SPECIAL REPORT no. 252

China and the Arctic: An Overview

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MARCH 2025

Abstract

China was a late entrant in Arctic engagement, with its involvement beginning only in 1991. Since then, its engagement has expanded both in depth and breadth. Even though it signed the Svalbard Treaty in 1925 at France's invitation, China's polar activities initially focused only on the Antarctic. This report explores China's journey and collates its activities in the Arctic.

Attribution: Monty Khanna, "China and the Arctic: An Overview," *ORF Special Report No. 252,* March 2025, Observer Research Foundation.

China's Arctic Interests

China's interests[a] in the Arctic are diverse. Apart from the 'Arctic eight',[b] China stands to gain the most by enhancing its engagement with the region. These interests in the Arctic may broadly be listed, as follows:

- Accessing resources, particularly hydrocarbons
- Using a shorter and consequently cheaper shipping route to Northern Europe, coupled with the evacuation of resources from Siberia
- Addressing its Malacca/Indian Ocean dilemma
- Enhancing engagement with Russia
- Conducting research to retain Observer status in the Arctic Council
- Playing an increased role in the revision of rules as Arctic exceptionalism erodes
- Strengthening nuclear deterrence by deploying nuclear powered ballistic missile armed submarines (SSBNs) in the Arctic Ocean

a China categorises the Arctic as an important interest, best articulated in a research paper written by Patrick Anderson, where he quotes a Chinese scholar as saying: "The Arctic is certainly not China's core interest […] China's surrounding areas are China's core interest areas. The Arctic … can be classified as a "critical" or "strategic" area. It is strategically important. That's it. It is not a core interest, but an important interest […] [China] has core interests, important interests and, if you divide further, peripheral interests. The salience of China's engagement with the poles has even found mention at the highest levels when Xi Jinping stated in 2014 that "The polar regions have a unique role in [China's] maritime development strategy, and the process of becoming a polar great power is an important component of China's process of becoming a maritime great power." See: https://journals.sagepub.com/doi/full/10.1177/18681026211018699#bibr16-18681026211018699; http://www.oceanol.com/redian/shiping/2014-11-25/38013.html

b The 'Arctic eight' refers to the eight countries that have territory within the Arctic. These are Russia, United States, Canada, Denmark (Greenland), Iceland, Norway, Finland, and Sweden. They are also members of the Arctic Council.

Key Activities

Focusing on the above-mentioned interests, China has undertaken a number of initiatives in the Arctic over the years, with the primary ones as follows:

- 1925: Joined the Svalbard Treaty at France's invitation
- 1981: Formed the China Arctic and Antarctic Administration (CAA)
- 1989: Established the Polar Research Institute of China (PRIC)
- 1991: Professor Dengyi Gao from the Institute of Atmospheric Physics at the Chinese Academy of Sciences became the first Chinese national to visit the Arctic
- 1993: Acquired its first Ice Breaker (Xue Long)
- 1996: Joined the International Arctic Science Committee
- 2004: Established Yellow River Station in Ny-Ålesund, Svalbard (Norway)
- 2010: Signed an Agreement on Polar Research Cooperation with Norway
- 2010: Signed an Agreement on Scientific Cooperation with Canada, which forms the basis for cooperation in polar science
- 2013: Became an Observer at the Arctic Council
- 2017: Xue Long became the first Chinese ship to navigate the three major Arctic shipping routes: Northwest Passage, Northeast Passage, and Transpolar Sea Route
- 2017: Russia and China agreed to build the Polar Silk Road to complement the Maritime Silk Road (MSR) under the Belt and Road Initiative (BRI)
- Jan 2018: Released its Arctic Policy

