

Every Ship a Warship

The Security Role of China's Maritime Sector and its Consequences for Europe

Jonathan Holslag

Main observations:

- 1) There is a growing politization and militarization of China's civilian maritime sector.
- 2) China considers maritime power as an important building block of its national power and crucial for its national economic security.
- 3) China has vast maritime power. Contrarily to other countries, most of its maritime assets are controlled by the state. Still, China aspires more and more technologically advanced maritime power.
- 4) In recent years, the Communist Party has strengthened its grip on all large maritime companies, such as CSSC and COSCO, while those companies committed to step up efforts to implement political guidance, including the attempt to gain more "control" over maritime flows and technology.
- 5) Those companies have stated that they will seek to cooperate with European countries, yet with an eye on greater independence and independent innovation.
- 6) As COSCO Shipping put it: "Shipping power is inseparable from the support of a strong people's navy." China is developing its civilian maritime assets with an eye of being deployed in armed conflicts.
- 7) European companies and centres have continued to engage in cooperation with Chinese counterparts that are engaged in dual-use and military maritime research projects.
- 8) Despite growing awareness the EU lacks a response to the growing politization and militarization of China's maritime sector.

Introduction

"Do you expect us to return to the times of the Sun King?" This remark was made by a European official during a meeting in 2020. She castigated the idea that the European Union had to consider maritime shipping as a strategic industry and loathed a return to what she called the mercantilist thinking of the seventeenth century. That mercantilism held that trade was a zero-sum game and that the number of ships that carried the world's trade was fixed. The world has indeed moved beyond that idea, if only because thousands of ships are built every year. But the idea of states controlling a part of that activity has not disappeared. Economic nationalism in the maritime sector is widely present and civilian maritime assets are often part of military strategies. Hence, nationalism and pursuit of security in the maritime sector have not disappeared; they have become more sophisticated.

China is an important example, having emerged as one of the world's leading maritime powers. It has strengthened its position along the production chain, from mining, over bulk shipping and ports to shipbuilding, manufacturing and container lines.¹ In the last years, China has evaluated its efforts and concluded: It is not enough. In the context of growing geopolitical tensions, China considers it crucial to enhance its security and resilience in the maritime domain. China, it is commonly known, aspires dominance along the first island chain, including Taiwan, the second island chain, including the Philippines, and the third island chain, which includes the whole Western Pacific. Global commercial maritime power now figures as a fourth island chain.

While a lot has been written about China's naval modernization and the importance of overseas ports in China's military build-up, this paper focusses on the political, dual-use, and military dimension of Chinese economic maritime capabilities. The first sections review China's policy. The following sections evaluate efforts to enhance the influence of the Communist Party in maritime companies, the pursuit of independent technology, and the integration of economic and military maritime efforts. The paper ends with the role of the European Union in these Chinese endeavours. On the one hand, European technology continues to empower China's maritime sector. On the other, the European Union has not yet formulated a response to the political and security role of China's maritime sector.

The state of the debate

China's interest in using civilian maritime capabilities for political and military purposes has been the topic of discussion for more than a decade. One of the earliest debates centred on the maritime militia, mainly small fishing boats trained and equipped to patrol the contested South China Sea.² As tensions with Taiwan and in the South China Sea heightened during the 1990s, research started to focus on the role of state-owned shipyards in transferring foreign technology into navy ships.³ Subsequently, China was reported to be developing a so-called string of pearls, a chain of militarily useful ports in the Indian Ocean.⁴ In the 2000s, as China deployed its navy permanently in the Western part of the Indian Ocean, scholars revealed the importance of civilian maritime companies in supporting those navy ships.⁵

The Belt and Road Initiative, the expanding presence of the Chinese Navy, and growing tensions between China and the United States, have attracted more attention to the political and military relevance of the Chinese maritime sector. The civilian maritime sector was found to be indispensable in an eventual Chinese attempt at invading Taiwan.⁶ State capitalism made Chinese maritime companies dominant across the supply chain, it was found, and this comes with important security consequences.⁷ Research also found that Chinese companies own and operate many overseas ports.⁸ This allows China to project influence. Ports are useful to its armed forces in terms of logistics and intelligence. Yet, the authors conclude, these ports remain vulnerable in times of war. Most of this recent research is written from an American perspective. Insights from Europe, one of the main partners of China in the maritime sector, are remarkably rare.

