025" brand has been toned down in State Media. This may reflect that Beijing has become sensitive to the US focus on IPR infringement, criticisms over forced technology transfer and the rhetoric from Washington critical of the "Made in China 2025" initiative. Notwithstanding*

the toning down of the promotion of "Made in China 2025", Beijing remains committed to achieving its objectives of recalibrating and transforming its economy based on the initiative.

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