

Chinese Arctic shipping under the Polar Silk Road: Reality or Vision?

Abstract

This chapter presents and discusses China's efforts to develop the Polar Silk Road (PSR) with emphasis of two important aspects: the policy framework and relevant actors, and China's polar maritime capacity, with special focus on China's shipbuilding capacity. With this chapter we contend that in a period where there are few other available partners, China and Russia are increasingly finding each other. Yet, this has not translated into an accelerated Polar Silk Road development. We argue that lack of development of the PSR is partially due to China's preference for a slow development, over a hasty roll out given the geopolitical circumstances. Based on research on the Chinese side of the bilateral preparations, we conclude that the PSR is a long-term strategic investment calling for gradual development. At the same time, the **PSR Silk Road** is a relatively ambiguous and marginal project for the Chinese political system, both regarding the scope for its development and as a **project multilateral cooperation project**. From Sino-Russian negotiations, the PSR was considered a pivot of the Russo-Chinese cooperation, yet China is currently keeping a low profile in the PSR/Russian Arctic to avoid secondary sanctions from Western countries. Although development of transport corridors remains on the agenda, it appears that a slow and steady development is the best option for China under current conditions.

Abbreviations

Belt and Road Initiative	BRI
Ministry of Foreign Affairs	MFA
Northern Sea Route	NSR
Ministry of Natural Resources	MNR
Ministry of Science and Technology	MOST
Polar Silk Road	PSR
State Oceanic Administration	SOA

Introduction

The Polar Silk Road (*bingshang sizhouzhi lu* 冰上丝绸之路) first appeared officially in a 2017 Russo-Chinese joint declaration in which the two countries had agreed to develop the Northern Sea Route (NSR) (Joint Declaration, 2017; Yang, 2018; Yi, 2019; Woon, 2020). The announcement of cooperation on a PSR in 2017 for shipping through the Arctic, instilled expectations for large scale Chinese investment in the Northern Sea Route. There have been high expectations for the potential for resource extraction and maritime transport in the Arctic in Chinese reports and articles (Woon, 2020; Moe & Stokke, 2019; Moe et al., 2023).

China's emergence as an economic great power has become one of the central structuring elements of the discourse on China's geopolitical role in the global community. China's Belt and Road Initiative (BRI), first announced in 2013, has increased the Chinese attention to transportation worldwide. The Arctic was included into the BRI domain in 2017 after the announcement of the PSR, and then encompassed also routes via Russia, providing a framework for investments. Russia formally declared its support to the BRI in 2015. The Arctic region, historically described as an exceptional area of low tensions and international cooperation, has recently re-emerged as an arena for great power politics between the United States and Russia, and, increasingly, China. The heightened security profile of international relations in the Arctic has been intensified by events outside the Arctic region, such as Russia's invasion in Ukraine, and China's and Russia's mutual support thereafter. China's growing military and commercial capabilities as a maritime power, as well as the country's efforts to secure China's presence and influence in the Arctic have inevitably become a subject of scrutiny.

China's official Arctic policy was issued in 2018, presenting a range of interest areas from climate change, environmental protection, shipping, to resource development (see State Council, 2018; Edström et al., 2021). China's interests in the Arctic are especially salient in the (geo)economic dimension, especially when it comes to shipping in the Arctic in general and along the Northern Sea Route. In its Arctic policy document China positioned itself geopolitically as a "near-Arctic state" and expressed a desire for "stronger international cooperation on infrastructure construction and operation of the Arctic routes" (State Council 2018). China explicitly expressed interest in creating a **PSR (PSR)** in cooperation with other countries, which likely would include Russia and Nordic countries (State Council, 2018). Like all BRI projects (Jones & Zeng, 2018), the PSR is kept a deliberately vague and loose umbrella that is designed to accommodate diverse domestic and international contingencies. At the same time, because utilization of shipping routes in the Arctic is the core component of the project, this chapter will read the PSR as Chinese shipping in the Arctic, especially along the Northeast Passage.

This chapter presents China's efforts to develop the PSR, with emphasis of two important aspects to peek inside the black box of China's preparedness for the PSR: 1) the policy framework and relevant actors, and 2) China's polar maritime capacity, with special focus on China's shipbuilding capacity. We have chosen these two aspects because the political backing is crucial for the PSR to develop. Furthermore, how well positioned China's shipping industry is for polar shipping gives us information about the likelihood of the amount of future Chinese traffic along the PSR. This chapter's data consists of primary sources including Chinese government documents, news reporting and information from companies. We have also relied on similar sources in English and Russian. We have followed the development closely since its announcement, supported by evidence we gathered before 2017 that shipping was indeed a core interest for China in the Arctic.

With this chapter we contend that in a period where there are few other available partners, China and Russia are increasingly finding each other. Yet, this has not translated into an accelerated PSR development. There are two aspects to keep in mind here: Sino-Russian cooperation following expectations in maritime infrastructure in the Northern Sea Route has not yet materialized; this may be due to 'different norms of global governance have the potential to slow down, if not derail, long-term cooperation between the two countries' (Moe et al 2023, p.21). Moreover, we argue, lack

of development of the PSR is partially due to China's preference for a slow development, over a hasty roll out given the current geopolitical circumstances. We focus on the Chinese side of the bilateral preparations. Our assessment is that China's construction of the PSR is an ongoing strategy with relatively low risks and low investment that has the potential to generate high rewards.