China's Arctic Policy

In January 2018, China released its first white paper on the Arctic, titled "China's Arctic Policy". Sections in this document mention that[c] "China is an important stakeholder in Arctic affairs. Geographically, China is a "Near-Arctic State," one of the continental states that are closest to the Arctic Circle." This articulation of its status faced criticism, particularly from the United States (US). On 6 May 2019, then US Secretary of State Michael Pompeo stated in a speech during a visit to Finland, "There are only Arctic states and non-Arctic states. No third category exists, and claiming otherwise entitles China to exactly nothing."[1] China, however, argues that the concept of a "near-Arctic state" is not unique to its policy. For instance, the United Kingdom (UK) describes itself as "the Arctic's nearest neighbour" in its "UK and the Arctic" policy paper.[2]

China's white paper, while prioritising science and research, unequivocally asserts China's rights in the region, stating:

> "States from outside the Arctic region do not have territorial sovereignty in the Arctic, but they do have rights in respect of scientific research, navigation, overflight, fishing, laying of submarine cables and pipelines in the high seas and other relevant sea areas in the Arctic Ocean, and rights to resource exploration and exploitation in the Area, pursuant to treaties such as UNCLOS and general international law.'[3] It goes further in clearly defining its role where it mentions 'To participate in the governance of the Arctic, China will participate in regulating and managing the affairs and activities relating to the Arctic on the basis of rules and mechanisms."[4]

c The document has four Chapters: 'The Arctic Situation and Recent Changes', 'China and the Arctic', 'China's Policy Goals and Basic Principles on the Arctic', and 'China's Policies and Positions on Participating in Arctic'. This is followed by a short conclusion. See: https://english.www.gov.cn/archive/white_paper/2018/01/26/content_281476026660336.htm

Organisational Framework for Engagement

State Oceanic Administration

China's governmental framework for Arctic affairs has evolved over the years. Given the oceanic nature of the region, the State Oceanic Administration (SOA) served as the primary body for Arctic engagement until 2018, operating under the Ministry of Land and Resources. In a major governmental reorganisation, on 18 March 2018, the Ministry of Natural Resources (MNR) was established, which absorbed the Ministry of Land and Natural Resources, the SOA, and the State Bureau of Surveying and Mapping.[5] The SOA now functions as an entity within the MNR, with its Director concurrently designated as a Deputy Minister of the MNR.[6] In terms of science and research, the SOA coordinates with the Chinese Academy of Sciences (CAS), which oversees several subordinate institutions engaged in Arctic research, notably the Sanya-based Institute of Deep-Sea Science and Engineering (IDSSE).[7] It also liaises with other ministries with Arctic-related interests.

Chinese Arctic and Antarctic Administration

The primary body under the SOA that is entrusted with Arctic affairs is the Chinese Arctic and Antarctic Administration (CAA). Established in 1981 as the Office of the National Antarctic Expedition Committee, it initially focused solely on Antarctic research. China's official Arctic research programme began in 1989, prompting the CAA to adopt its present name.[8] Its functions are:[9]

- Developing an integrated national polar research strategy
- Developing policy to guide national polar research activities
- Developing a five-year plan that coordinates the national policy

- Updating the national polar plan annually
- Coordinating the annual national polar research expedition
- Promoting the coordination of polar research programs with other agencies
- Supporting polar research cooperation with other nations and international organisations
- Drafting five-year plans for China's Arctic and Antarctic Research Expeditions (CHINARE), which are then executed by PRIC

Polar Research Institute of China

PRIC is the principal institute responsible for polar research in China and for executing the five-year plans drawn up by the CAA. Established in Shanghai in 1989, it initially operated from a building in Jinqiao. In 2022, PRIC moved to a new campus that spans 15.68 hectares along the Yangtse river in the Pudong New District of Shanghai.[10] The facility includes a 565-metre-long jetty, where the Xue Long and Xue Long 2 icebreakers are usually berthed.[d]

The primary responsibilities of PRIC include:[11]

- Conducting research in polar science, technology, and policy
- Observing polar climate change and environmental protection
- Managing national observation and research stations as well as the Ministry of Natural Resources' key laboratory for polar science
- Overseeing facilities for China's polar expedition, including research stations, research vessels, inland traverses, aircraft, and the domestic base
- Providing logistics and technical support for China's polar expedition
- Managing and servicing polar archives, data, and samples
- Promoting international cooperation in polar expeditions and research
- Advancing public education and outreach in polar science

d As measured by the author on Google Earth Pro.

