



THE FROZEN ARCTIC: THE NEXT COLD-WAR ARENA

- Sai Rakshit Raghupathy

Table of Contents

1.	Key Takeaways	2
2.	Introduction	2
3.	Leveraging through Strength	4
4.	The Regional Perspective	6
5.	The Arctic Strategy of China, Russia and the USA	7
6.	The Cyber Espionage in the Arctic	9
7.	Strategic Recommendations for India	11
8.	References	12
9.	About the Author	13

Key Takeaways

- 1. Arctic's Resource Wealth:** The Arctic holds the greatest concentration of the world's undiscovered oil and gas, uranium, gold, diamonds, rare earth minerals—phosphate, bauxite, iron ore, copper, and nickel and last but not least, aquatic diversity.
- 2. Opening of Arctic Shipping Routes:** Due to climate change and global warming, the Polar ice cap is melting, and this opens up the possibility for an Arctic route to be accessible for at least part of the year.
- 3. Russia's Control Over the Northern Sea Route:** The Northern Sea Route Administration, a Federal state institution established in 2013, organizes navigation in the water area that is under the legal regime of internal maritime waters, territorial sea, and contiguous zone of the Russian Federation (RF).
- 4. China's Arctic Ambitions:** China, despite its claim of being a near-Arctic state, is actively seeking greater influence, access, and involvement in the region's governance.
- 5. Growing U.S. Security Concerns:** The Arctic is the only U.S. coastal region where a strategic rival, Russia, regularly engages in military activities near its coast, yet the northern air defences are outdated.
- 6. Russia-China Arctic Cooperation:** Cooperation between China and Russia in the region has been increasing, with China playing a key role in funding Russian energy projects and both nations conducting joint military exercises, including off the coast of Alaska.
- 7. The U.S. Arctic Strategy:** The USA has an Arctic Strategy which has four pillars: Security, Climate Change and Environmental Protection, Sustainable Economic Development, and International Cooperation and Governance.
- 8. Cyber Espionage in the Arctic:** China is widely recognized as a dominant force in global cyber espionage, with its activities resulting in two indictments by the U.S. Department of Justice.

Introduction

The Arctic region has proven to be a ground for major power and competition and Arctic nations must

adapt to this new future. The Arctic holds the greatest concentration of the world's undiscovered oil and gas, uranium, gold, diamonds, rare earth minerals—phosphate, bauxite, iron ore, copper,

and nickel and last but not least, aquatic diversity. Offshore resources are said to include over 90 billion barrels of oil and an estimated trillion dollars' worth of rare earth metals. are the subject of renewed competition; they should be considered common goods—international or global public goods.

There are several Arctic maritime (or shipping) routes: the Northeast Passage (NEP); the Northwest Passage (or NWP, going through the Canadian Arctic Archipelago and the coast of Alaska); the Transpolar Route (or TSR, going through the North Pole); the Arctic Bridge Route (or Arctic Sea Bridge). So far, because of permafrost, these routes were not accessible. Due to climate change and global warming, the Polar ice cap is melting, and this opens up the possibility for an Arctic route to be accessible for at least part of the year.

The Northeast Passage is the overall route on Russia's side of the Arctic between North Cape and the Bering Strait; it traverses (from west to east) the Barents Sea, Kara Sea, Laptev Sea, East Siberian Sea, and Chukchi Sea, and it includes the Northern Sea Route (NSR). The Northern Sea Route is a portion of the NEP that lies in Arctic waters and within Russia's Exclusive Economic Zone. The Northern Sea Route Administration, a Federal state institution established in 2013, organizes navigation in the water area that is under the legal regime of internal maritime waters, territorial sea and contiguous zone of the Russian Federation (RF). While the Northeast Passage includes all the East Arctic Seas and connects the Atlantic and Pacific oceans, the NSR does not include the Barents Sea, and it therefore does not reach the Atlantic (Ibid). The Northeast Passage is, from



the European and northern Atlantic point of view, the shipping route to the Pacific Ocean, along the Arctic coasts of Norway and Russia.¹