The PSR as the focal point of Sino-Russian cooperation in the Arctic

Although the PSR project was born out of Sino-Russian bilateral negotiations in 2017, the understanding of what the PSR exactly meant was different for the two countries. For China, the PSR is “an important cooperation initiative” to “facilitate connectivity and sustainable economic and social development of the Arctic encouraging joint efforts to build a blue economic passage linking China and Europe via the Arctic Ocean, enhancing Arctic digital connectivity, and building a global infrastructure network” (State Council 2018). Russia, on the other hand, interpreted the announcement of the PSR in 2017, which was translated as joint development of the Northern Sea Route in the Russian press release (Gazeta Renmin Ribao, 2017), with expectations for large scale Chinese investment in the Northern Sea Route (Tillman et al. 2018). This was further entrenched by continued emphasis on the bilateral nature of “the two sides will jointly develop and use maritime routes, especially the Arctic Route, to create the ‘PSR’” (Xia & Xie 2018).

Yet, this was not to be a Russian project, as Chinese authorities wanted their vision of a PSR to be a Chinese initiative, and not an add-on/appendix to Russian plans (Moe et al. 2023). Although they realized that Russia must play a key role in any development of trans-Arctic shipping for the foreseeable future. The Chinese Arctic policy document strongly stressed international cooperation in developing Arctic shipping routes and did not mention Russia specifically. The White Paper explicitly expressed that ‘China hopes to work with all parties to build a “Polar Silk Road” (PSR) through developing the Arctic shipping routes. There were clearly different perceptions between Russia and China: Putin talked about connecting, not about NSR being a segment of the PSR, which is the common understanding of the Chinese concept (Moe et al 2023). In Chinese as well as international media the PSR now became a recurrent theme (Qiang et al. 2020). Official Chinese statements also highlighted the concept (Gao 2019).

Fast forward to today we see that the ambitions in the Arctic and PSR through Russian Arctic has not materialized due to numerous reasons (Moe et al. 2023). We see two areas where China has been most active in the Arctic, with two of them related to the PSR, i.e. energy and shipping. Energy has been one of the key motivations for action. The backdrop is Russia and China engaging in energy cooperation, and China's need for energy security. Domestically, China introduced the energy revolution in 2013, which promoted a shift in energy structure with a clear emphasis on electricity, natural gas and cleaner, high-efficiency and digital technologies (IEA 2023).¹ The White Paper encouraged Chinese enterprises “to participate in the infrastructure construction for these routes and conduct commercial trial voyages in accordance with the law to pave the way for their commercial and regularized operation.”(State Council 2018.) That same year 2013, China National Petroleum Corporation (CNPC) acquired 20% interest in Yamal liquefied natural gas (LNG). In 2015 the Chinese Silk Road Fund bought 9.9 per cent (from Novatek). In Yamal LNG2, two Chinese companies acquired 10 per cent each in 2019, CNOOC (China

¹ <https://www.iea.org/countries/china>

National Offshore Oil Corporation) and CNOCD (China National Oil and Gas Exploration, a subsidiary of CNPC) (Henderson and Moe 2019, pp. 138-141). In this period, we see Chinese investment in resource extraction projects in the Arctic through the cooperation with Russia on LNG/liquefied natural gas/energy in Yamal most concretely-production since 2017. Moreover, China has invested in 14 (out of total) 15 tankers that transport LNG from Yamal (Staalesen 2019).

On February 4th, 2022, China and Russia made a joint statement on *the International Relations Entering a New Era and the Global Sustainable Development*, in which China for the first time hesitantly supported Russian anti-NATO rhetoric. Concerning the Arctic, "the two sides agreed to continue consistently intensifying practical cooperation for the sustainable development of the Arctic."

Following Russia's invasion of Ukraine Sino-Russian Arctic cooperation experienced some challenges. In 2022, no Chinese-owned vessels applied for permission to sail in the Northern Sea Route (see table 3). The reasons for this may be several, such as costs, but also potentially Russia's war in Ukraine. China has been careful not to break sanctions after the Russian war.

China's Official Policies and Key Actors on the Polar Silk Road

The PSR project has no formal overseeing agency. As a result, management and the decision-making process for the PSR is fragmented between many actors. It appears that the CPC has strengthened its authority and taken over responsibility that was previously delegated to the State Council and its ministries in the Xi Jinping era (Mitchell 2016). Still, decision-making in China still involves a lot of bargaining to obtain consensus between the interests of provinces and the central government, between the interests of different industries and ministries, and perhaps even individuals (Li 2017). When analysing Chinese foreign policy, it is customary to look at the central government actors, namely, the Communist Party of China, State Council and its ministries, and the People's Liberation Army (PLA). This list can be further supplemented by non-traditional actors, such as the business, State-Owned Enterprises (SOEs), subnational governments, the academia, and the media and netizens (Jacobson and Knox, 2010), many of which that take part in the formation of Arctic policy (Kossa, 2020). While decisions are primarily made by central government and party officials; the process is characterized by input from different ministries. The expanded scope of China's foreign relations, particularly in regions like the Arctic, necessitates input from entities with specialized knowledge.

