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# A Match Made in Heaven: China-Russia Tech Co-operation and Canada's National Security



by Casey E. Babb / March 2024

## Introduction

For several years, technological co-operation between China and Russia has been steadily increasing. From nuclear weapons and outer space technology to artificial intelligence and semiconductors, Beijing and Moscow appear closer than ever. Indeed, in 2019 Xi Jinping, general secretary of the Chinese Communist Party, referred to Russian President Vladimir Putin as his "best friend." Striking a similar tone in March 2023, Putin suggested that increasing co-operation between the two nations would lead to "truly unlimited possibilities" (The Guardian 2023). Yet, while analysts and observers throughout Canada, the United States, Europe and elsewhere have noted this surge in tech relations between the two countries, little research and analysis have been undertaken to examine the potential consequences for the West as the two countries become increasingly aligned. Further, while China and Russia are consistently presented as the main hostile actors threatening Canada's national security and the U.S.led international order, high-level strategic documents (e.g., Canada's 2017 defence policy, Canada's 2018 National Cyber Security Strategy, the 2022 U.S. National Security Strategy, etc.) typically approach both countries as distinct threat actors, overlooking how their synergies align and strategic interests converge. This piece looks to help fill that gap, with specific emphasis on technological co-operation between the two nations, and how Canada and its allies ought to think about Beijing's relationship with Moscow.

## **Key Areas of Tech Co-operation**

Across all dimensions of the China-Russia relationship, technological co-operation in the defence space is most concerning. Over the last number of years, the two countries have pursued several agreements and defence co-operation frameworks. These include the 2017 signing of a road map on military co-operation from 2017 to 2020 and the 2021 Road Map for Military Co-operation for 2021–2025. Specifically, since 2014, when Russia's relationship with the U.S. became particularly fractious, China and Russia have become increasingly close militarily as Russia has turned to China to fill numerous defence-related gaps created by the Kremlin's damaged relationship with the West. As Kendall-Taylor and Shullman (2021) have noted, while their relationship in

this domain "falls short of a traditional military alliance," the two countries are cooperating in militarily significant ways that could pose major national security threats for Canada and its allies. In August 2021, Sergei Shoigu, Russia's long-time defence minister, said, "we have achieved a high level of interaction between our armed forces on land, in the air and at sea." Shoigu said this represents "an important trend towards further activity" (Reuters 2021). This "interaction" Shoigu speaks of is particularly problematic when it comes to arms sales and technological co-operation in dual-use domains.

In terms of arms sales, China-Russia military transfers have surged since 2015. These include several strategically significant arms transactions, such as milestone contracts in 2015 for the sale of Su-35 combat aircraft and S-400 air defence systems worth \$5 billion, as well as a series of important transactions involving the transfer of helicopters, submarine technology and aircraft engines (Schwartz 2021). This alignment and these types of sales benefit each country differently. For China, the volume and nature of transactions are a signal that Beijing considers Russian military technology to be attractive, despite several important technological advancements China has made in its own defence space. Russia's expertise in certain key areas, such as air defence, antiship and submarine capabilities, has enabled China to enhance its own military. Despite Beijing's relentless efforts to acquire sensitive technology and intellectual property from other countries, including Canada, Russia has enabled China to do it in ways China otherwise could not, or at least would not be able to over the near term. China's recent multi-billion dollar acquisition of 24 Su-35 Russian fighter jets - which made it the first international buyer of these aircraft – highlights the importance of Russian technology to China and the People's Liberation Army (Gady 2019). Indeed, this acquisition provided China access to advanced Russian radar systems, aircraft engines and avionics at a time when the country is becoming increasingly belligerent in the Indo-Pacific, but also when China is struggling to develop its own fifth-generation aircraft. Reports also suggest both countries are collaborating on submarine technology and design. For instance, in October 2023 it was reported that China had made significant progress towards the development of new harder-to-detect nuclear submarines, thanks in large part to Russian technology and expertise (Torode 2023). Using a distinctive angled sail, the new submarine – the first of its kind in the world – reduces the effectiveness of the enemy's sonar detection capabilities, increasing the submarine's survivability. Similar to the benefits of acquiring Russian aircraft and aerospace technology, alignment and co-operation in the maritime domain will enable China to overcome persistent deficiencies and challenge U.S. superiority at sea.