The Arctic region too has a vast variety of minerals in the Arctic region, especially the Arctic region. According to data released by the Institute of Geology of Ore Deposits, Petrography, Mineralogy and Geochemistry of the Russian Academy of Sciences (IGEM RAS), Russia is the world leader in solid minerals mining in the Arctic, accounting for nearly 40% of the world's output of copper, nickel, and diamonds.²

routes as ways the power balance can shift out of US favour absent corresponding orientation and posturing. According to this camp, Moscow's and Beijing's efforts indicate deliberate attempts to outmanoeuvre the United States in the Arctic. Russia, under Vladimir Putin, counters America by engaging in political information warfare against the West. Moreover, US officials believe Russia is violating international treaties by testing low-yield nuclear weapons at an Arctic site in the Novaya Zemlya Islands.

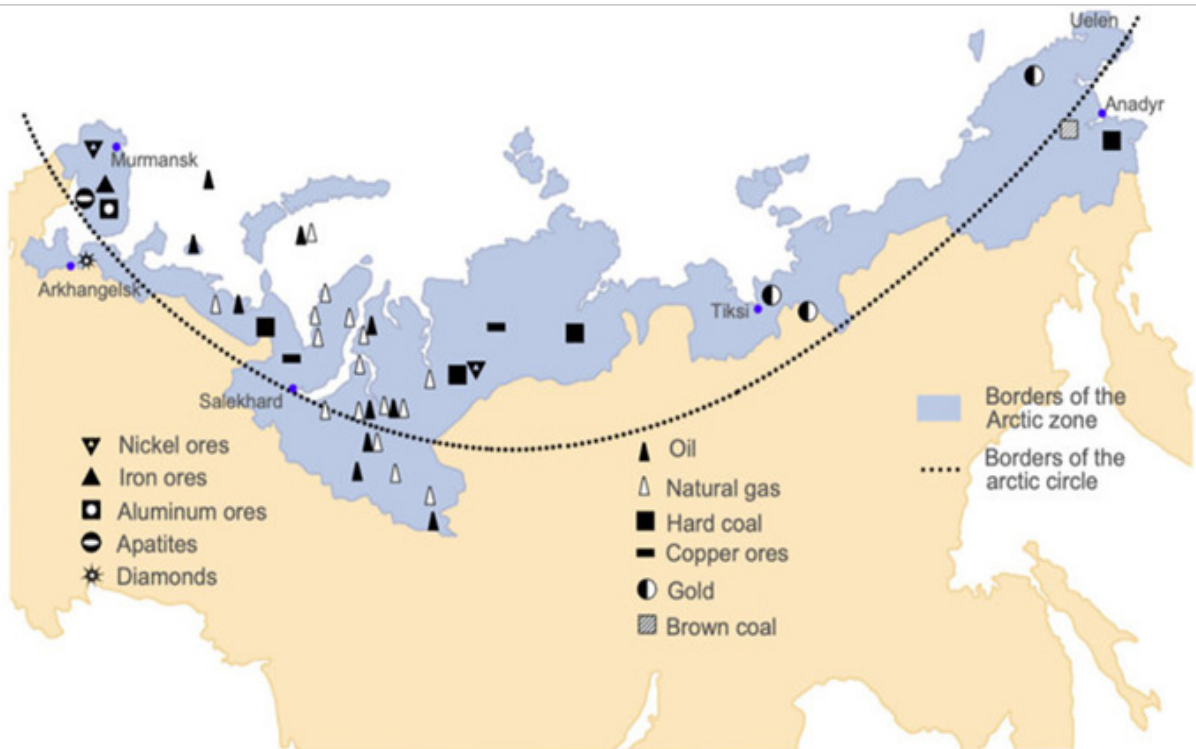


Image Source: <https://www.researchgate.net/>

Leveraging through Strength: Russia, China, America in the Arctic

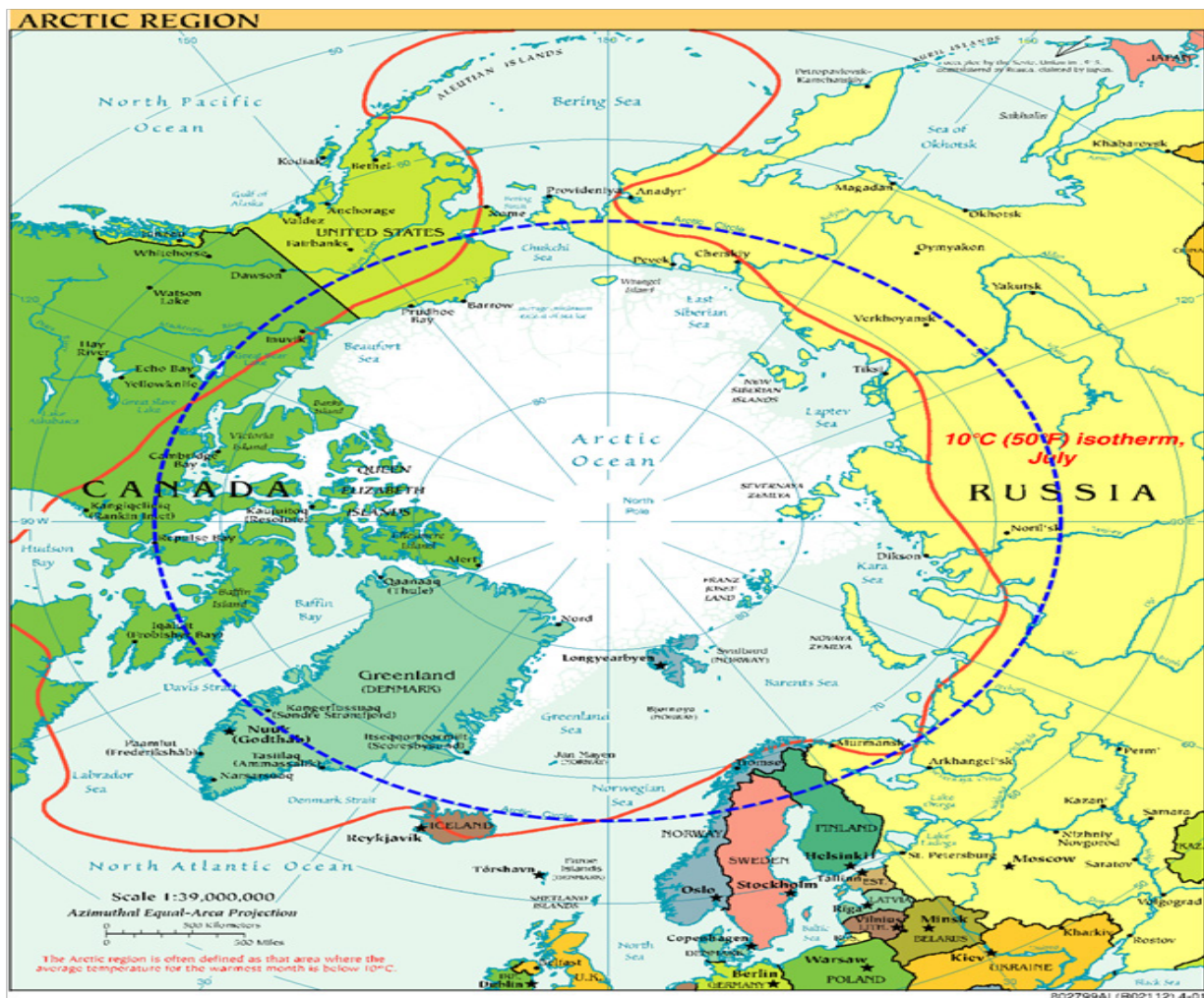
Those arguing for greater American involvement in the Arctic note expanding Russian military infrastructure and Chinese economic interests for trade