The Chinese Arctic policy is formed by the central government in collaboration with the sub-state and non-state actors. Central state actors, like the foreign ministry, signal the need for policy proposals, for example by use of slogans (Zeng 2020), allowing sub-state and non-state actors to set and interpret the foreign political agenda. At the same time, the ultimate decision-making power rests at the highest levels of authority. This thesis is supported by argument of China as "fragmented authoritarianism (Lieberthal 1989; Heilmann 2008; Mertha 2009;)." This fact that the PSR was designed to satisfy several contingencies at its inception demonstrates that a project like the PSR is designed by several actors. This

At the state level, it is constituent departments of the State Council that are most relevant for the PSR. Back in 2011, the State Council established an intra-ministerial mechanism for Arctic affairs, consisting of 19 ministries and administrations (Xu 2017). The Ministry of Foreign Affairs

(MFA) was the leading ministry with overarching policy coordination function and oversaw the drafting of the White Paper 2018. In 2018, the Ministry of Natural Resources (MNR) was strengthened and given portfolios from the State Oceanic Administration, thus becoming the key ministry for Arctic affairs. MNR proposes policies, plans and oversees overall Arctic activities. Finally, the Ministry of Transport (MoT) is responsible for road, water, and air transportation, and has expressed interest in the potential shipping lanes in the Arctic as mentioned above. Several of MoT agencies, such as the China Maritime Safety Administration are actively involved in regulative work on the PSR. In addition, provinces are important stakeholders with their own interests and agendas (see appendix on stakeholders).

In addition to formal state institutions, one should expect the Asian Infrastructure Investment Bank (AIIB) and the Silk Road Fund (SRF), the two important financial institutions behind the Belt and Road Initiative (BRI), to play a key role in funding the PSR. With a base capital of US\$100 billion, the AIIB is a multilateral bank with multiple member-states that was established in 2014 and actively supported “Silk Road economic belt” and “21st century maritime Silk Road” initiatives that make up the BRI (Callaghan & Hubbard, 2016; Dollar, 2015), but has not been involved in funding the PSR initiative (Jiang, 2019). The much smaller \$40 billion USD Silk Road Fund has only played a marginal role by purchasing a minor 9.9% stake in the Yamal LNG project in 2016 (NOVATEK, 2016), but has not participated in contributing to the PSR project after its announcement a year later.

One of the key actors for the PSR is China Ocean Shipping Company (COSCO), a state-owned enterprise that provides a variety of maritime services, including container shipping, dry bulk shipping, and liquid bulk shipping. As one of the largest shipping countries in the world, COSCO is responsible for transporting goods and materials along BRI routes, including the PSR.

In addition to ministries and bureaucracy, research institutes and universities associated with polar research have contributed their opinions through reports and articles and have thus had the opportunity to influence China's Arctic policy and the PSR. Chinese scholars had been proposing the idea of a ‘Northern Silk Road’ for some years but only as an envisaged sailing route – not an initiative connected to Chinese investments (Moe et al. 2023). There are channels established between research institutions, think tanks and authorities for input into policy design based on research projects, though causality would be hard to prove. In June 2017, the National Development and Reform Commission and the State Oceanic Administration (SOA) released the Belt and Road Initiative Maritime Cooperation Plan, initially describing the “Arctic Passage” (北极航道) as a new dimension of the BRI, a “Silk Road on Ice’.

[Analysis of Chinese policy documents on the PSR](#)

Chinese official documents provide a unique insight into the Chinese activities in Arctic transportation. There is no single policy document outlining the PSR. Indeed, the PSR enjoys a marginal position in several key policy documents, such as the national and sectoral five-year plans, plans for development of science and technology, and key policy initiatives (see table 2). The following subsection will briefly discuss the main state policies and their implications for the PSR.

The idea of creating a “blue economic passage... leading up to Europe via the Arctic Ocean” was for the first time announced in the Vision for Maritime Cooperation under the Belt and Road Initiative released in 2017, where the Chinese government aimed to support Arctic countries in “improving marine transportation conditions,” encouraged “Chinese enterprises to take part in the commercial use of the Arctic route,” and sought to collaborate on sustainable exploration of Arctic resources (State Council, 2017). This desire was confirmed a year later in China’s Arctic Policy White Paper, where the country explicitly expressed a desire to work with other parties to construct a PSR to “facilitate connectivity and sustainable economic and social development of the Arctic” (State Council, 2018).

These proposals to construct the PSR were consistent with China’s overall foreign political priorities. The Arctic came to be categorized as both an “important maritime interest” and a “strategic new frontier” (Andersson, 2021), identified as areas where China could take global leadership. In 2019, the State Council released its proposals for construction of a “transport great power” (交通强国), where “independent design and construction capabilities” of “polar navigation ships” was identified as a policy priority (State Council, 2019).

Likewise, the PSR is part of the construction of “maritime great power” (海洋强国) and further development of marine economy, which are considered as an important part for further economic growth in China. Economic development has been an important pillar of state stability and legitimacy for CCP’s monopoly on power. Recent years have seen a considerable slowdown of GDP growth of the Chinese economy and hence the emphasis has shifted towards the so-called high-quality development (高质量发展). The concept of high-quality development was first introduced during the 19th Congress of the Communist Party of China in 2017, when it had become clear that the existing mode of economic development is no longer capable of producing consistent economic growth. High-quality development is tasked with solving simultaneously the problem of economic slowdown, as well as dealing with the environmental and climate crises. In addition, after trade war with the United States, high-quality development became also associated with reducing China’s reliance on external trade partners, with a larger focus on the internal market. The “dual-circulation” strategy put forward in 2020, is an example of a policy to reinforce its own market (the “great domestic circulation”) to fully support domestic supply chains as a matter of national security. At the same time China will be open to the world (the “great international circulation”) (the Economist 2020).