China's Arctic Stations and Laboratories

PRIC operates three facilities devoted to Arctic research. These are:

- **Arctic Yellow River Earth System National Observation and Research Station:** Established in 2004 at Ny-Ålesund, Svalbard, this two-storey building spans 560 square metres and can accommodate 18 researchers. Its main research areas include upper atmospheric physics, glaciology, marine biology, and environmental science.[12]

- **China-Iceland Arctic Science Observatory:** In 2013, PRIC and the Icelandic Centre for Research (RANNIS) built an observatory devoted to aurora science at Karholl Farm, about 66 kilometres east of Akureyri, northern Iceland. In 2017, it was upgraded to the China-Iceland Arctic Science Observatory and its research expanded to include atmospheric studies, oceanography, glaciology, geophysics, remote sensing, and biology.[13] The facility spans 158 hectares and includes a scientific observation building, a warehouse, and a two-storey residence facility that can accommodate 10 people.[14]

- **China-Nordic Arctic Research Center (CNARC):** Founded in June 2013 by four Chinese and six Nordic institutions, CNARC is currently located in the old PRIC building in Shanghai. Its primary function is to actively promote collaborative research between China and Norway.

China's Growing Icebreaker Fleet

China was a late entrant in acquiring icebreakers for polar research. However, this has changed recently with the rapid addition of more vessels. The details of China's icebreaker fleet are as follows:

- **Xue Long (Snow Dragon):** Construction of the vessel, a Project 10621 icebreaking cargo and supply ship designed for the Russian Arctic, began at the Kherson shipyard in January 1990. However, construction had to be halted after the dissolution of the Soviet Union in 1991. Acquired by China in 1993 at a cost of just US$17.5 million,[15] the vessel was completed and formally inducted into the PRIC fleet in 1994 as a PC-6 class icebreaking vessel. Equipped with a helicopter deck and hangar for Kamov 32 helicopter (Snow Eagle 102),[16] the vessel has been extensively used in both the Antarctic and the Arctic. It underwent major upgrades in 2007 and 2013, extending its service life by 15 years. The vessel carries the funnel marking of the SOA.

- **Xue Long 2:** The first icebreaker built in China, it was designed by the 708 Research Institute of the China State Shipbuilding Corporation (CSSC) in collaboration with Finnish shipbuilding specialists Aker Arctic.[17] Laid down in 2016, it was delivered to PRIC on 11 June 2019 as a PC-3 class icebreaking vessel. Though smaller than Xue Long, it has higher icebreaking capabilities and can break ice while moving ahead or astern. It includes a helicopter deck and hangar, capable of embarking two helicopters, typically an AgustaWestland AW169 (Snow Eagle 301)[18] and possibly a Bell 407.[e] The vessel carries the funnel marking of the SOA.

- **Zhong Shan Da Xue Ji Di:** China's third icebreaker and the first acquired by a university, this vessel was originally built in 1983 as an icebreaking anchor handling tug supply vessel for BeauDril, the drilling subsidiary of Gulf Canada Resources. It changed ownership several times, passing from Canada to Russia before being acquired

e As observed in published photographs of the vessel.

by China. In late 2021, it was donated to Sun Yat-sen University and renamed Zhong Shan Da Xue Ji Di. After being refitted at the Guangzhou Wenchong shipyard, it was delivered to the university in February 2023 as a PC-4 class icebreaking research vessel.[19] While much smaller than Xue Long and Xue Long 2, it is well equipped for operations in ice conditions but is not designed to carry a helicopter.