Still, the European Union has identified China as a challenge in the political and security domain. It has stressed the need for open strategic autonomy, which means that also in an open trade environment, security interests must be preserved. In the maritime sector, however, policy remains narrow. In the 2000s, it issued policy documents in response to the threat of piracy and terrorism.⁹ The EU sent a navy mission to the Indian Ocean and demanded member states to enhance the security of ports, yet, again, primarily with an eye on non-traditional threats.¹⁰ A moment of concern followed the Chinese acquisition of the Port of Piraeus in 2009. But officials did not consider it a threat and Chinese companies could continue to expand their presence in European ports. In 2014, the European Union issued a maritime security strategy to "protect the strategic maritime interests ... worldwide".¹¹ This document was updated in 2018.¹² This new action plan called for more coordination. Another moment of concern occurred when the dredging sector asked the government to pay more attention to China's presence in Europe. For the rest, however, China's rise in the maritime sector did not attract much attention.

It is not enough

"An economic power must be a maritime power and a shipping power," an article by China's official news agency stated.¹³ China has become one of the leading maritime powers. It has become the largest shipbuilder of the world, representing around 41 percent of global production (table 1). It is the world's largest maritime trader, its port throughput representing 32 percent of the world's total port throughput. Overall, it has the largest state flagged fleet, representing 16 percent of the global shipping fleet in terms of tonnage. The Chinese state, mainly through COSCO Shipping and China Merchants, controls 18 percent of the world's container line capacity, around 13 percent of the world's LNG

shipping capacity, and 12 percent of the world's crude oil carrier capacity. In about ten years, China has built the largest state-owned maritime cluster.

	China		EU	
	2010	2021	2010	2021
Shipbuilding	26	41	5	2
Total merchant fleet	9	16	22	16
Oil tankers	6	12	25	17
Bulk carriers	14	19	18	12
Container ships	9	20	28	25

Table. Share of China and the EU in the world's merchant fleet (DWT%). Source: UNCTAD. Note: China includes Hong Kong and Macao.

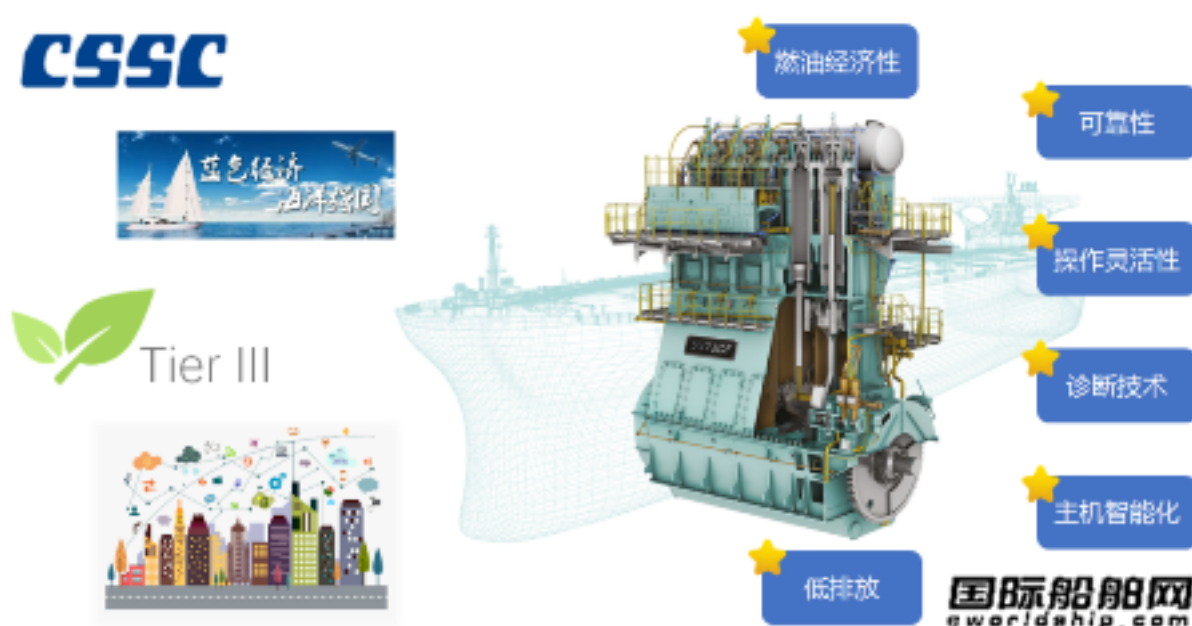
This position does not mean that China dominates the global maritime sector. However, it does bring advantages. China is strengthening its economy by becoming competitive manufacturer of maritime assets, in terms of scale and, although more slowly, in terms of innovation. Its position along the supply chain is a business opportunity for domestic companies. It helps both boost Chinese exports and make China less dependent on foreign nations and thus more resilient. More strategically, the growing market share of these companies allows China to weigh on international shipping prices and to enhance its bargaining position. In case of political emergencies, China would be able to independently carry most of its vital trade. China imports about 80 million cubic metres of liquid natural gas. In the next years, its LNG-fleet will have a capacity of about 13 million cubic metres. This fleet could, in theory, cover most of China's needs. The state-owned character of the maritime sector allows companies to profit from globalization when possible and the government to seize control over China's maritime trade when globalization is severed. This symbiotic relationship, centered around the idea of keeping each other warm in difficult times (抱团取暖), is thus a combination of profit and strategic resilience.¹⁴