Under Xi Jinping's leadership, China is increasingly challenging the interests of the U.S. and its Western allies. The country's development of nuclear-powered icebreakers is expected to facilitate the opening of new maritime routes to boost its growing commercial industry and trade networks. However, given the Chinese Communist Party's

control over the economy, these icebreakers are likely to serve covert military purposes as well. In the future, China's icebreaking efforts and purported commercial activities in the Arctic could be a front for deploying military assets in the region, much like how it has used commercial fishing vessels in the South China Sea to obscure military operations. Considering these and other actions, Arctic advocates highlight numerous critical geopolitical and geostrategic factors in their efforts to emphasize the region's significance.

Discussions on Arctic security often focus on climate issues, recognizing the region as the most affected by human-induced changes to the Earth's atmosphere. While each book challenges the idea of Arctic tensions, the dominant view argues that the Arctic is a multifaceted arena of great-power competition and rivalry, driven by environmental shifts and greater accessibility. Some observers highlight the ongoing militarization of the Arctic as a reality, despite its long-standing status as a peaceful international zone.

The Arctic region too has a vast variety of minerals in the Arctic region, especially the Arctic region. According to data released by IGM RAS, Russia is the world leader in solid minerals mining in the Arctic, accounting for nearly 40% of the world's output of copper, nickel, and diamonds.



While they recognize the advancements made by Russia and China, they refrain from advocating for similar actions by the United States. Although many scholars acknowledge the resurgence of tensions in the Arctic, few go so far as to recommend intentional militarization. Nevertheless, there is a growing recognition among scholars that the Arctic can no longer be considered exceptional or a peaceful zone.

The Arctic is the only U.S. coastal region where a strategic rival, Russia, regularly engages in military activities near its coast, yet the northern air defences are outdated. The North Warning System (NWS), a radar network spanning Alaska and Canada, was designed to detect missile threats but relies on technology from the 1980s and needs replacement. This outdated system cannot provide adequate warning against modern Russian cruise missiles, launched from air or sea, that can strike North American targets from beyond its radar range. Additionally, the threat posed by Russian hypersonic missiles represents a capability that the U.S. is currently unable to counter.³

The Regional Perspective

1.1. Geopolitical Environment:

Following the end of the Cold War in the late 1980s and early 1990s, and particularly after the founding of the Arctic Council in 1996, the Arctic states sought to maintain the Arctic as a region of cooperation, low tension, peaceful resolution of disputes, and respect for international law.

Some observers view the Arctic as having become an arena for geopolitical competition among the United States, Russia, and China argue that the diminishment of Arctic ice and potentially increased maritime access to the region's resources has prompted or could prompt a race for Arctic resources among Russia, China, the United States, and other countries.⁹¹ Other observers argue that competitive aspects of the region's geopolitical environment and the notion of a race for Arctic resources are sometimes overstated.⁵

1.2. Political Environment:

The Arctic region has come into the global spotlight largely due to the intensifying geostrategic competition and the accelerating effects of climate change, which have piqued the interest of major international powers. The political dynamics of the Arctic, however, suggest that it is unlikely to become a theatre for armed conflict, and the growing competition may not necessarily escalate to making it a major strategic flashpoint. Nevertheless, as geopolitical interests in the region continue to evolve, the potential for missteps or miscalculations poses a significant concern. This risk is particularly relevant during periods of shifting power dynamics and increased activity by both Arctic and non-Arctic nations, underscoring the need for careful navigation of the region's complex geopolitical landscape.

