Report

April 2024

The Tip of the Iceberg

Assessing the Depth of Russia-PRC Civil-Military Collaboration in the Arctic

By Heather A. Conley, Sophie Arts, Kristine Berzina, Bonnie S. Glaser, and Jaine Archambeau

G | M | F
IDEAS LEADERSHIP HOPE

Washington, DC Ankara Belgrade Berlin Brussels Bucharest Paris Warsaw

This publication was funded by the Russia Strategic Initiative, U.S. European Command.
The views expressed in this publication do not necessarily represent the views of the
Department of Defense or the United States government.

April 2024

Introduction

The partnership between Russia and the People's Republic of China (PRC) in the Arctic, like the broader strategic relationship between Moscow and Beijing, has evolved significantly throughout the last decade and has reached unprecedented levels within the last year. The growing strategic alignment between the two countries has alarmed many analysts. Recent joint military and civil-military activities in the Arctic have been discussed as an indicator that Russia's previous wariness of PRC global ambitions, its historic focus on exercising sovereign control over its Arctic territories, and its efforts to limit non-Arctic states' access to the region may be dissipating as it seeks to compensate for its strategic vulnerabilities since its full-scale invasion of Ukraine.

Several high-visibility developments—including a joint naval patrol near the Aleutian Islands in August 2023 and the signing of a Russia-PRC Memorandum of Understanding (MoU) on maritime law enforcement along the Northern Sea Route (NSR) in April 2023—can be viewed as potential turning points in the Sino-Russian relationship in the Arctic. In April 2024, the Russian and Chinese navies signed an additional MoU on naval search and rescue cooperation "on the high seas".[1] Earlier in the month, Russia also invited the BRICS countries to "test their equipment" during Arctic exercises in 2025.[2] These actions demonstrate growing efforts on Moscow's part to collaborate with non-Western actors amid heightened geopolitical competition in the Arctic.

While these announcements are significant, their implementation will likely be uneven. Less publicized incremental activities that take place under the cover of civil efforts, though harder to track, may be of greater importance. Of particular concern are joint efforts that support defense-industrial development, dual-use infrastructure development that has the potential to support military operations, and commercial vessel transits that can be exploited to gather situational awareness and threaten NATO allies' assets. Moscow's and Beijing's autocratic governance and the focus on dual-use technologies and hybrid activities, accelerated by the war in Ukraine, make clear delineation between civil and military activities highly challenging.This is especially clear in the case of the PRC, whose explicit Military-Civil Fusion (MCF) development strategy presupposes that all civil activities may support military ambitions and defense-industrial development.

The growing Russia-PRC partnership in the Arctic encompasses technological collaboration on space-based technologies that enable positioning, navigation, and communication, and scientific research that facilitates the development of undersea technologies. Because these civil efforts have dual-use applications, this paper will take a closer look at Sino-Russian civil-military collaboration in the Arctic by outlining the most noteworthy efforts supporting the broader strategic aims of the two countries. This paper is the third in a series investigating Russia's and the PRC's growing alignment in the Arctic in areas that have potential military applications. The analysis relies on open-source government documents and expert views, including anonymized interviews with leading experts and officials from North America and Northern Europe.

Russia-PRC Civil-Military Cooperation on the NSR

The NSR is the key artery of Russia-PRC commercial and civil-military collaboration in the Arctic. Trade along this route, which is fueled by resource extraction and infrastructure projects in the Russian Far East and Arctic, plays a critical role in supporting the Russian economy and offers economic and strategic opportunities for Beijing. The two countries have asymmetric but "complementary" economies.[3] That is, Russia primarily exports raw materials, critical minerals, and energy—commodities that are highly sought-after by Beijing—and imports finished high-tech products and electronic components from the PRC, including those used in support of its war effort in Ukraine.[4]