China is far from satisfied, though. Two major reviews of overseas port construction by Chinese experts conclude that some of these projects have not paid enough attention to profitability and local sensitivities.¹⁵ They suggested China to learn from these mistakes, yet to continue to invest. "Building overseas ports is the only way to advance maritime power."¹⁶ One of the contributors, Zhang Yunling, a leading scholar and policy advisor, stated that overseas ports continue to have three functions: to alleviate the problem of industrial overcapacity, to consolidate Chinese economic power, and to shape global connectivity.¹⁷

Many sources point out that Western companies remain dominant. The chairman of COSCO Shipping called for "more bargaining power" and "to break through the strength of Maersk". Western dominance, he held, was detrimental to a country that was heavily dependent on shipping as a safety valve for its overcapacity-invested factories.¹⁸ This fixation with dependency on the West has never disappeared. China wants to avoid relying on foreign companies for its maritime trade in energy and aspires independence in capabilities like carriers for liquid natural gas. While the COVID-19 pandemic led Western countries to debate their reliance on China, it confirmed China's concern that it was too dependent on the West. Experts referred to Amazon's decision to crack down on Chinese sellers and to the fact that during the COVID-19 pandemic, international "shipping giants such as Maersk, Mediterranean Shipping, and CMA CGM" sought to strengthen their position in "warehousing facilities in important multimodal transport nodes around the world."¹⁹

China is also not satisfied about its innovative capacity. The situation in the field of innovation is not straightforward and even contradictory. On the one hand, China is the largest applicant of patents in the maritime industry, including in autonomous shipping.²⁰ In recent years, it has also independently designed and built sophisticated vessels. In 2021, it launched the world's largest crude carrier (VLCC). It runs on a new, highly efficient engine developed Dalian Marine Diesel. In 2022, Shanghai Waigaoqiao Shipbuilding was halfway the construction of a very large cruise ship, which is considered one of the most advanced niches of ship building and a sector in which Europe still holds an advantage. In 2019, Yanqing Li, a former director at China's largest state-owned shipyard CSSC and president of the China Association of National Shipbuilding Industry (CANSI) was named president of the influential Ships and Marine Technology Technical Committee at the International Standards Organisation (ISO). The committee's manager too became a Chinese citizen.²¹ China has supported and hosted important

meetings of the ISO and the International Maritime Organization (IMO) about green shipping standards.²² While European companies, like MAN, expect to profit from tighter emission regulations, Chinese firms have made rapid progress in building cleaner engines.²³ Because China dominates shipbuilding, such new domestic technology is often favoured.



Picture. CSSC presenting its indigenously developed engine control system. Source: [link](#).

Yet, on the other hand, China believes it remains behind foreign competitors in innovation. One Chinese study finds that domestic companies apply for a very large number of patents, but that only a limited number is granted.²⁴ Moreover, while the number of Chinese domestic patents has increased, China still only represents around 11 percent of all internationally recognized patents in the maritime sector. One report complains about weak capacity for independent scientific and technological innovation. “The battle for marine high-tech innovation has only begun,” it finds.²⁵ Another paper reiterated that “harnessing maritime power is the only way to build a powerful modern socialist country in an all-round way” and finds that “compared with developing countries”, the “scale of China’s marine economic development is still relatively small, the degree of development and utilization of marine resources is not high, and innovation remains basic.”²⁶ A senior official asserted that maritime technology ought to be “a great weapon of the country”. Yet he observes China to be excessively dependent on “core technologies” in offshore engineering and deep-sea activities.²⁷

China’s state-owned and -guided approach seeks profit in the short term, yet prioritizes geo-economic resilience in the long term. China is far from satisfied with its current capabilities. It seeks a stronger position in emerging sectors, like liquid natural gas and hydrogen carriers, offshore, deep-sea activities, and tourism. To that end, it will invest more in innovation and try to internationalize its standards. It also seeks to be better capable of dealing with uncertainty in the political and military domain. This concern, the following section shows, has caused continued reflection on economic security and comprehensive maritime power.