- **Ji Di:** Built by Guangzhou Shipyard International (GSI) Company Limited, Ji Di was delivered to the Northern Seas Branch, Qingdao, of the SOA on 24 June 2024 as China's fourth icebreaker.[20] It is the first icebreaker to be fully designed and built in China. Classified as PC-6, it is better suited for light ice conditions. While equipped with a helicopter deck, it lacks a hangar for sustained helicopter operations. The vessel carries the SOA funnel marking.

- **Tan Suo San Hao (Discovery No. 3):** Like Ji Di, the vessel was built by Guangzhou Shipyard International Company Limited. Steel cutting began on 25 June 2023, and it was launched in April 2024, completing construction in a record 10 months. After sea trials in October 2024, it was delivered to the Institute of Deep-Sea Science and Engineering (IDSSE), Sanya, of CAS, at the Nanshan Port Public Scientific Research Pier in Sanya Yazhou Bay Science and Technology City on 29 December 2024.[21] With a displacement of 10,000 tonnes, it is the largest icebreaker designed (by the 704 Research Institute of the CSSC)[22] and built in China. Classified as PC-4, it is capable of handling ice over two meters thick.[23] Uniquely, it is equipped with a 6 x 4.8 m moon-pool, enabling the deployment of unmanned submersibles in ice-covered waters.[24] In addition, it is fitted with an A-Frame at the stern for operating larger manned submersibles such as Striver, Deep Sea Warrior, and Jiaolong. The vessel carries the funnel marking of CAS.

Table 1: The Main Features of China's Five Icebreakers

Name	Length (metres)	Beam (meters)	Displacement (tonnes)	Crew	Range in nm (days)	Year	Shipyard
XUE LONG (CCS B1*/ PC-6)	167	22.6	21025	34 + 128 Passengers	20,000 (80)	1994	Kherson Shipyard, Ukraine
XUE LONG 2 (PC-3)	122.5	22.3	14300	30 + 60 Passengers	20,000 (65)	2019	JNCX, Shanghai
ZHANG SHAN DA XUE JI DI (PC-4)	78.95	17.22	5852	20 + 40 Researchers	Data not available	2021	Icebreaker conversion undertaken by Guangzhou Wenchong Shipyard, Guangzhou
JI DI (PC-6)	89	17.8	5600	60 (Total)	14,000 (80)	2024	GSI, Guangzhou
TAN SUO SAN HAO (PC-4)	104	19.7	9200	32 + 48 Researchers	15,000 (75)	2024	GSI, Guangzhou

Source: Author's own, using various sources (listed in the previous paragraphs)

Nuclear-Powered Icebreakers: Reports have occasionally suggested that China plans to construct nuclear-powered icebreakers. Such reports are bolstered by the formation of a subsidiary by China National Nuclear Corporation (CNNC), in collaboration with Jiangnan Shipyard, Shanghai Guosheng Group (a state-owned energy investment group), and Shanghai Electric Group and Zhejiang Zheneng Electric Power, two state-owned manufacturers specialising in turbines and power-generation equipment. In 2018, the subsidiary solicited bids for "technical consultancy" on a "nuclear-powered icebreaker and comprehensive support ship demonstration project."[25] There was also speculation that this project might help de-risk the construction of a nuclear-powered aircraft carrier. However, given the lack of further information, it is possible that the project has been shelved, with a greater emphasis on conventionally powered vessels to fulfil this role.

Arctic Voyages: China has consistently used Xue Long and Xue Long 2 for polar expeditions. As of the end of 2024, China had undertaken 41 Antarctic and 13 Arctic expeditions using these ships. From 2024 onwards, the Zhong Shan Da Xue Ji Di and Ji Di also began partaking in such activities. In fact, in the summer of 2024, China sent a record three icebreakers to the Arctic: Xue Long 2, Zhong Shan Da Xue Ji Di, and the newest icebreaker, Ji Di.[26] China's confidence in designing and constructing such vessels is evident, as both the Zhong Shan Da Xue Ji Di and Ji Di were deployed deep into the Arctic soon after their induction.