Russia holds the world's largest gas reserves (mostly concentrated on the Yamal peninsula)[5] and is among the top three global crude oil producers.[6] As sanctions against Russia have halted gas flows through the Yamal pipeline to Europe, Moscow is increasingly relying on the NSR for oil and liquefied natural gas (LNG) shipments. EU countries continue to import Russian gas in the form of LNG, which is not affected by the sanctions—a loophole that EU member states and the European Commission are contemplating closing.[7] Irrespective of this question, Asian markets have become more important for Moscow, as overall European demand in Russian fossil fuels has dropped. The PRC is benefitting from this dynamic by "securing favorable energy prices and greater access to the Arctic".[8] It is also benefitting as Russia seeks to shift some of its Arctic mineral production to the PRC to avoid sanctions on equipment and gain direct access to Beijing's market.[9] Russian Nornickel recently announced it would close its Arctic copper plant and relocate to the PRC.[10]

As a 2024 Strider Technologies report shows, the number of companies with PRC ownership in the Arctic has increased drastically since 2020 (from 48 in 2020 to 123 by June 2023).[11] At the same time, PRC participation in Russian development projects has increased since 2013 "especially in the areas of liquified [sic] natural gas, mineral extraction, and infrastructure".[12] In addition to crude oil, LNG, and other key export products such as timber, Russia is looking to develop its petrochemical industry in the region, presumably with Chinese investments.[13] Petrochemicals are essential to manufacturing goods from paints to plastics, space suits to solar panels, and medicines to mobile phones.[14] Russia and the PRC are jointly developing other critical mineral resources in the region, including titanium, which has uses for aerospace, defense, and energy technologies and is tied to important infrastructure projects in the Arctic.

The PRC's resource development, infrastructure projects, and commercial and logistics presence in the Arctic support dual-use purposes and align with goals outlined in the Chinese Communist Party's (CCP) MCF strategy. That strategy encompasses "six interrelated efforts", as the US Department of Defense's 2023 report on PRC military power outlines.[15] They are: "(1) fusing the PRC's defense-industrial base to its civilian technology and industrial base; (2) integrating and leveraging science and technology innovations across military and civilian sectors; (3) cultivating talent and blending military and civilian expertise and knowledge; (4) building military requirements into civilian infrastructure and leveraging civilian construction for military purposes; (5) leveraging civilian service and logistics capabilities for military purposes; and (6) expanding and deepening the PRC's national defense mobilization system to include all relevant aspects of its society and economy for use in competition and war."[16]

The PRC's activities in the Arctic are in line with these priorities: civilian and commercial activities on the NSR help develop resources needed for military technologies (point 1), develop dual-use infrastructure that may also support military operations (point 4), and create a civil or logistics presence that can be exploited for military ambitions (point 5). The CCP relies on an expressed strategy of using Belt and Road Initiative (BRI) investments to "establish a more robust overseas logistics and basing infrastructure to allow the PLA to project and sustain military power".[17] Due to the strategic importance of the Arctic, Beijing's focus on resource extraction and infrastructure investments along the NSR are reason for concern.

Growing opposition from Arctic NATO allies to PRC development projects that could support dual-use activities (including deep-water ports, connectivity projects, and data centers) has limited Beijing's efforts to develop its Polar and Digital Silk Roads as tools that advance PRC commercial and strategic interests. Against this backdrop, Beijing is increasingly looking to Moscow to expand its Arctic footprint and gain regional operational expertise.

Dual-Use Infrastructure Development

Previous papers in the series discussed the dual-use potential of scientific research centers and space-based commercial assets in the Arctic region for intelligence collection and to support military operations. Beyond this, infrastructure projects—from deep-water ports to rail connections—offer opportunities to expand the PRC's civil-military footprint in the Arctic. While some Russian stakeholders previously expressed concerns about the PRC's role and investments in infrastructure development projects,[18] it appears that Moscow's greater dependence on Beijing as a trade partner and deepened strategic collaboration endorsed by the top levels of government—including through the Kremlin's 2020 Strategy of Development of the Arctic Zone of the Russian Federation for the period to 2035[19]—is overriding these concerns.