Economic security and maritime power

Maritime power is a long-standing objective of the Chinese government. The lack of it has been considered one of the causes of China’s so-called century of humiliation. There can be no strong country without robust maritime capabilities. As China’s economy grew, the government sought to better protect maritime trade and to turn the maritime sector itself into a powerhouse. Maritime power is thus both a means and an end. The current leadership under Xi Jinping has put a lot of emphasis on maritime

power. It led to an explosion of references to maritime power in the public and political debate. (chart 1) In one popular edited volume, the authors conclude that even in an open world, control over the maritime domain is key, or, at the very least, that states must aim at maritime power. Maritime power protects commerce, commerce advances national power, and national power helps advance maritime power. The authors advise China to foster such virtuous circle.²⁸

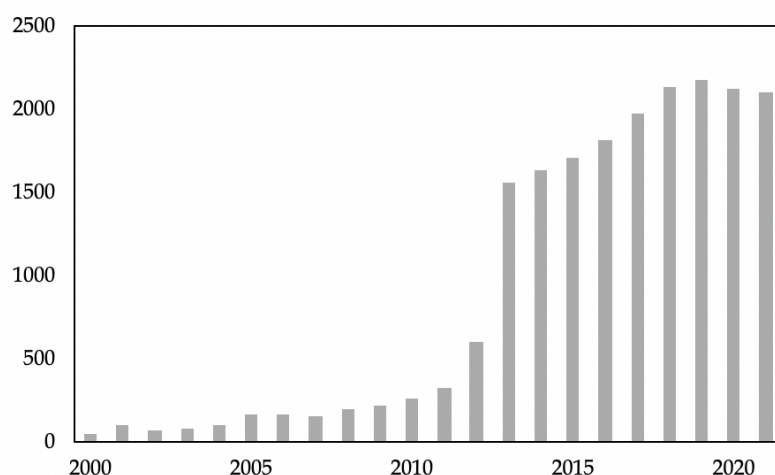


Chart. Mentions of maritime/ocean power (海洋强国) in Chinese research papers. Source: CNKI, compiled by Anne-Marie Dedene.

China's maritime policy is characterized by a search for both traditional military and economic security. It can be summarized in three balances: a balance between military and economic modernization, a balance between the strengthening of the internal market and external trade, and a balance between independent development in cooperation. This all reflects the core doctrine of dual circulation: China will continue to engage the global market but with an eye on long term national power and independence.²⁹ As Xi Jinping summarized: "The more you open up, the more you must pay attention to security, coordinate development and security, and enhance your competitive power and control."³⁰ It is from this viewpoint that China has increased its efforts towards supply chain security (供应链安全). In short it means that whenever there is connectivity, China must aim at diversification, control, and domination. An official of the State Council specified five key domains: food, tech, energy, the payments system, and logistics.³¹ In those domains, China needs bigger companies and more of its own technology.

In 2015, the government stated: "Our maritime industry merits state support so as to become a maritime power, to advance our international competitiveness, to advance our national economic security (国家经济安全), to secure our maritime rights and interests, as well as to increase our comprehensive national strength (综合国力)." It continued: "We must prioritize strong internationally competitive shipping enterprises, port construction companies, port operators, and global logistics businesses, so as to gain international influence."³² China is expected to remain dependent on seaborne trade. Over 90 percent of external trade is seaborne, so for both strategic military reasons and economic reasons, China needs to become a dominant maritime power.³³ China desires independence and national strength, yet at the same time also to weigh heavily on international organizations and rules for the maritime domain.³⁴

Every ship a flagship of the Party

The pursuit of economic security starts with loyalty to the Party and the State. China considers maritime transport a strategic sector and most of the leading companies are state-owned, such as COSCO Shipping, China Merchants, and so forth. Such companies should aim at profit and efficiency, but always with an eye on the state's interest and security. If the West trusts the market and private multinationals to provide in its connectivity, this is thus not the case in China. Moreover, attempts to impose loyalty and to remind companies of their duty to the state were stepped up in recent years. As

a result, companies go out of the way to explain how they contribute to visions like Dual Circulation and the Belt and Road Initiative.

Equally, China considers shipyards and maritime equipment manufacturers as a strategic sector. Consider China State Shipbuilding Corporation (CSSC), China's largest state-owned shipyard. It merged with another large state-owned shipyard, CSIC in 2022, to create a national champion but retained its name. CSSC is an important supplier to European shipping companies and a partner, as explained later, of several European institutions. CSSC considers itself "a central enterprise in the military industry" tasked to "implement the important instructions of General Secretary Xi Jinping." The company stresses that it must respect the so-called "four awarenesses" of the Party including loyalty.³⁵ CSSC considers itself a "strong fighting fortress" (强战斗堡垒) of the party, dedicated "to consolidate and deepen the ideological propaganda".³⁶ A recent party group meeting reflected on the meaning of Party building in a context of global uncertainty and concluded that it meant harder work to achieve independent innovation, to aim at technological and economic self-reliance, to coordinate more with other Chinese companies, and to accelerate the company's transformation into a competitive and green global leader.³⁷



Figure. Party construction meetings at CSSC. Source: CSSC.