Institutional Engagement in Forums

Arctic Council

In 2013, China, along with India, Italy, Singapore, Japan, and South Korea, was admitted as an Observer to the Arctic Council. Since then, China has actively participated in four large, ongoing Council projects: the Arctic Migratory Birds Initiative (AMBI), Actions for Arctic Biodiversity, New Low Sulphur Fuels, Fate and Behavior in Cold Water Conditions, and Air Pollution with a Focus on Short-Lived Climate Forcers (SLCFS).[27]

Asian Forum for Polar Sciences (AFoPS)

The forum was established in 2004 as a non-governmental organisation to facilitate cooperation in advancing polar science among countries in the Asian region. It consists of six members, with national polar research institutions representing China, Japan, South Korea, India, Malaysia, and Thailand. It also has four observers: Indonesia, the Philippines, Sri Lanka, and Vietnam.[28] Its secretariat is located in Kuala Lumpur, Malaysia. Even though China has been a key member of the institution, its functioning has been sporadic, primarily due to the complex geopolitics of the region.

Arctic Think Tanks

China has actively participated in most think tanks related to the Arctic, such as the Arctic Circle, Arctic Frontiers, and Arctic Center.

Arctic Ambassador

In 2016, China's Ministry of Foreign Affairs established the position of Special Representative for Arctic Affairs. Gao Feng was the first appointed to the role and has held the position since.[29]

Access to Arctic Resources and Economic Investment

China will be a large beneficiary of greater accessibility to Arctic resources. While activities have already commenced, they have the potential to grow substantially.

Oil and Gas

China has made large investments in Russia's Arctic hydrocarbon ventures, starting with Yamal LNG, in which it holds a 29.9 percent stake (20 percent through CNPC and 9.9 percent via Silk Road Fund).[30] The project commenced operations in 2017. With pipeline exports to Europe hampered by sanctions and the non-availability of the Nord Stream pipeline, liquefied natural gas (LNG) shipments have increased, with a large share destined for China. On the opposite bank of the Ob River estuary, the first of three planned streams of the Arctic LNG 2 project was commissioned this year. China holds a 20 percent stake in this venture (10 percent each with CNPC and CNOOC).[31] However, sanctions have complicated gas exports from this facility, though shipments have commenced using some unorthodox solutions.

Power of Siberia 2 Pipeline

Russia has long desired to secure gas purchase and evacuation agreements with China through the construction of a pipeline from Yamal in northern Siberia, passing through Mongolia into China. This project, known as "Power of Siberia 2", is intended to complement the existing Power of Siberia pipeline, which evacuates gas from Russia's Chayandinskoye field in Yakutia and the Kovyktinskoye field in the Irkutsk Region, entering China at Heihe (near Blagoveshchensk) in Heilongjiang province.[32]

Figure 1: Proposed Route of Power of Siberia 2

Source: Financial Times[33]

China, however, has been hesitant to commit to this project for several reasons, primarily its high capital cost. The pipeline's transit through Mongolia adds geopolitical complexity, compounded by Mongolia's lack of enthusiasm—evident in its government's decision on 16 August 2024 to exclude the project from its spending plans for the next four years.[34] From China's perspective, the strong expansion of its renewable energy capacity has diminished the likelihood of a significant rise in natural gas demand. Existing pipelines (Power of Siberia, Kyaukphyu-Kunming, and the Trans-Asia Gas Pipeline (TAGP) A, B, and C), coupled with long-term LNG contracts, primarily with Qatar and Australia, are expected to meet most of its import requirements.