According to Strider's report, which relies on proprietary data, the PRC, "has started constructing its own docks in five of the most significant ports along Russia's Arctic shoreline—Murmansk, Sabetta, Arkhangelsk, Tiksi, and Uzden", a development that, "coupled with the construction of Chinese rail lines into the region", Strider argues, "cements China's physical presence in the NSR and its increasing control over crucial infrastructure".[20]

In February 2023, Russian Titanium Resources (Rustitan) and China Communications and Construction Company (CCCC) signed an agreement to develop large titanium and quartz deposits in Pizhemskoye field in Russia's Komi Republic near the Arctic Circle.[21] The collaboration involves the construction of a deep-water port at Indiga and a railway to connect the remote, mineral rich region to the NSR.[22] CCCC, which has been involved in different BRI projects, "has repeatedly faced scrutiny for its financial practices and has been subject to US sanctions for more than a decade".[23]

As early as 2017, China Ocean Shipping Company (COSCO) had "expressed strong interest" in the construction of a separate deep-water port on the Northern Dvina River near the Russian city of Archangelsk, as well as a "railway to transport natural resources from the Siberian heartland to China and other world markets via the Arctic port."[24] In October 2023, the Russian government "endorsed an integrated development plan for the Arkhangelsk transport hub for the period until 2035". A "deep seabed area … for the terminal in the Dvina Bay of the White Sea" with an estimated capacity of 25 million tons is to be developed by 2040.[25] Reporting by TASS highlighting the Russian government's announcement does not provide further details on the project financing, but it is likely that Moscow at least hopes for Beijing's and possibly other BRICS+ countries' involvement. Notably, in 2023 Vladimir Putin invited BRICS countries to help develop the Russian Arctic.[26]

If realized, these infrastructure plans will help create a more integrated logistics network and accommodate larger volumes of cargo along the NSR. At the same time, PRC financing and involvement will provide Beijing with a greater stake in and control over the projects. Strategically important deep-water ports along the NSR could be used in the future to accommodate military vessels and subsea assets.

Commercial NSR Transits and Dual-Use Applications

The year 2022 saw a sharp decline in international traffic on the NSR due to Russia's war against Ukraine and resulting western sanctions. COSCO, which was the top non-Russian operator on the NSR during the previous decade, conducted no trips in 2022, reportedly due to fear of secondary sanctions and costs associated with the geopolitical tensions.

According to the Center for High North Logistics, international traffic picked up again in 2023 with 79 transit shipments on the NSR totaling 2.1 million tons of cargo—a significant increase from 41,000 tons in 2022. Deliveries to and from the PRC accounted for 95.2% of transit cargo (2.1% were deliveries from the PRC to Russia and 93.1% were shipments from Russia to the PRC). Following the 2022 EU import ban on Russian crude, which pivoted shipments to transit the NSR to the PRC, in 2023 crude oil shipments accounted for 70.2% of NSR transit cargo.

In the summer of 2023, Russia changed its policy on ice class requirements for NSR transits, allowing unreinforced tankers to transit the route without icebreaker escort in the summer to autumn period. This move, which experts have characterized as an act of desperation,[27] and which has led to questions about whether the transits are in breach of the International Code for Ships Operating in Polar Waters (Polar Code),[28] naturally increases the risk of accidents and environmental disasters. Russia is currently the only nation to have nuclear icebreaker technology, which has an ice class potentially high enough to transit the NSR outside the short summer window. In 2018, state-owned China National Nuclear Corporation (CNNC) announced it would develop nuclear icebreakers, but there have been no public updates since.[29]

Commercial vessel traffic has already demonstrated its potential to serve military objectives by collecting data, creating presence, and fostering situational awareness. It can also threaten NATO allies' subsea infrastructure. In October 2023, an incident involving a Chinese-owned and Hong Kong-flagged container vessel with ties to a Russian-registered company raised concern about potential Russia-PRC involvement in events that led to the damage of an energy pipeline and communication cables in the Baltic Sea.

The Newnew Polar Bear transited the NSR from May to November 2023 carrying standard commercial shipping containers and appears to have damaged the Finnish-Estonian natural gas pipeline Balticconnector in the early morning hours of October 8, 2023, by dragging its anchor. It is also suspected of damaging two telecommunications cables, one between Sweden and Estonia and one between Finland and Estonia, later in the day.