The potential importance of the PSR for China’s further economic growth was affirmed by its inclusion in the 14th Five-Year Plan (十四五), which is the key economic policy document laying out priorities for economic development until 2025, as well as the general direction for economic development until 2035. By inclusion of Arctic shipping and the PSR in the 14th Five-Year Plan, the state indicated that there is a continued funding for the project at least until 2025. Further, the 14th Five-year plan mentions cooperation in the polar regions under the category of Actively Expanding the Space for Development of Marine Economy. The document calls for China to “deepen its participation in global maritime governance” and to “participate in issue-specific Arctic cooperation and construction of the Polar Silk Road” (State Council, 2021). Thus, the 14th Five-Year Plan recognizes the PSR and Arctic cooperation as a part of China’s maritime development, with enhancement of the country’s maritime power as the ultimate goal. The Arctic is just one of many domains where development is desirable.

Implementation of these three policy priorities requires modernization and technological development of Chinese fleet and supporting infrastructure, like navigation satellites and shipbuilding capacity. Support for such research and development was specifically included in sectoral plans, like the National Maritime Science and Technology Development Plan, which identified several “polar rights protection” technologies, including technologies for the extreme polar environment, such as polar environmental and resource observation and detection technologies, as well as low-temperature endurance and long-term observation systems in harsh polar conditions (State Oceanic Administration, 2016).

Similar goals were formulated in the 13th Five-Year Plan on Scientific and Technological Innovation in the Marine Field jointly issued by the Ministry of Science and Technology (MOST), Ministry of Land and Resources, and Ministry of Water Resources in 2017, which identified one of the Seven Major Tasks in “improving China’s polar scientific research ability and technical support capacity and providing technical support for the protection of China’s polar rights and interests” (MOST et al., 2017).

One of the main goals for China is reducing the technological reliance on other countries in core areas, which include polar technologies. To enhance its status as a “transportation great power,” China emphasizes elevating “scientific and technological innovation to a core position, striving to achieve high-level scientific and technological self-reliance achieving high-level self-reliance,” especially in emerging domains like the polar regions (Ministry of Transport, 2021). In the area of shipbuilding emphasis is on the “new and clean energy ships, smart ships, medium and large cruise ships, polar ships” (Ministry of Transport, 2021). In a similar manner, provincial plans emphasize the importance of self-reliance and improvement in the ship and marine engineering equipment industry to “protect rights in the polar regions” and to construct a “maritime great power” (Shandong Province, 2022).

In conclusion, technological modernization is an important prerequisite for Chinese shipping in the Arctic. Development of Polar shipping is seen by Chinese government as a new sphere of technological and scientific transformation, which is considered as an integral part of the strategic technological competition with the United States. At the same time, China emphasizes that construction of this “transportation great power” rests on principles of cooperation and increasing global interconnectedness.

Table 2. Key policies

Year	Document name	Name in Chinese	Agency
2017	Vision for Maritime Cooperation under the Belt and Road Initiative	“一带一路”建设海上合作设想	National Development and Reform Commission; State Oceanic Administration
2018	China’s Arctic Policy White Paper	《中国的北极政策》白皮书	State Council Information Office of

			the People's Republic of China
2019	Outline on Construction of a Transport Great Power	交通强国建设纲要	State Council
2021	The 14 th Five-Year Plan for Economic and Social Development and Long-range Objectives Through the Year 2035 of the People's Republic of China	中华人民共和国国民经济和社会发展 第十四个五年规划和 2035 年远景目标纲要	National Development and Reform Commission
2021	Marine Economy Development Plan under the 14 th Five-year Plan	“十四五”海洋经济发展规划	National Development and Reform Commission; Ministry of Natural Resources

Actors: ministries, SOEs, private sector, academia -see table 1 stakeholders (some of the info below may be put into the table)