An example in shipping concerns China's Merchant's so-called creed for the new era (新时代招商局信条). Its first article says: "Since its foundation, China Merchants Group has assumed the heavy responsibility of prosperity, self-reliance and national rejuvenation. China Merchants Group must not only follow business logic, but serve the national economy and the overall situation of the country." The fourth article states: "State-owned and central enterprises are the most reliable force for the party and the country to rely on. China Merchants Bureau, is in the vanguard of central enterprises to build a socialist modernized country in an all-round way..." It concludes: "The best win, the poor lose." The company continuously uses terms like major country fleet (大国船队) and has described its ships as fortresses at sea (海上堡垒), contributing to China's re-emergence as a great power.³⁸

COSCO Shipping also pains itself to highlight its dedication to the Party. "By becoming a world-class leader in shipping with international competitiveness, we can consolidate our country's control over key transportation assets and channels," it states, "We can better implement our national strategies and ensure national security."³⁹ In a 2021 report, Xu Lirong, COSCO's Party Secretary, highlighted his company's contribution in building a great power fleet (大国船队) and helping China to become a maritime power. The report is replete with references to key Communist Party and government strategies. In another article, it pledges its commitment to dual circulation, maximizing China's "control over the entire supply chain".⁴⁰ China, it posits, must not turn its back on globalization but dominate globalization. In another article COSCO Shipping explains how it works towards consolidation through mergers and acquisitions. It aspires to build a "national team", "always focussed on safeguarding the national interests" and working towards "control of bulk and container traffic".

Loyalty is not limited to declarations. Major companies like CSSC, China Merchants and COSCO Shipping have their own disciplinary committee, that reports on the extent to which they implement the Party's vision, and promotes leaders accordingly. COSCO Shipping's Party Secretary called for more discipline inside the company so as to be more capable of ensuring the country's influence along the supply chains.⁴¹ Maritime companies have stepped up their efforts to expand the Party's presence

in every branch and even every single ship. “Strengthening the Party building is the root and soul,” COSCO Shipping states. It prides itself to have 205 Party committees, 144 Party branches, and 12 party organizations, also overseas branches.⁴² COSCO Shipping vows to build a Party branch in every ship, with commissars, “erecting an ideological strong fortress for a strong shipping country.”⁴³

Every ship a platform for independent technology

Chinese maritime companies pride themselves on their technological progress, but also recognize that they still rely on Western technology. The objective, hence, is not only to build and operate advanced ships, but also to be able to design those vessels and to set Chinese technical standards internationally. Chinese companies vow to continue cooperation with foreign partners in the short term, yet with an eye on gaining the technology needed to become independent in the long run. Shipyards like CSSC, it became clear in the previous section, aspires to work faster towards technology self-reliance. “The importance of independent research and innovation is well known, but in the shipping sector, its relevance is particularly prominent,” writes a key innovation officer of COSCO Shipping. Independent innovation, he continues, is particularly important for green and digital shipping, which presents two opportunities: a productive boost in Chinese shipbuilding and a competitive boost for shipping companies.⁴⁴ China Merchant’s Miao Jianmin has hailed his group’s efforts to work towards independent innovation.⁴⁵

The maritime sector has been a policy priority for innovation for about ten years. In 2008, the People’s Congress recognized China’s maritime industry to be small and backward: “the development of new maritime industry needs to be accelerated.”⁴⁶ In 2016 the government stated that China had gained competitiveness mostly in assembling components, but continued to lag behind in designing and constructing very large ships, in producing advanced components like propulsion systems, and in delivering advanced ships, like cruise ships, large yachts, ice breakers, LNG-tankers and so forth, called the crown jewels of ship building.⁴⁷

The 2019 Ship Development Action Plan put a lot of emphasis on the independent development and construction of high-end ships. It also highlighted the importance of “deep civilian-military integration”.⁴⁸ The goal is to surpass the most advanced shipbuilding companies, especially those in Europe. A new government vision for logistics reiterated these goals and echoed the need for closer civilian-military cooperation in the maritime domain.⁴⁹ It wanted Chinese intelligent shipping to be globally leading by 2035. It referred to four main corridors where it aims to gain a stronger position: the Pacific Ocean to America, Southeast Asia to Oceania, Southeast Asia and South Asia, the Indian Ocean to Europe and Africa - and the Ice Silk Road that crosses the Arctic Ocean. Among the technologies listed for independent innovation are: dynamic positioning system for ships, deep-water resources exploitation, integrated monitoring and control systems, energy efficient propulsion, high-end steel and welding, advanced double engines, very large roll-on-roll-off ships, large cutter suction and drag suction dredgers, intertidal wind turbine installation vessels, ice breakers, and very large LNG and hydrogen carriers.