If China is to invest in a new pipeline, the proposed TAGP Line D, planned to run from Turkmenistan's Galkynysh field through Uzbekistan, Tajikistan, and Kyrgyzstan to China, holds greater promise.[35]

Further, for evacuating gas from Yamal, China favours LNG tankers as they increase its equity in the Northern Sea Route. Lastly, it is also probable that China distrusts the mercurial policies of Putin and would be cautious of making a large investment of this nature.

Other Infrastructure Investments

In addition to its equity stakes in the Yamal peninsula, China's role in Arctic infrastructure has grown substantially. Chinese shipyards have been contracted to build large segments of the Gravity Based Structures (GBS) for the Arctic LNG 2 project. There are reports that Chinese entities have started investing in harbour infrastructure at five key Russian Arctic shorelines: Murmansk, Sabetta, Arkhangelsk, Tiksi, and Uzden.[36]

China has also expressed its interest in participating in Siberian railway projects and laying of fibre optic cables in the area. The Chinese government has extended assistance to support domestic businesses exploring Arctic investment opportunities. Policymakers acknowledge that such decisions will be driven by economics and are therefore providing support by commissioning relevant scientific research projects that will provide a clearer assessment of risks associated with investments.[37]

Shipping and Connectivity

China's Arctic Shipping Advantage

Aside from Russia, China stands to gain the most through the use of Arctic shipping routes. The most important advantage lies in cost savings associated with a reduction in transit times between Chinese and northern European ports, with the Arctic route cutting the distance roughly by 40 percent compared to the Suez Canal.[f] These savings become even more pronounced if geopolitical instability in West Asia forces ships to reroute around the Cape of Good Hope.

Shorter transit times also contribute to lower carbon emissions, an increasingly important factor as global climate regulations become more stringent. Additionally, Arctic shipping improves China's access to Arctic resources, for most of which it is already the predominant destination. This is likely to increase further as Russia faces isolation due to tightening sanctions. Strategically, Arctic shipping also benefits China as it is not easily susceptible to interdiction by inimical entities. Therefore, it goes a long way in addressing China's Malacca and wider Indian Ocean dilemma.

f As measured by the author on Google Earth.

Furthermore, the unpredictable nature of reduction of ice cover in the region will drive demand for icebreakers and ice-class vessels. Chinese shipyards, best suited to fulfil this requirement, are likely to benefit considerably.

Northern Sea Route

The Northern Sea Route (NSR) officially extends from the Kara gate to the Bering Strait, covering the Kara, Laptev, East Siberian, and Chukchi seas. It is regulated by the NSR Authority under the Director General of Rosatom.

Traffic through the NSR may be divided into two categories: transit traffic and traffic associated with Arctic resource evacuation, the vast majority of which emerges from the Yamal peninsula. In 2023, total NSR traffic reached 36.254 million tonnes, of which 2.1 million tonnes was transit traffic. By 2024, 97 transits had been recorded, carrying close to 3 million tonnes, 95 percent of which was trade between Russia and China.[38]

West of Yamal, the NSR remains open year round for ice-class vessels. East of Yamal, it typically opens in June and closes in November. Most traffic consists of ice-class vessels, though for about six weeks around mid-September, the NSR Authority may permit transits by non-ice-class ships, subject to icing conditions. Icebreakers may be required to escort ships or convoys along certain sections. While some straits along the route have depth restrictions, deeper alternative routes are available.

Constraints on NSR transits are likely to be alleviated considerably as Russia has committed to keeping the NSR open year round for ice-class vessels, starting in 2025.[39] This aim is underwritten by an allocation of 300 million roubles by the Russian Federation towards this purpose.[40] According to Russian projections, NSR traffic is expected to increase to 200 million tonnes by 2031 and 1.8 billion tonnes by 2035.[41] While these number may be optimistic, there is little doubt that traffic on this route is poised to increase in the coming years.