China's shipping: capacity and shipbuilding

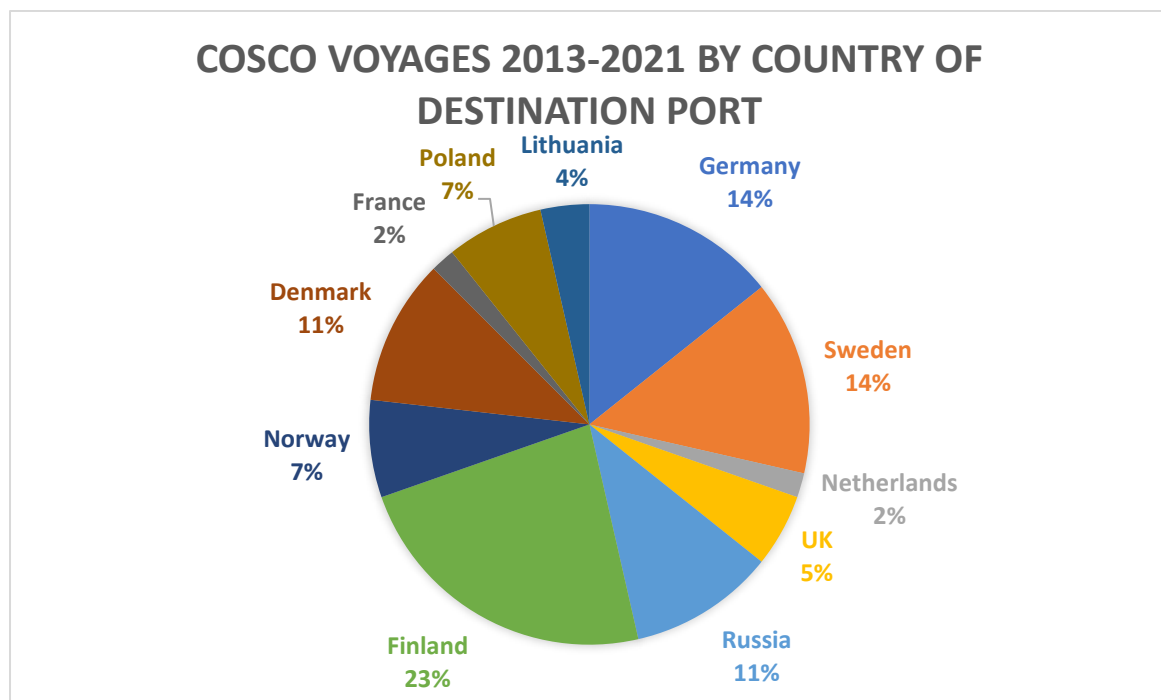
The PSR has traditionally been understood as a “blue economic corridor connecting China with Europe via the Arctic Ocean” where China seeks to achieve mid-to long term results (Zhao, 2018, p. 91), where “Russia's Northern Sea Route plays the role of a road rather than a destination” (Jiang, 2019, p. 70). **At the time of its announcement**, the PSR referred to bringing China's utilization of the Arctic shipping routes, especially the Northern Sea Route, under the existing BRI umbrella. **At the time of its announcement**, China anticipated several key advantages, including reduced shipping distances to Europe from its northern ports, enhanced “access to abundant energy resources along the open waterway and opportunities for economic and trade cooperation with countries along the route,” as well as developmental opportunities for ports in Northern China (Gangkou Jingji, 2017). Since the launch of the PSR, Chinese ships have been gradually increasing sailing on the NSR (see table 1).

During the period from 2013 to 2021, the Chinese state-owned enterprise COSCO completed 56 voyages along the Northeast Passage using 26 ships. For all 56 voyages conducted by COSCO, only 11% had Russian ports as destinations on the Western end of the voyage (see table 2). This emphasis on the European markets is in line with COSCO deputy general manager Yu Zenggang's opinion that “The Arctic Northeast Passage expands China's foreign trade maritime service routes and provides... Asian and European customers... more choices in terms of trade channels. Merchant ships bound for Europe will not have to wait in the busy Suez Canal, and they will also be able to avoid sensitive areas on traditional routes” (quoted in Liu, 2017, p.41). Thus, COSCO saw connecting the European and the Chinese markets together as their main objective under the aegis of the PSR.

Figure 1. Source: the NSR Administration



Figure 2. Source: Chen (2023)



China's development of the PSR is thus closely related to its capacity to travel in the Arctic. COSCO actively invested in the construction of ice-going vessels, for example, the Tian-class (天) ships with Chinese Classification Society Ice Class B1, which ensured that the ships could safely navigate in first-year sea ice-covered waters. The choice of ice-going vessels that are capable of

withstanding ice, while lacking actual ice-breaking capabilities is economic, as these vessels, unlike icebreakers, are not significantly more expensive in construction or exploitation (Solakivi et al., 2019), but have a wider geographical scope for sailing.

In practice, however, destination shipping generated more traffic on the Northern Sea Route than transit or cabotage (Gunnarsson & Moe, 2021). China's transit shipping in the Arctic experienced certain technological "bottlenecks" (卡脖子) (Han et al., 2023), including lack of a navigation system, limited navigable period, floating ice, and lack of infrastructure, especially when it comes to search and rescue (Lin, 2021). Although addressing many of these issues requires cooperation with coastal states, particularly Russia, China's various agencies have been actively engaged in resolving these issues.

First, China's Maritime Safety Administration has published Arctic Navigation Guides both for the Northeast and Northwest passage in 2014, and updated the one on Northeast passage in 2021, providing information on safe navigation there. In addition, the Ministry of Transport prepared the Arctic Northeast Passage Communications Guide (2017). Despite these steps, deficiencies in nautical publications, sparse depth data on some charts remain, including outdated and insufficiently detailed maps (Han et al., 2023; Ding et al., 2017).

Second, China has been reliant on foreign remote sensing capabilities. In 2016, only GPS met navigation requirements with 8-10 synchronous observation satellites, while China's Beidou was at 0-3 satellites (Ding et al., 2017). This provided an incentive to develop its own satellite capabilities to map and monitor the polar regions, particularly in the Arctic, as ground-based infrastructure is still limited. The first satellite in this endeavor is the Ice Pathfinder, into orbit in September 2019, which is part of China's "tripolar observation satellite constellation," a planned network of 24 satellites that should be operational by 2030 (Bennett and Eiterjord 2022).