For Russia, opportunities to purchase arms, military equipment and technology from China have come at the perfect time. As Russia has become more isolated from the West, China could step up as a lifeline for Moscow's struggling military which is burning through resources in the country's war against Ukraine. In April 2023, the office of Ukrainian President Volodymyr Zelensky said it had seen a spike of Chinese technology in Russian weapons, including made-in-China components such as chips in aerial drone navigation systems and Russian tanks (Williams and O'Donnell 2023). Others have suggested that China is "... pushing right up to a red line in delivering enough nonlethal, but militarily useful equipment to Russia to have a material impact on President Vladimir Putin's ... war on Ukraine" (Aarup, Panov and Busvine 2023). Using a combination of circuitous shipping routes, shell companies and small and medium-sized enterprises, China has found numerous ways to evade and circumvent sanctions, getting critical technologies to Russia when the Kremlin needs them most.

China and Russia are also increasing their collaboration in sensitive and emerging technological domains, such as artificial intelligence (AI), space technology and quantum computing. These areas have significant dual-use potential that could prejudice Canadian military advantages and capabilities, as well as those of Canadian allies. As recently as February 2024, Chinese and Russian officials met regarding the use of AI for military purposes, but China-Russia co-operation on AI goes back several years (Zhou 2024). For example, Huawei - one of the world's largest smartphone manufacturers - opened up a research lab specializing in AI at Russia's Moscow Institute of Physics and Technology in March 2020. In September of that year, the Huawei Academy of Information and Communication Technologies opened at Russia's Kabardino-Balkarian State University (Bendett and Kania 2020). As it has done in other countries, including Canada (Fife and Chase 2023), Huawei has aggressively targeted top-tier academic talent in Russia, and in August 2019, alongside Russia's National Technology Initiative, the company signed a co-operative AI-focused agreement to expand bilateral relations between the two countries (ScienMag 2019). Further, in May 2019, Huawei and the Siberian Branch of the Russian Academy of Sciences outlined key areas of increased AI co-operation. And in April 2021, Zhou Hong, the president of Huawei's European and Russian research institutes, visited the Novosibirsk State Technical University in Siberia to discuss ways "Russian universities could help the Chinese tech giant" (Dou, Wu and Khurshudyan 2021). These types of collaborative research arrangements in Western nations have become very controversial given allegations of Huawei's connections to the PRC, and known instances of the Chinese government carrying out foreign interference, espionage and commercial theft.

As for outer space, China and Russia have become much more aligned in recent years. Beijing and Moscow have been working towards a robotic mission to an asteroid sometime in 2024. They say they intend to establish a permanent research base on the south pole of the moon by 2030 (Kramer and Myers 2021) and in March 2024, it was reported that the two countries are planning to build an "automated nuclear reactor" on the moon by 2035 (Baker 2024). In 2023, Putin spoke publicly about his desire to increase Russian collaboration with China on things like "high-orbit assets" and "new prospective types of weapons" to "... ensure strategic security of both Russia and the People's Republic of China" (Feldscher 2023). Reports in February 2024 noted that Russia was possibly considering testing a nuclear weapon in outer space with the aim of knocking out enemy satellites (Nardelli, Jacobs and Manson 2024).

Finally, China and Russia have been working together to achieve technological breakthroughs in quantum computing. In 2023, the two countries reportedly tested a "hack-proof" quantum communication encryption "showing that a BRICS quantum communications network may be technically feasible" (Bela 2023). Reports also indicate that both countries are now supplying each other with highly advanced and specialized expertise on quantum computing, as well as the materials needed to undertake leading-edge quantum research (Chen 2023).

Canada and its allies face at least three significant related challenges when it comes to increasing China-Russia relations and technological co-operation.

First, both countries serve as a distraction for one another. In Russia's case, China could start conducting operations or activities in the South China Sea which may very well make life easier for the Kremlin in its war against Ukraine. Likewise, Canada and its allies are saddled with addressing the war in Ukraine, thereby giving China more leeway to carry out acts of aggression against Taiwan. Canada is now in a situation where the burden of dealing with two distinct conflict zones could put an immense strain on the national security, defence and intelligence communities.

Second, increasing technological collaboration between China and Russia could lead to Canada and its allies losing what little military, intelligence and technological edge they might have over either nation. While a substantive formal alliance between China and Russia is unlikely in the near future, their relationship is expected to mature and expand not only in the areas detailed in this brief, but far beyond defence and emerging tech. As a U.S. National Intelligence Council (2021) report notes, "China and Russia probably will continue to shun formal alliances with each other and most other countries in favor of transactional relationships that allow them to exert influence and selectively employ economic and military coercion while avoiding mutual security entanglements."