The Newnew Polar Bear, which was transiting the NSR, was accompanied by a Russian-flagged nuclear-powered cargo vessel, the Sevmorput. Although both ships were investigated because of their proximity to the attack, the PRC's vessel became the focus of the investigation after its anchor was recovered near the site of the damage. The damage to the pipeline and cables in the Gulf of Finland occurred during the Newnew Polar Bear's first round-trip voyage along the NSR from Qingdao to St. Petersburg and back. According to the NSR General Administration, the vessel was granted sailing permission to transit the NSR in 2023 by Torgmoll, a Russian- registered company with offices in both the PRC and Russia. Along the route, it made stops in Arkhangelsk in September 2023 and in Baltiysk in the Baltic Sea in early October 2023.

This incident, whether malicious or not, demonstrates the potential threat of commercial vessels to critical infrastructure. As commercial traffic along the NSR increases, so will the risk of damage to subsea assets and environmental pollution that could require a crisis response by NATO allies.

Joint Maritime Law Enforcement

As BRI investments and commercial activities along the NSR grow, so might PRC efforts to defend these interests. This could result in confrontations. According to the Pentagon's 2023 report on PRC military power, the CCP has signaled that "its overseas security footprint will increase [to protect BRI interests], which Beijing recognizes may provoke pushback from other states."[30] PRC ambitions and efforts to build out its Polar Silk Road thus not only support potential dual-use infrastructure projects but also may result in greater regional PRC civil-military activity.

Against this backdrop, joint Russia-PRC military exercises and patrols in or adjacent to the Arctic have alarmed Western analysts, as have efforts to establish joint law enforcement frameworks. In April 2023, the Russian Federal Security Services and the China Coast Guard (CCG) signed a memorandum of understanding (MoU) to facilitate cooperation on maritime law enforcement along the NSR. The agreement was signed in Murmansk, 15 miles from Russia's Northern Fleet. Murmansk has seen a steady increase of Russia-PRC cooperation and trade in recent years due to its ice-free waters.[31]

Many Western analysts see the maritime law enforcement MoU as a potential turning point in the Russia-PRC relationship given Russia's longstanding focus on maintaining sovereign control over the NSR and its exclusive economic zone (EEZ). The CCG, which since 2018 has been under the command of the Central Military Commission (CMC), has a reputation for aggressive and illegal actions toward other countries' vessels, including in the South China Sea. At this point, according to open-source accounts, no joint coastguard patrol involving the two countries has taken place on the NSR. However, following the MoU signing ceremony, the CCG delegation observed the Russian "Arctic Patrol 2023" maritime security exercise.

A comparison of Russian and PRC statements about this event highlights subtle differences in the countries' framing that echo common talking points and track with both countries' distinct Arctic policies. The Russian statements highlight the MoU's focus on "combating terrorism [and] arms and drug smuggling, countering illegal migration, preventing illegal fishing of marine bioresources, as well as carrying out rescue operations at sea."[32] The CCG statement omits reference to the activities covered under the MoU and seeks to portray the PRC as a responsible and benevolent stakeholder in Arctic affairs, emphasizing that maritime law enforcement cooperation would be characterized by "the principles of good-neighborliness, friendship, and win-win cooperation," to "jointly build a maritime community with a shared future".[33]

A statement on Russia's official website for Arctic affairs elaborates that this exercise was organized as "part of the Russian FSB's Border Guard Service chairmanship of the Arctic Coast Guard Forum (ACGF)"[34]—a fact that CCG coverage does not mention. The head of the FSB Border Guard Service further stated during a press conference that "Russia had to find new partners as the coast guard cooperation with the seven other Arctic nations is halted."[35]

The public announcement of the MoU and Russia's framing of it in the context of halted cooperation with other Arctic Council members suggests that Russia is highlighting its cooperation with the PRC to capture the attention of the Arctic NATO states. It could even be interpreted as an effort to revive the Arctic Coast Guard Forum. Nonetheless, the signal it sends seems to offer a pathway for a greater CCG presence and law enforcement authority in the Arctic. It is not possible to gauge from open-source accounts whether concrete cooperation on this front has begun in earnest (for instance through information sharing). Coverage of the press conference with the FSB commander announcing the MoU adds that joint exercises with the CCG "will take place in the near future".[36]

In addition, in April 2024, the acting head of the Russian Navy, who until recently served as commander of the Northern Fleet, signed a separate MoU with the PRC's People's Liberation Army Navy (PLAN) on "search and rescue cooperation on the world's oceans" at the 19th Western Pacific Naval Symposium in Qingdao.[37] It will be critical to watch the countries' naval and coast guard cooperation closely to see if it is backed with tangible action such as joint naval patrols in Russia's EEZ involving Chinese vessels or with PRC personnel aboard Russian vessels.