Third, China has experienced unreliable coast-based communications along the Russian coast due to geomagnetic environment of the Arctic region (Han et al., 2023; Ding et al., 2017). In addition, INMARSAT, which provides global mobile satellite communication, loses signal at 75°N. The reliability of INMARSAT services is particularly crucial in emergency situations, but also for ship-to-shore communication, such as information for navigation, weather updates, and operational coordination. As a result, China's Beidou successfully applied to become a Global Maritime Disaster and Safety System (GMDSS) provider and was recognized by IMO in November 2022 (Han et al. 2023), potentially providing a solution to the problem of communications in the future.

Fourth, China has moved to improve the situation with search and rescue in the Northeast passage. The Ministry of Transportation's Rescue and Salvage Bureau is conducting a 1–2-year pilot mission to "research emergency rescue capacity-building and implementation path for the 'Polar Silk Road,'" including design of heavy-duty ice-breaking rescue ships suitable for the Arctic. This initiative aims to advance emergency rescue capabilities along the PSR, with Ministry of Transport's references to icebreaker rescue ship (破冰救助船) highlighting the significance of these specialized vessels in China's efforts to facilitate safe and efficient navigation in challenging Arctic waters.

Despite these efforts, China will need to invest into shipping capabilities to achieve reliable navigation in the Arctic. This strategic approach involves investments into Chinese shipyards and research institutions, including construction of ice basins and other specialized infrastructure to facilitate the development of ice-going ships. This includes investments in research infrastructure, communication technology and other polar technology. Chinese shipyards and research institutions have already built ice basins and other infrastructure to develop ice-going ships - among them nuclear-powered icebreakers.

Conclusion & recommendations: What does the Polar Silk Road tell us about Chinese-Russian relations?

The chapter presents China's efforts to develop the PSR, with emphasis of two important aspects: the policy framework and relevant actors, and China's polar maritime capacity, with special focus on China's shipbuilding capacity. We conclude that the PSR is a long-term strategic investment calling for gradual development. At the same time, the PSR is a relatively ambiguous and marginal project for the Chinese political system. First, there exists ambiguity regarding its scope and around explicit plans for its development. In particular, the PSR is being understood both as a focal point of Sino-Russian bilateral cooperation, and, more prominently, as a multilateral cooperation project open to all Arctic countries. Second, ambiguity arises from the fact the PSR does not have a supervising agency and is not financed with the help of the traditional BRI institutions. Third, China still needs to develop marine capacity and invest into shipping capabilities to achieve reliable navigation in the Arctic.

Regarding China and Russia relations, the two countries have expressed a shared vision for the world order in joint statements (such as in February 2022), but Russia's war in Ukraine has impacted bilateral Arctic cooperation, including the PSR. From Sino-Russian negotiations, the PSR was considered a pivot of the Russo-Chinese cooperation, yet China is currently keeping a low profile in the PSR/Russian Arctic to avoid secondary sanctions from Western countries. Although development of transport corridors remains on the agenda, it appears that a slow and steady development is the best option for China under current conditions. Lack of development of the PSR is partially due to China's preference for a slow development, over a hasty roll out given the current geopolitical circumstances.

References

- Almén, O., & Hsiung, C.W. (2022).. *China's economic influence in the Arctic region. The Nordic and Russian cases*. FOI-R—5326—SE, Stockholm: Swedish Defence Research Agency, June.
- Andersson, P. (2021). The Arctic as a “Strategic” and “Important” Chinese Foreign Policy Interest: Exploring the Role of Labels and Hierarchies in China's Arctic Discourses. *Journal of Current Chinese Affairs*, 186810262110186. <https://doi.org/10.1177/18681026211018699>
- Bennett, M. M., Eiterjord, T. (2022) Remote control? Chinese satellite infrastructure in and above the Arctic global commons. *The Geographical Journal*, 00, 1– 14. Available from: <https://doi.org.ezproxy.uio.no/10.1111/geoj.12503>
- Callaghan, M., & Hubbard, P. (2016). The Asian infrastructure investment bank: Multilateralism