Figure 2: Key Straits of the Northern Sea Route

Source: ABS Advisory on Navigating the Northern Sea Route[42]

China and the NSR

Russia's position on the NSR has changed in recent years, evolving from one of exclusivity to a more collaborative approach with other nations. This change has been driven by its diplomatic isolation, growing need to access Arctic resources, and a clearer acceptance of its capital and technological constraints. There is also a growing realisation that the NSR's relevance is time-bound as the opening of the trans-polar route for regular traffic would diminish its utility substantially.

A major turning point was the 2017 joint announcement by China and Russia to build the Polar Silk Road as part of the BRI, a development that would have been unthinkable a few years ago. Since then, both countries have moved fast to realise this outcome. In May 2024, following Putin's state visit to Beijing, a joint statement pledged to "jointly promote the implementation of large-scale energy projects."[43] A month later, in June 2024, Rosatom and China's Hainan Yangpu NewNew Shipping Company signed a Memorandum of Understanding to establish a year-round container service via the NSR by using five Arctic-Class container ships.[44] Further strengthening this collaboration, in August 2024, Chinese Premier Li Qiang and Russian Prime Minister Mikhail Mishustin signed a joint communique agreeing to develop Arctic shipping routes and polar ship technology and construction.[45] These developments indicate that China-Russia collaboration on the NSR is accelerating rapidly.

Security Collaboration

The Arctic holds considerable security implications for China. This was underscored by Xie Peng, Vice Director of Sun Yat-sen University, who stated in February 2023, during an event associated to the sea trials of the Zhong Shan Da Xue Ji Di, "Polar capability is also listed as one of the main fields in national security together with homeland security, deep sea security, and outer space security."[46]

Joint Exercises

Security collaboration between Russia and China in the Arctic has increased over the last year. In July 2024, the two countries conducted joint air patrols off Alaska, an event that possibly required Chinese H-6K bombers to refuel at Russian airbases. In September 2024, naval ships from both countries participated in North-Joint 2024, a Sino-Russian joint naval exercise held in the Sea of Japan and the Sea of Okhotsk.[47] In October 2024, the Chinese Coast Guard conducted its first Arctic patrol in a joint exercise with Russia.[48] This was followed by a meeting on 21 October 2024, where Chinese Coast Guard Chief Major General Yu Zhong and Admiral Roman Tolok called for deeper "pragmatic maritime cooperation".[49]

Chinese SSBN Patrols

As China's military presence in the Arctic grows, one of the strategic goals would be to conduct SSBN deterrence patrols in the region. This would enhance China's second-strike capability by shortening ranges and expanding delivery options for nuclear weapons. However, a major obstacle to such operations is the shallow waters in the Bering Strait, which would make fully submerged transit hazardous. One potential solution could be the semi-permanent basing of Chinese boomers in Russian Arctic ports. However, achieving such a level of trust and cooperation between the two nations would require deeper consensus on their overlapping security interests.

Conclusion

China's engagement with the Arctic has grown exponentially in the last decade, and it is on track to surpass most Arctic littoral nations in capacity, with the notable exception of Russia. Several key factors have contributed to this shift.

China has made considerable institutional investments in Arctic science and research. This has been assisted by a rapidly increasing fleet of icebreaking research vessels, which provide the necessary platforms and logistical capability for these activities. Additionally, the erosion of Arctic exceptionalism has made the Arctic Eight more accommodating of other nations interests in the area.[50]

The war in Ukraine and the consequent isolation of Russia have resulted in Russia greatly facilitating China's ingress in the Arctic. China's booming shipping sector also positions the country to meet the increasing demand for commercial icebreakers and ice-class vessels.

Additionally, the growing great power rivalry between the US and China has provided the strategic motivation for China to secure access to Arctic resources and shipping lanes. The rapid ice melt associated with climate change has also provided an opportunity that China has moved fast to capitalise on, positioning itself as a key player in the evolving Arctic landscape.