1.3. Geo-Strategic Significance:

The Arctic's geostrategic importance is expected to grow significantly by 2040. Arctic states and key international organizations, such as the Arctic Council, will remain central in shaping the region's future, but non-Arctic actors are also likely to expand their involvement and influence. As competition over resources, infrastructure, and transportation routes intensifies, maintaining international law, cooperation, and the rule of law will become increasingly vital. Efforts should prioritize the collective interests of the global community by safeguarding indigenous peoples' rights, preserving the Arctic environment, and promoting sustainable economic and social development. Additionally, ensuring the protection of scientific research and fisheries in the Arctic Ocean will remain a critical focus for Arctic nations.

The Arctic Strategy of China, Russia and the USA

China, as a non-Arctic actor, focuses on scientific and commercial initiatives to establish a foothold in the region. Its 2018 Arctic Strategy outlines three primary objectives: expanding commercial opportunities, enhancing scientific presence, and building operational capabilities. However, China's growing maritime activities, including the involvement of the People's Liberation Army Navy (PLAN) and its interest in the Polar Silk Road, suggest potential security ambitions. Governance challenges in the Arctic add complexity to China's efforts to expand its influence. Beijing has bolstered its regional presence through icebreakers, research platforms, COSCO-operated commercial vessels, and potentially submarine deployments. Notably, China has invested in deep-water port infrastructure in the Russian Arctic and attempted to acquire a decommissioned



naval facility in Greenland in 2016, sparking geopolitical concerns. Furthermore, China maintains extensive economic ties with Arctic nations and their regional entities, reinforcing its strategic interests in the region.

Interest in the Arctic is expected to grow steadily, as its reputation as a remote and isolated region diminishes. The Arctic is poised to assume a more prominent role in the global economy and will increasingly draw geopolitical attention, driven by both economic opportunities and security considerations.

Russia is expected to uphold its dominance in the Arctic, which will remain politically, economically, and strategically significant for the country, irrespective of its leadership. Moscow will aim to preserve its regional superiority, safeguard against external interference, and capitalize on both commercial and strategic opportunities in the region.

On the other hand, the USA has an Arctic Strategy which has four pillars and they are:

A. Security

B. Climate Change and Environmental Protection

C. Sustainable Economic Development

D. International Cooperation and Governance

This strategy is intended to serve as a framework to guide the U.S. Government's approach to confronting the new challenges and opportunities in the Arctic.⁴

According to Deputy Defence Secretary Kathleen Hicks, "The Arctic region of the United States is critical to the defence of our homeland, the protection of U.S. national sovereignty and the preservation of our defence treaty



commitments". The Pentagon views Russia and China as threats due to Beijing's growing presence in the Arctic. China currently operates three icebreakers in the region and maintains a military presence there. Additionally, the Chinese military has showcased its Arctic capabilities by conducting joint operations with the Russian navy.

China, as a non-Arctic actor, focuses on scientific and commercial initiatives to establish a foothold in the region. Its 2018 Arctic Strategy outlines three primary objectives: expanding commercial opportunities, enhancing scientific presence, and building operational capabilities.

China, despite its claim of being a near-Arctic state, is actively seeking greater influence, access, and involvement in the region's governance. Simultaneously, Russia has been expanding its Arctic presence by reopening Soviet-era military bases and remains a significant threat to regional security and stability. Russia has also strengthened its military infrastructure in the Arctic while asserting extensive claims over Arctic waters. Moreover, cooperation between China and Russia in the region has been increasing, with China playing a key role in funding Russian energy projects and both nations conducting joint military exercises, including off the coast of Alaska.⁶ The exercise "Oceans-24" had more than 400 warships, submarines and support vessels, over 120 naval aircraft and more than 90,000 personnel.⁷

The Department of Defense's 2024

Arctic Strategy outlines three key priorities to address challenges in the region. These include strengthening the capabilities of U.S. joint forces to operate effectively in the Arctic, fostering deeper collaboration with allies and partners, and maintaining a robust U.S. presence through regular exercises and operations. Additionally, the strategy emphasizes improving domain awareness by deploying advanced monitoring and surveillance systems. In close partnership with Canada, the U.S. aims to enhance its ability to detect and respond to potential threats, ensuring the protection of its homeland and regional stability.⁶