In yet another document, the 14th Five-Year Development Plan of the Maritime System, the government articulates its goal to become not only the world’s manufacturing hub but also the world’s “transportation powerhouse”.⁵⁰ “The first principle,” it states, “is national security”.⁵¹ It calls China to build a “maritime army of steel” and to be more self-confident.⁵² Specific attention goes to independent technology for large ocean-going ships, deep sea surveying, green ships, autonomous navigation, drones, and maritime satellites.⁵³ By advancing in those clusters, it wants China to have more influence on international standards and to gain the “right to speak”.⁵⁴ In 2021, China issued a medium- and long-term development plan for the shipbuilding industry, its horizon being 2035.⁵⁵ The plan observes that China made progress in modernizing the sector, but that the pandemic had a devastating impact on production orders and that more needed to be done to become technologically independent.⁵⁶ It continues to stress the need for “extensive international cooperation” yet again with the objective to achieve “independent innovation and developing independent supply systems”, and to shape international shipbuilding standards. China seeks to take the lead from Europe in green shipbuilding and shipping. To that end, it hopes to increase spending on innovation and to build a

“complete industrial chain”. Like previous documents, this plan focusses on sophisticated ships currently still built in Europe, like cruise ships, ice breakers, very large LNG and hydrogen carriers, offshore equipment, and warships.

Indigenous innovation is an important aspiration in the domain of energy and sustainability. CSSC, Cosco and China Merchants have all embraced green shipping, partially because the scrapping of old ships and the construction of cleaner ships is subsidized, partially because they expect it to become an important requirement of foreign customers. Shipyards, as a result, launched various new R&D demonstrator projects. An interesting case concerns LNG-tankers. China considers LNG to be an important alternative to coal. Consequently, a crucial objective is energy security. “The ability to independently control the entire chain and cycle of liquid natural gas transportation,” one of the leading Chinese energy companies state, “China National Offshore Oil Corporation (CNOOC) will join hands with China Merchants Group and internationally renowned shipping companies to participate in the whole process of ship construction, supervision, management and operation.”⁵⁷ The two agreed to build twelve very large LNG carriers in just three years. In addition to the shift from coal to gas, the vessels themselves are also expected to be 15 years ahead of the requirements set by the International Maritime Organization (IMO), with technology “independently developed by Hudong-Zhonghua Shipyard and jointly optimized with CNOOC.”⁵⁸

Every ship a warship

An important dimension of economic security is that all civilian maritime assets must be able to support military operations. As COSCO Shipping put it: “Shipping power is inseparable from the support of a strong people's navy.”⁵⁹ One of China’s leading scholars in maritime strategy wrote: “The military and maritime economy must be developed in a coordinated manner. Maritime powers that lack economic returns are doomed to be unsustainable.”⁶⁰ China’s notion of comprehensive national power does not even differentiate between civilian and military assets when it comes to their main objectives, such as defending the motherland and reunifying Taiwan. This starts with the design of the shipping fleet. Several new policies were formulated to make sure that civilian maritime assets are built with an eye on eventual military tasks. China’s biggest shipyards, like CSSC, are, at the fundamentals, military shipyards.

In 2015, the government issued its *Technical Standards for Implementing National Defense Requirements for New Civilian Ships*. The 2016 *National Defense Transportation Law* instructed that all important transportation projects had to be dual-use.⁶¹ To that end, the People’s Liberation Army provides the specifications to civilian companies and is involved in the design, approval, completion, and delivery of the projects.⁶² All civilian transportation companies are required to make their assets available to the military.⁶³

Companies pride themselves on this civ-mil integration. This happens in the most surprising areas. A company, now part of CSSC, for instance, has a report about a high-end maintenance vessel for offshore wind power. The ship is built to board wind-power turbines in adverse conditions and thus must have very precise navigation capabilities. It is touted as a flagship “military-civilian integration project”.⁶⁴ One article describes how the president of Bohai Ferry made a trip to Europe to study the construction of passenger roll-on-roll-off ships and cruise ships, and imagined how these ships could also be relevant for the armed forces. “When our country builds its own ro-ro passenger ship,” he imagined during his trip, “the construction standards should also consider the needs of national defense and the army!”⁶⁵ The new-builds were indeed developed in line with military specifications. Vessels of Bohai ferry have been frequently used in military exercises and one third of its employees are former military officers.⁶⁶ It even speaks of a “dual-leadership system”.⁶⁷



Figure. Military vehicles launched for an amphibious exercise from China Shipping Group's Bang Chui Dao. Source: CCTV 7.