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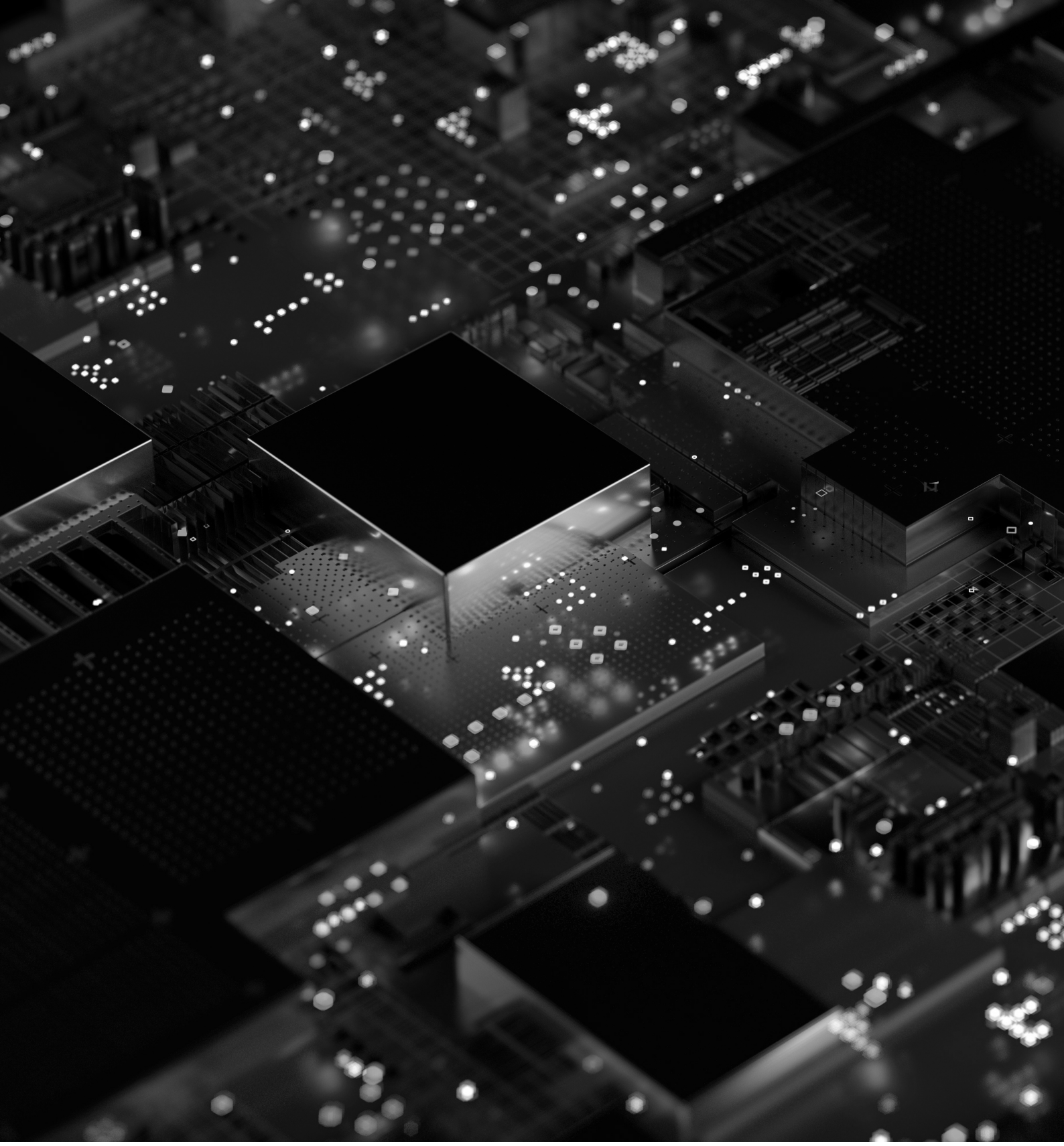

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