Conclusion

Russia's and the PRC's civil-military collaboration in the Arctic has evolved significantly within the last decade, but has accelerated in 2023 and 2024. The two countries have sought to publicize their growing alignment, in particular their high-profile military and civil-military activities. NATO Arctic allies should anticipate increased Sino-Russian naval maneuvers in the future. President Putin's upcoming May 2024 visit to Beijing, his first foreign visit since his "re- election", will be closely watched to see if additional announcements about their growing alignment will be made.[38] This posture of public alignment tracks with Russia's and the PRC's interests of jointly countering the US-led international order and creates greater incentives for the development of alternative Arctic governance structures that could benefit Beijing and other non-Arctic states. It also accelerates Russia's increasing reliance on formats involving the BRICS+ in the Arctic.

Given limited transparency, high visibility civil-military efforts outlined in this paper may only scratch the surface of the strategic implications of the Russian-PRC alignment. As Russian expert Alexander Gabuev writes, "After the U.S. Congress passed the Countering America's Adversaries Through Sanctions Act in 2017, Moscow and Beijing stopped disclosing their military contracts altogether."[39] The information they choose to disclose is highly selective, complicating efforts to assess the extent of the cooperation. But as papers in this series have demonstrated, collaboration across all levels of the civil-military spectrum intensified following Russia's 2014 invasion of Crimea and subsequent Western sanctions and has further accelerated since February 2022.

Both Russia and the PRC have altered their Arctic approaches to enhance mutual benefits. Beijing's past hesitancy to fully commit to economic cooperation with Moscow appears to be dissipating. While Chinese commercial transits on the NSR briefly stopped in 2022 due to fear of secondary sanctions and geopolitical tension, the uptick in trade since then suggests Xi Jinping is committed to his partnership with Vladimir Putin and, after initial concerns about Russia's conduct of the war in Ukraine, may feel increasingly confident about deepening PRC investment in Russia. The PRC's supplies to Russia of electronic components and military equipment, including those used in support of Moscow's war against Ukraine, are evidence of this confidence.[40] Beijing's pattern of investment includes the Russian Arctic, as it seeks to increase its access to and develop its Polar Silk Road.

Despite Moscow's wariness of its growing dependency on Beijing and the two countries' different "strategic cultures",[41] it appears that economic and political necessity is facilitating Russia's greater openness to deeper collaboration with PRC, including in the Arctic. Even if the countries' long-term interests diverge, it is hard to envision a scenario in which this greater interdependence and technological entanglement does not result in longer-term alignment and increasing leverage on the part of the economically stronger and technologically more advanced PRC, which sees the Arctic as a region important to its long-term economic and security interests.

This enduring structural shift in the international system will increase Western calls to resume cooperation with Russia in an attempt to disrupt or slow this alignment. Moscow and Beijing, however, are proactively seeking out this alignment against the West, so efforts to drive a wedge between Xi and Putin will likely fail. Perhaps the most important message the West must repeatedly send to Moscow is that Russia should carefully scrutinize its strategic theory of encirclement by the West and its fears that the "Anglo-Saxon elites" seek domination over Russian natural resources (a favorite theory of Russian Security Council Secretary Nikolai Patrushev). This paper clearly outlines the pathway to the PRC's domination of Russian Arctic natural resources and its growing physical presence within Russia's most sensitive sovereign areas in the Arctic. This dynamic will present a serious long-term challenge to Moscow, as much as Beijing's growing presence in the Arctic will to NATO.