There are other examples. Sinotrans, a large Chinese shipping company, commissioned the Chang Da Long, a large dual-use roll-on-roll-off-ship that features a helicopter deck. A news site reported that there are over sixty such vessels and called them "the aircraft carriers of shipping" (海运航母).⁶⁸ COSCO Shipping is known to have adjusted some of its passenger roro-ships to facilitate amphibious landings from sea. In July 2020, COSCO Shipping's Bang Chui Dao, built by a Dutch company, van der Giessen, participated in a landing exercise 5 kilometres off the coast of Guangdong (figure).⁶⁹ COSCO reports its experts to have been involved in military research and development of the National Defense Science and Technology Administration.⁷⁰ In other words, every asset in the maritime sector is considered a potential military asset; every ship a warship.

Europe's contribution

China aims at a strong, independent, militarily applicable maritime sector. Yet, in the past years and in the near future, it will continue to seek foreign partnerships. Cooperation remains a means in the short-term to the long-term objective of power and independence. Europe figures very prominently in this effort. Chinese companies control or own key ports in Europe. European shipping companies source most ships from China. While the value of direct imports of ships and related equipment is still below 2 billion euros, many of these ships and systems are bought from offices of large shipping companies outside Europe. The most important contribution of Europe to China's rise as a maritime power concerns technology. European maritime companies and research centres remain engaged in partnerships with Chinese entities that have an explicit military task or objective in terms of civil military integration.

China State Shipbuilding Corporation (CSSC) became China's largest shipbuilding company after its merger with CSIC in 2020. This state-owned company is also one of the most prominent contractors of the PLA Navy. It built its latest aircraft carrier, as well as many destroyers. CSSC is a strategic backbone industry. CSSC recently reaffirmed its goal to use civilian technology for military purposes – and vice versa: "in-depth development of military-civilian integration to lead the construction of a powerful maritime country."⁷¹ Nevertheless, numerous European entities continue to share their technology with CSSC. Often, they are forced to transfer technology to preserve access to the Chinese market. The most prominent case of this partnership concerns the 2018 joint-venture with the Italian Fincantieri to build large cruise ships. As explained earlier, cruise ships are dual-use and the platform itself is very complicated. As a consequence, the capacity to build them also helps building other advanced ships, including in the military domain. Finland's Wärtsilä is another key supplier, in the domain of offshore, deep-sea extreme research vessels, large semi-submersible heavy-lift vessels, and large LNG-carriers. Danish Knud Hansen signed an agreement with CSSC to help with "drawings, general design of hull and outfitting, machinery plant arrangement, HVAC and electrical and automation design."⁷² Marin, from the Netherlands, helped CSSC with designing very large crude carriers. Tillberg Design of Sweden (TDoS) has a partnership with Shanghai Ship Design & Research Institute (SDARI), China's leading ship design house, part of CSSC, to design the interior of cruise ships. Gaztransport &

Technigaz from France also supplied the company with technology for large LNG-carriers. MAN Energy and SEMT Pielstick have continued, until very recently, to supply engines that were directly put on navy ships built at CSSC shipyards.

There are other examples. China Merchants has a framework agreement with CSSC, “to implement national strategies regarding maritime power, manufacturing power, scientific and technological power, and military-civilian integration.”⁷³ SSPA, Sweden, has helped China Merchants in advancing the efficiency of propellers. Knud Hansen, from Denmark, partnered with China Merchants to build icebreaking RORO ships. Kongsberg Maritime, a key Norwegian naval contractor, signed an agreement with China Merchants in 2021 to help build chemical tankers, cruise vessels, large LNG carriers, and fuel gas supply systems.

The China Ship Scientific Research Center (CSSRC), based in Wuxi, is China’s largest maritime and shipbuilding research institute. It is involved in a broad range of research programmes, from submarine technologies to explosives impact management. The institute explains that its mission is primarily that of “a military research institute responsible for the research and development of weapons and military equipment.”⁷⁴ It considers itself a “battle fortress” of the Party and prides itself about its Party Building activities. The Centre also highlights the importance of information security and organizes an annual National Security Education Day. “Through posters, propaganda slogans, education films and other forms, we create a strong atmosphere for protecting national security and to safeguard national secrets.”⁷⁵ The institute also acknowledges its relevance for the Chinese navy. Regarding its research programme on explosion resistance, it reports: “A large number of scientific research achievements... have been fully applied in the development of naval equipment.”⁷⁶ The 702 institute on vibration declares to be “testing and monitoring military and civilian ships.”⁷⁷ The institute cooperates with ten European centers (table 3). The institute has sent visiting researchers to Europe; while European researchers have presented their research at the institute in China.