The Cyber Espionage in the Arctic

China is widely recognized as a dominant force in global cyber espionage, with its activities resulting in two indictments by the U.S. Department of Justice. It is evident that whenever a target or area aligns with China's strategic priorities, it is likely to face some degree of cyber espionage, often involving sophisticated tactics to compromise sensitive data or operations. This extends not only to the primary targets but also to associated organizations and industries connected to those strategic interests. Furthermore, China has strategically invested in nearly every Arctic nation, forging partnerships through joint projects that provide mutual benefits. These investments enable China to strengthen its foothold in the region, advancing its geopolitical and economic goals while deepening its engagement with Arctic states. This dual approach of cyber activities and economic partnerships



underscores China's comprehensive strategy to assert its influence in critical regions like the Arctic.

Cyber espionage remains active across all circumstances—whether during peacetime, periods of tension, or outright conflict—and its impact is particularly pronounced in the lead-up to significant events like bilateral meetings, economic forums, or gatherings of international organizations. To counter these threats, stakeholders must strengthen their security measures and minimize the potential for data breaches. Sharing knowledge about the tactics, techniques, and procedures (TTPs) employed by Chinese cyber threat actors can further enhance overall cybersecurity defences. While these TTPs continue to evolve, China's cyber campaigns frequently rely on proven strategies, including spear phishing, watering hole attacks, and exploiting “zero-day” vulnerabilities.

China's extensive and far-reaching

cyber espionage network has demonstrated the capability to carry out large-scale operations. At the same time, it has also employed more discreet methods, leveraging advanced tactics, techniques, and procedures (TTPs) alongside the use of front companies to conceal its activities and true identity. The release of Beijing's Arctic policy highlights the strategic importance of the Arctic to China's national priorities, signalling its intent to expand its influence in the region.⁸

China's extensive and far-reaching cyber espionage network has demonstrated the capability to carry out large-scale operations. It has also employed more discreet methods, leveraging advanced tactics, techniques, and procedures (TTPs) alongside the use of front companies to conceal its activities and true identity.

Strategic Recommendations for India

India's Arctic Policy, rooted in scientific research and sustainable development, provides a strategic framework for deepening its presence in the Arctic. To strengthen its role, India should establish a permanent Arctic research station, expanding on its current Himadri base in Svalbard, to focus on climate change, melting permafrost, and sea-level rise. Collaborating with countries like Russia, Norway, and Canada in these research areas would bolster India's reputation as a responsible global player. Additionally, India can leverage its observer status in the Arctic Council to advocate for environmental protection and sustainable economic practices, aligning with international governance frameworks like UNCLOS.

To secure economic and energy interests, India should actively pursue partnerships in Arctic trade and resource exploration. Collaborating with Russia to access the Northern Sea Route (NSR) and co-investing in LNG projects in the Yamal Peninsula would reduce energy dependence on traditional suppliers while opening new trade corridors. India can integrate Arctic trade routes into its maritime strategy, using ports like Mumbai and Kochi as trans-shipment hubs. Strategic alliances with Nordic nations like Norway, Denmark, and Canada could facilitate access to rare-earth minerals essential for India's renewable energy and defence sectors. Building Arctic-ready icebreaker vessels in collaboration with Finland and Norway would enhance India's maritime and trade capabilities in the region.

India can integrate Arctic trade routes into its maritime strategy, using ports like Mumbai and Kochi as trans-shipment hubs. Strategic alliances with Nordic nations like Norway, Denmark, and Canada could facilitate access to rare-earth minerals essential for India's renewable energy and defence sectors.