Endnotes

[1] Thomas Nilsen, "Admiral Moiseev signs MoU with Chinese navy", The Independent Barents Observer, April 22, 2024. https://thebarentsobserver.com/en/security/2024/04/admiral-

[2] Russia invites BRICS countries to test their equipment at Arctic exercises in 2025, TASS, April 17, 2024. https://tass.com/economy/1776545

[3] Clara Fong and Lindsay Maizland, "China and Russia: Exploring Ties Between Two Authoritarian Powers", Council on Foreign Relations, last updated March 20, 2024. https://www.cfr.org/backgrounder/china-russia-relationship-xi-putin-taiwan-ukraine

[4] Aamer Madhani, "US intelligence finding shows China surging equipment sales to Russia to help war effort in Ukraine", Associated Press, April 12, 2024. https://apnews.com/article/united-states-china-russia-ukraine-war-265df843be030b7183c95b6f3afca8ec

[5] Luke Harding, "Yamal peninsula: The world's biggest gas reserves", The Guardian, October 2009. https://www.theguardian.com/environment/2009/oct/20/yamal-gas-reserves

[6] US Energy Information Administration, "What countries are the top producers and consumers of oil?" https://www.eia.gov/tools/faqs/faq.php?id=709&t=6

[7] Alice Hancock and Shotaro Tani, "How Europe solved its Russian gas problem. The bloc has avoided an energy crisis, but the short-term solutions could harm competitiveness and the green transition down the line", Financial Times, April 28, 2024. https://www.ft.com/content/16031b21-cb2f-40c7-a77d-1ac061196264

[8] Office of the Director of National Intelligence, Annual Threat Assessment of the US Intelligence Community, February 5, 2024, p. 8. https://www.dni.gov/index.php/newsroom/press-releases/press-releases-2024/3789-odni-releases-2024-annual-threat-assessment-of-the-u-s-intelligence-communityODNI Threat assessment 2024

[9] Anastasia Lyrchikova and Alexander Marrow, "Russia's Nornickel moves closer to biggest buyer with plan for copper plant in China" Reuters, April 22, 2024. https://www.reuters.com/markets/commodities/russias-nornickel-move-copper-plant-china-ceo-tells-interfax-2024-04-22/

[10] Ibid.

[11] Strider Technologies, Shifting Ice, 2024, p.6. https://content.striderintel.com/wp-content/uploads/2024/02/Strider_Shifting_Ice_Report.pdf

[12] Ibid, p. 7.

[13] Atle Staalesen, "Russia's natural gas is 'stuck' in the Arctic. Now the petrochemical industry moves in. Chinese partners might take part in a major development of petrochemical plants in the Yamal Peninsula". The Barents Observer, May 24, 2023. https://thebarentsobserver.com/en/industry-and-energy/2023/05/russias-natural-gas-stuck-arctic-now-petrochemical-industry-moves

[14] "Petrochemicals", AFPM. https://www.afpm.org/industries/products/petrochemicals#:~:text=Petrochemicals%20are%20the%20building%20blocks,and%20medicines%20to%20mobile%20phones9

[15] US Department of Defense, "Military and Security Developments Involving the People's Republic of China 2023: Annual Report to Congress, October 19, 2023," p. 28. https://www.defense.gov/News/Releases/Release/Article/3561549/dod-releases-2023-report-on-military-and-security-developments-involving-the-pe/

[16] Ibid.

[17] Ibid, p. 31

[18] Sergey Sukhankin, "Russia's Belkomur Arctic Railway Project: Hope, Illusion or Necessity?", Eurasia Daily Monitor, 16 (102), July 17, 2019. https://jamestown.org/program/russias-belkomur-arctic-railway-project-hope-illusion-or-necessity/

[19] President of Russia, "Strategy for Developing the Russian Arctic Zone and Ensuring National Security until 2035 approved", October 26, 2020. http://en.kremlin.ru/acts/news/64274

[20] "Northern Sea Route: The rising Chinese influence and Russia's concessions", RiskIntelligence, August 3, 2023. https://www.riskintelligence.eu/background-and-guides/northern-sea-route-the-rising-chinese-influence

[21] Janes, "China to assist Russia with titanium mining in the Arctic", February 1, 2023.
https://www.janes.com/defence-news/news-detail/china-to-assist-russia-with-titanium-mining-in-the-arctic

[22] Malte Humpert, "Russian Mining Company Partners With China to Develop Massive Titanium Deposit in Arctic", February 6, 2023. https://www.highnorthnews.com/en/russian-mining-company-partners-china-develop-massive-titanium-deposit-arctic

[23] Ibid.