- on the silk road. *China Economic Journal*, 9(2), 116-139.
- China and Russia will jointly develop and utilize the Arctic waterway. 中俄将共同开发利用北极航道. *Gangkou Jingji. 港口经济*. July 20, 2017. P. 60.
- Ding Kemao, Liu Lei, & Wei Guobing (2017). 北极东北航道船舶通行现状及航海保障能力分析 [Analysis of current status of ship traffic and navigation support capabilities in the Arctic Northeast Passage], *Hanghai*, (05), pp. 40-43.
- Dollar, D. (2015). The AIIB and the 'One Belt, One Road'. *Brookings Institute*. <https://www.brookings.edu/articles/the-aiib-and-the-one-belt-one-road/>
- Edström, Anders. C.hristoffer, Stensdal I.selin Stensdal, and& Gørild Heggelund G.M. (2020). "Den «nye Supermakten»: Hva Vil Kina i Arktis? [The new superpower: What does China want in the Arctic]" *Internasjonal Politikk*, 78(4). <https://doi.org/10.23865/intpol.v78.2477>
- Gazeta Renmin Ribao (. 2017). "Xi Jinping provyol vstrechu s D. Medvedevym (Xi Jinping met with D. Medvedev)," available at: {<http://russian.people.com.cn/n3/2017/1102/c31521-9287638.html>}.
- Gunnarsoson, B, & Moe, A. (2021). Ten Years of International Shipping on the Northern Sea Route: Trends and Challenges. *Arctic Review on Law and Politics*, 12, pp. 4-30.
- Guo Peiqing, & Yang Nan. (2022). 俄罗斯任职北极理事会主席及其北极政策的调整 [Russia's Chairmanship of the Arctic Council and the Adjustment of its Arctic Policy], *国际论坛Guoji Luntan*, 第2期 *International Forum* Vol., 24(, No. 2), Mar, pp..
- Han Jialin, Zhou Xiangyu, Zhang Wenjun, Yang Xue, & Han Bin. (2023). 我国北极航线航海保障能力建设研究 [Research on the construction of our nation's Arctic route navigation support capabilities], *Shijie Haiyun*, (1), pp. 1-5.
- Heilmann, Sebastian. "Experimentation under Hierarchy: Policy Experiments in the Reorganization of China's State Sector, 1978-2008." CID Working Paper Series 2008.172, Harvard University, Cambridge, MA, June 2008.
- Henderson, J.ames and Moe, Arild. (2019). *The Globalization of Russian Gas**The Globalization of Russian Gas*, Cheltenham:, Edward Elgar., 2019
- Hsiung, Christopher C. Weidacher. (2022). China's perspective on Russia. Assessing how Beijing views_and values its relationship with Moscow now and later, FOI-R--5267--SE, <https://www.foi.se/report-summary?reportNo=FOI-R--5267--SE>
- Jiang, Yinan (2019). "冰上丝绸之路"多边合作: 机遇、挑战与发展路径. [Multilateral Cooperation under the PSR Framework: Opportunities, Challenges and Approaches], *Pacific Journal*, 27(8), pp. 67-77.
- Kremlin (2017, July 4) Joint statement of the Russian Federation and the People's Republic of China on further deepening relations of comprehensive partnership and strategic interactionFelleserklæringen fra Den russiske føderasjonen og Folkerepublikken Kina om ytterligere utdyping av forholdet til omfattende partnerskap og strategisk samhandling. 2017. <http://kremlin.ru/supplement/5218>

Lieberthal and Oksenberg Policymaking in China xxx

Lin, Qiushi.(2021, October 13). COSCO Shipping: Practices of Northern Sea Route Shipping Service Over Past Years [Conference presentation]. Arctic Dialogue – 2021, Salekhard, Russia. <https://www.youtube.com/live/7FXOIx64dY4?feature=share&t=4356>

Liu, Shiping. 2017. “‘PSR’ and ‘Steel Silk Road’ play a new chapter in the ‘Belt and Road’ symphony” (“冰上丝路”与“钢铁丝路”奏响“一带一路”交响新乐章) *Maritime China (中国远洋海运)*, 11, pp. 40-42.

Lu, Junyuan. 2016. *Kinas arktiske interesser og politikk (中国北极权益与政策研究)*. Shishi chubanshe (时事出版社).

Mertha, A. (2009). “Fragmented Authoritarianism 2.0”: Political Pluralization in the Chinese Policy Process. *The China Quarterly*, 200, pp 9951012 doi:10.1017/ S0305741009990592

Ministry of Science and Technology, Ministry of Land and Resources, Ministry of Water Resources of the Republic of China. 2017. 13th Five-Year Plan. (2017). “十三五”海洋领域科技创新专项规划("Thirteen Five" special program of scientific and technological innovation in the marine field). Retrieved from <http://www.most.gov.cn/kjbgz/201705/P020170523667975005919.pdf> Last accessed 3 November 2017, in Chinese.

Ministry of Transport (2021). 交通运输部关于部救助打捞局开展重型破冰救助船研究等交通强国建设试点工作的意见 Opinions of the Ministry of Transport on the pilot work of the Ministry of Rescue and Salvage Bureau to carry out research on heavy icebreaking rescue ships and other pilot projects for building a strong transportation country, 26 October, accessed 3 November 2022 https://xxgk.mot.gov.cn/2020/jigou/zhghs/202110/t20211026_3623048.html

Ministry of Transport (2021). 交通运输部 科学技术部关于印发《交通领域科技创新中长期发展规划纲要（2021—2035年）》的通知 Notice of the Ministry of Transport and the Ministry of Science and Technology on the issuance of the "Outline of the Mid- and Long-term Development Plan for Scientific and Technological Innovation in the Transportation Sector (2021-2035)", 26 October, accessed 3 November 2022 https://www.gov.cn/zhengce/zhengceku/2022-04/06/content_5683595.htm

Moe, A., & Stokke O.S. (2019). Asian Countries and Arctic Shipping: Policies, Interests and Footprints on Governance. *Arctic Review on Law and Politics*. <https://doi.org/10.23865/arctic.v10.1374>.

Moe, A., Heggelund, G., & Fürst, K. (2023). Sino–Russian Cooperation in Arctic Maritime Development: Expectations and Contradictions. *Europe-Asia Studies*, 75(8), 1360-1383.