Given the increasing geopolitical competition, India must enhance its strategic preparedness and cybersecurity infrastructure to protect Arctic-related interests. Countering China's growing cyber espionage in the Arctic requires setting up dedicated Arctic cybersecurity task forces and collaborating with global partners on intelligence sharing. Simultaneously, India can explore green energy projects, such as green hydrogen initiatives with Nordic nations, to lead sustainable development efforts. By advocating for peaceful governance and equitable resource-sharing frameworks while balancing relations with major Arctic powers like Russia, the USA, and China, India can position itself as a key stakeholder in the region, ensuring its economic, scientific, and geopolitical interests are safeguarded in the long term.⁹

REFERENCES

1. Marsili, M. (2022). Arctic Security: a global challenge*. Sage Journals Home, Volume 26, Issue 2. <https://doi.org/10.1177/09735984221120299>
2. Arctic Russia - Not only gas: gold, diamonds and metals in the Arctic. (n.d.). <https://arctic-russia.ru/en/article/not-only-gas-gold-diamonds-and-metals-in-the-arctic/#:~:text=In%20the%20Russian%20Arctic%2C%20gold,prospected%20just%20recently%2C%20Ivanov%20recalls>
3. Burke, R., & Franky Matisek, L. C. J. (n.d.). The Polar Trap China, Russia, and American Power in the Arctic and Antarctica. <https://media.defense.gov/2021/Oct/24/2002879323/-1/-1/1/JIPA%20-%20BURKE%20&%20MATISEK.PDF>
4. NATIONAL STRATEGY FOR THE ARCTIC REGION. (2022, October). <https://www.whitehouse.gov/wp-content/uploads/2022/10/National-Strategy-for-the-Arctic-Region.pdf>
5. Changes in the Arctic: Background and Issues for Congress. (2024, October 4). <https://sgp.fas.org/crs/misc/R41153.pdf>
6. Lopez, T. (2024, July 22). New DOD Strategy Calls for Enhancements, Engagements, Exercises in Arctic. <https://www.defense.gov/News/News-Stories/Article/Article/3846323/new-dod-strategy-calls-for-enhancements-engagements-exercises-in-arctic/>
7. Mahadzir, D. (2024, September 11). Russia, China Kick off Large Scale Naval Exercise. <https://news.usni.org/2024/09/11/russia-china-kick-off-large-scale-naval-exercise>
8. Iasiello, E. (2021, September). China Arctic Cyber Espionage. https://cyberdefensereview.army.mil/Portals/6/Documents/2021_summer_cdr/08_iasiello_CDR_V6N3_2021.pdf?ver=AeA10Q5i1P1M3Hv1F2kOOw%3D%3D
9. INDIA ARCTIC POLICY: BUILDING A PARTNERSHIP FOR SUSTAINABLE DEVELOPMENT. (2022). <https://www.moes.gov.in/sites/default/files/2022-03/compressed-SINGLE-PAGE-ENGLISH.pdf>



About the Author

Sai Rakshit Raghupathy serves as a Strategic Consultant at Consult Add Inc. He completed his Master's in Diplomacy, Law and Business at OP Jindal Global University. SaiRakshit has published two research papers, concentrating on the Arctic and Indo-Pacific regions. He is deeply engaged in global affairs and actively contributes to issues briefs, even as a full-time professional.

© SamvadaWorld

Published in 2025 by

SamvadaWorld

106, 5th Main road, Chamarajpet, Bengaluru, Karnataka - 560018

E-mail: samvada.world@gmail.com

Website: www.samvadaworld.com

Follow us on

Twitter | [@samvadaworld](https://twitter.com/samvadaworld)

LinkedIn: [SamvadaWorld](https://www.linkedin.com/company/samvadaworld)

Cover image courtesy : AI-Generated

Disclaimer: The paper is the author's individual scholastic articulation. The author certifies that the article/paper is original in content, unpublished and it has not been submitted for publication/web upload elsewhere, and that the facts and figures quoted are duly referenced, as needed, and are believed to be correct.

All Rights Reserved.

No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form, or by any means electronic, mechanical, photocopying, recording or otherwise without the prior permission of the publisher.