[24] "China's Arctic Road and Belt gambit", The Independent Barents Observer, October 3, 2017. https://thebarentsobserver.com/ru/node/2996#:~:text=The%20Chinese%2Dstate%20owned%20shipping,other%20world%20markets%20via%20the

[25] Interfax, "Russian govt approves construction of terminal, establishment of deep-water region in Arkhangelsk port", October 2, 2023. https://interfax.com/newsroom/top-stories/95047/

[26] Reuters, "Russia invites other BRICS countries to take part in Arctic oil and gas projects", October 14, 2020. https://www.reuters.com/article/idUSKBN26Z1QC/

[27] See, for example, "Russia is sending crude through the Arctic to China", All Things Considered, NPR, August 31, 2023. https://www.npr.org/2023/08/31/1197084341/russia-is-sending-crude-through-the-arctic-to-china

[28] Malte Humpert, Polar Code May Need Updating as Arctic Shipping Increases New Study Concludes, High North News, Sep 26 2023. https://www.highnorthnews.com/en/polar-code-may-need-updating-arctic-shipping-increases-new-study-concludes

[29] Trym Eiterjord, "Checking Back in on China's Nuclear Icebreaker", The Diplomat, February 13, 2023. https://thediplomat.com/2023/02/checking-back-in-on-chinas-nuclear-icebreaker/

[30] US Department of Defense, Military and Security Developments, p. 27.

[31] Atle Staalesen, Russian Arctic regions strengthen bonds with Beijing, The Independent Barents Observer, September 20, 2023. https://thebarentsobserver.com/en/arctic/2023/09/russian-arctic-regions-strengthen-bonds-beijing

[32] China and Russia sign memorandum of understanding and cooperation in maritime law enforcement", The Arctic, April 26, 2023. https://arctic.ru/international/20230426/1021665.html

[33]China Coast Guard, "China Coast Guard, Russian Federal Security Service sign MoU", April 27, 2023. https://www.ccg.gov.cn/mhenu/2023/international_0427/86.html#:~:text=On%20April%2024%20and%2025,FSB%20maritime%20law%20enforcement%20cooperation10

[34] "China and Russia sign memorandum of understanding and cooperation in maritime law enforcement", The Arctic, April 26, 2023. https://arctic.ru/international/20230426/1021665.html

[35] Thomas Nilsen, "FSB signs maritime security cooperation with China in Murmansk", The Barents Observer, April 25, 2023. https://thebarentsobserver.com/en/security/2023/04/fsb-signs-maritime-security-cooperation-china-murmansk

[36] This statement is attributed to the commander on the TV station TV Zvezda website, but cannot be heard in the available press conference recording. https://tvzvezda.ru/news/20234241843-3jlKp.html

[37] Thomas Nilsen, "Admiral Moiseev signs MoU with Chinese navy".

[38] "Russia's Putin says he plans to visit China in May", Reuters, April 25, 2024. https://www.reuters.com/world/china/russias-putin-says-he-plans-visit-china-may-2024-04-25/

[39] Alexander Gabuev, "What's Really Going on Between Russia and China: Behind the Scenes, They Are Deepening Their Defense Partnership", Foreign Affairs, April 12, 2023. https://www.foreignaffairs.com/united-states/whats-really-going-between-russia-and-china

[40] Aamer Madhani, "US intelligence finding shows China surging equipment sales to Russia to help war effort in Ukraine", Associated Press, April 12, 2024. https://apnews.com/article/united-states-china-russia-ukraine-war-265df843be030b7183c95b6f3afca8ec.

[41] Jørgen Staun and Camilla T.N. Sørensen, "Incompatible Strategic Cultures Limit Russian-Chinese Strategic Cooperation in the Arctic", Scandinavian Journal of Military Studies, 6(1):24. https://doi. org/10.31374/sjms.178