These transactional relationships and opportunities could potentially erode the military advantages and strategic abilities of Canada and its allies in conflict, particularly if the two countries continue to train together, sell each other innovative military equipment and share information on high-tech dual-use technologies and advancements. Increased alignment between the two countries may also give each nation the opportunity to out-innovate and leapfrog Western nations (including Canada) in several domains, which will likely play an important role in any future conflict, and to circumvent existing and future export control mechanisms on certain sensitive goods and technologies. Kofman (2020) notes, "as Russia and China deepen their technical cooperation, it will enable the two countries to obviate U.S. sanctions and restrictions on technology exports. These powers could leverage each other's resources, networks of suppliers or partners. For Russia this would help avoid falling behind the United States in military technology — for China it could mean maintaining parity or in some cases leaping ahead."

Third, both Russia and China are working together to circumvent and water down the impact that sanctions and market access control, such as the 2022 U.S. *CHIPS and Science Act*, have had in recent years. A 2023 report by the U.S. Office of the Director of National Intelligence states that China is "pursuing a variety of economic support mechanisms for Russia that mitigate both the impact of Western sanctions and export controls." The report also notes that Russia has used China's financial system to "conduct transactions unfettered of Western interdiction" (De Luce 2023). Most analysts and observers expect these trends to continue, possibly diluting the ability of Canada's policy community to apply coercive financial tools, particularly sanctions, as each country finds new economic opportunities in the other. As we have seen with Huawei, which has found new and substantial opportunities in Russia (made possible to a certain extent by Russia's espoused fears of Western technology), we should expect to see similar cases, not only in telecommunications infrastructure, but other critical domains that benefit each country economically and militarily.

# The Way Forward

It is a challenging and perhaps futile task to directly address or curtail warming China-Russia relations. Rather, what many countries have sought to do – including Canada, the U.S., the U.K., and others – is constrain the abilities of both Beijing and Moscow to achieve key strategic objectives. These include:

- Carrying out military exercises in strategically important areas such as the South China Sea to deter hostile acts;
- Developing new defence pacts such as AUKUS and the Quadrilateral Security Dialogue;
- Tightening export controls on sensitive assets such as certain dual-use technologies;
- Implementing new measures to scrutinize inward foreign investments. For example, in 2022, Canada announced it would amend the *Investment Canada Act*; and
- Cracking down on research collaboration efforts which could be injurious to national security, among other things.

While these efforts are carried out in relative isolation across countries, most states have worked to align any new measures with allied ones to cast the widest and most comprehensive net possible.

As the emerging entente between China and Russia intensifies, Canada and its allies could pursue or consider other approaches to limit threats emanating from this relationship. For starters, the West has a critically important and indeed historic opportunity to use the war in Ukraine to send China a message. By continuing and possibly even tactically stepping up measures to prevent a Russian victory, Canada, the U.S. and other countries could signal to Beijing that a potential future invasion of Taiwan would be a deadly, costly and drawn-out endeavour. Unfortunately, though, as Alexander Baunov recently wrote, "[t]he war seems increasingly distant and alien, while at the same time becoming a routine affair" (Baunov 2024). As a result, pressure on Russia and sustained support for Ukraine seem to be fading. Correcting this soon could deal a massive blow to a surging Russia, while simultaneously reminding China that the costs of attacking Taiwan are high.

Canada and its key allies should also look to develop norms and standards for the use of certain emerging technologies, akin to what we have seen with the UN norms of responsible state behaviour in cyberspace. In China, where the government has used AI-enabled facial recognition technology to identify and monitor ethnic minorities, the inherent risks that come with certain technologies are clear. While private-sector leaders such as OpenAI, Meta and Microsoft, etc. are taking these things seriously, there is still a long way to go in creating and implementing guardrails around the use of AI and other dual-use tech. Canada and its allies should be dedicating more time, money and resources to this issue.

More must also be done to invest in and accelerate the growth of research and technology, not only in Canada but throughout the West. While China and Russia are doubling down on leading-edge technological advancements, our work seems to be more concerned with preventing their growth than supporting our rise. Start-ups need

support and backing to get off the ground, to commercialize innovative ideas and to develop into world-class companies. By dedicating more resources to funding, supporting and growing Canada and Western businesses, we will not only be better positioned to compete with China and Russia economically and militarily, but we will also limit the need for Western tech companies to go abroad for cash.

The most strategically effective approach Canada and its allies can pursue to contain and constrain China-Russia co-operation is to further strengthen the international rulesbased order. From bolstering democratic institutions to expanding global partnerships and alliances on critical issues, to better tackling international social, economic, security and environmental inequalities, Western leaders can preserve their own power while limiting the rise and potential influence of Beijing and Moscow. While Canada and other Western nations may not be able to prevent both countries from rising either in isolation or together, they can make it a heck of a lot harder. To echo Ivanov (2023), Canada and its allies also need to realize there must be a place at the table in all of this for both China and Russia. If not, the West runs the risk of creating an even more aggrieved, decoupled and disconnected international environment in which the West is pitted against Moscow and Beijing.

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