NOVATEK. (2016, March 15). NOVATEK and China's Silk Road Fund Conclude Selling 9.9% Stake in Yamal LNG [Press release]. [https://www.novatek.ru/common/upload/press/SRF_Eng\[1\].pdf](https://www.novatek.ru/common/upload/press/SRF_Eng[1].pdf)

Shandong Province Department of Industry and Information Technology (2022). 山东省船舶与海洋工程装备产业发展“十四五”规划 The “14th Five-Year Plan” for the Development of the Shipbuilding and Marine Engineering Equipment Industry in Shandong Province.

http://gxt.shandong.gov.cn/art/2022/3/29/art_103885_10301690.html

- Sheng, E.L. (2022). *Arctic Opportunities and Challenges. China, Russia and the US Cooperation and Competition*, Palgrave Macmillan Singapore <https://doi.org/10.1007/978-981-19-1246-7>
- Solakivi, T., Kiiski, T., & Ojala, L. (2019). On the cost of ice: estimating the premium of Ice Class container vessels. *Maritime Economics & Logistics*, 21(2), 207-222.
- Sørensen, C.T.N. & Hsiung, C.W. (2021). The role of technology in China's Arctic engagement: A means as well as an end in itself. *Arctic Yearbook 2021*, <https://arcticyearbook.com/arctic-yearbook/2021/2021-scholarly-papers/383-the-role-of-technology-inchina-s-arctic-engagement-a-means-as-well-as-an-end-in-itself>.
- Staalesen, A. (2019). *U.S sanctions against Chinese shipper reverberate on Russian Arctic coast. The Barents Observer 1 October*, <https://thebarentsobserver.com/en/industry-and-energy/2019/10/us-sanctions-against-chinese-shipper-reverberate-russian-arctic-coast>
- State Council of the People's Republic of China (2017). Full text: Vision for Maritime Cooperation under the Belt and Road Initiative, https://english.www.gov.cn/archive/publications/2017/06/20/content_281475691873460.htm
- State Council of the People's Republic of China (2018). "China's Arctic Policy." Chinese Government. 2018. http://english.gov.cn/archive/white_paper/2018/01/26/content_281476026660336.htm.
- State Council of the People's Republic of China (2021). The People's Republic of China's 14th Five-Year Plan of National Economic and Social Development and Outline of Vision Goals for 2035. http://www.gov.cn/zhengce/2020-11/03/content_5556991.htm Accessed 16 July 2021, in Chinese Den 14. femårsplanen for nasjonale økonomisk og sosial utvikling av Folkerepublikken Kina og skissen av langsiktige mål for 2035. 2021.
- State Oceanic Administration (2016). National Maritime Science and Technology Development Plan (2016~2020). https://ghhzrzy.tj.gov.cn/ywpd/hygl_43039/hyjj/202012/t20201206_4543844.html
- Sun, Y. (2018). *The Northern Sea Route: The Myth of Sino-Russian Cooperation* (Washington, DC, Stimson).
- The Economist (2020). China's "dual-circulation" strategy means relying less on foreigners 5 November, https://www.economist.com/china/2020/11/05/chinas-dual-circulation-strategy-means-relying-less-on-foreigners?utm_medium=cpc.adword.pd&utm_source=google&ppccampaignID=18151738051&ppcadID=&utm_campaign=a.22brand_pmax&utm_content=conversion.direct-response.anonymous&gad_source=1&gclid=CjwKCAiAx_GqBhBQEiwALDNAZjqj2L_NG0XDCfomi1RRV8IxMsLRPMQ9dKVaqixsKmf4VRHVKrT4KR0C3zcQAvD_BwE&gclid=aw.ds Accessed 21 November 2023
- To, W. M., & Lee, P. K. C. (2018). GHG emissions from China's international sea freight transport: a review and the future trend. *International Journal of Shipping and Transport Logistics*, 10(4), 455.
- Woon, C. Y. 2020 'Framing the "PSR": Critical Geopolitics, Chinese Scholars and the

- (Re)Positionings of China's Arctic interests', *Political Geography*, 78.
- Yang, Jian. (2018)"Perspectives from China's International Cooperation in the Framework of the PSR". The Arctic in World Affairs, in Robert Corell et. al (eds). A North Pacific Dialogue on Arctic 2030 and Beyond – Pathways to the Future, Busan: Korea Maritime Institute, Honolulu: East-West Center.
- Yang, Jian. 2018. "The International Environment for Building the 'PSR' and China's Response." *Frontiers (学术前沿)*.
- Yi, Xinlei. 2019. "Sino-Russian Cooperation on Constructing the 'PSR': Concepts, Goals, Rules, and Paths" (中俄共建'冰上丝绸之路': 概念, 目标, 原则与路径). *Eurasian Economies (欧亚经济)*, 4.
- Zeng, Jinghan. (2020). *Slogan politics: Understanding Chinese foreign policy concepts*. Springer Nature.
- Zhao, Long. 2018. "Aligning the Blue Economic Passage leading up to Europe via the Arctic Ocean with Russia's Reviving Northern Sea Route: From Identification to Harmonization" (), *Pacific Journal* 26(1), 82-91.
- 中华人民共和国和俄罗斯联邦关于新时代国际关系和全球可持续发展的联合声明 (全文) --时政--人民网 (people.com.cn)