Bulgaria	Bulgarian Ship Hydrodynamics Centre
Denmark	Force Technology Division for the Marine Industry
Finland	Technical Research Centre (VTT)
Germany	Hamburg University of Technology
Germany	Hamburgische Schiffbau Versuchsanstalt
Italy	Istituto per Studi et Esperienze di Architettura Navale
Netherlands	Marin
Norway	Sintef Ocean
Norway	Centre for Ships and Ocean Structures
Sweden	SSPA

*Table. European partners of the China Ship Scientific Research Center (CSSRC).
Source: CSSRC.*

Consequences for Europe

China emerged as a leading maritime nation. It is still not satisfied, though. It aims at more independent innovation, a maritime supply chain along which Chinese companies can safeguard national interests and a stronger position in the global maritime economy. In that regard, we have seen, economic, political and military ambitions are inseparable. This policy has been consistent throughout the last decades. The pursuit of political control and security – maritime nationalism – has remained prominent in recent policy documents. This comes as a challenge to the European Union which, for a long time, has expected such nationalism to disappear and to rely for its own interest on an open global market rather than policies of control and independence.

At the same time, the European Union’s own maritime power has continued to weaken. Its share in shipbuilding shrank from 5 to 4 percent, while it used to be as high as 45 percent in the 1980s (table 1). While emerging countries like China massively increased their state support for shipbuilding, the European Union prohibited state support for such activities, but granted specific tax and social alleviations to European shipping companies and continued to tolerate that these European shipping companies could buy ships and other maritime systems built from state-backed Chinese shipyards. For

a long time, the European Union assumed that it could remain important through its large shipping companies, such as Maersk and CMA CGM. But in the last two decades, its share in the global merchant fleet decreased from 20 to 16 percent. CMA CGM has China Merchants as an important shareholder. Maersk recently sold its container box branch to China Merchants. Meanwhile, the European Union's share in internationally recognized patents related to shipbuilding dropped from 41 to 29 percent.⁷⁸ The European Union remains an important maritime power, stronger in some niches than China, but its position is weakening fast.

While Europe has highlighted its desire for more autonomy in strategic sectors, the European Union has done very little to respond to China's growth in the maritime sector and its security repercussions. Compared to other sectors, like chips, energy, and electric vehicles, the maritime domain is much less a priority. Officials also continue to state that European companies are strong in shipping and dredging, that China's presence in Europe remains limited, that it cannot use it for coercive purposes, and that Europe can still lead the way in technological innovation. "Instead of building ships, we can design greener ships and fit them with our high-end systems."⁷⁹ The power shift in the maritime sector and the lack of a European response has several consequences.

To begin with, there exists an information asymmetry. As every sailor, every shipping agent, every civilian ship itself is considered an instrument of the Party, and, hence, expected to be focussed on a doctrine of self-reliance and state power, cooperation with Europe can never be balanced and reciprocal. Still very recently, Chinese researchers were present at the core of the Horizon-2020 Nautilus project and had a prominent role in industry-related research on ship propulsion process system design and engineering.⁸⁰ It becomes impossible to apply liberal expectations of openness and multilateralism on a country that makes it so clear in its policy and propaganda that power and self-reliance are its ultimate goals, that whenever connectivity exists, the objective is to control it to some degree, and that whenever cooperation exists the objective is to become less dependent from it. While many European companies, employees, officials, and researchers expect normal P2P or B2B relations, the very political framework that guides their Chinese peers makes this impossible. Every insight they gain is expected to be exploited for political purposes. That is what Party building and indigenous growth is all about.

European Union also faces immense asymmetry between its open-market approach in the maritime sector and China's quest for independence, control and security. While China is rapidly reducing its dependence on European technology in the maritime sector, Europe's dependency on Chinese maritime capabilities is growing just as quickly. Nowadays, the European Union is unable to build large ships. Large European shipping companies order all their cargo vessels in Asia; about 60 percent in China. For specific types of steel and other components, the Union also heavily depends on China. Almost all its containers are built in China. The entire maritime industrial chain continues to move towards East Asia, while Europe will rely more on the maritime sector for its energy transportation, including natural gas and hydrogen. If China would go at war for Taiwan, the country will stop the building of ships for European shipping companies, which in turn would have an adverse impact on Europe's capability to transport goods by sea.

This asymmetry could become destabilizing in times of political crisis. While Europe accepts being a partial maritime power, specializing in niches, China seeks to become a comprehensive maritime power. It is clear, for instance, that China expects to incorporate Taiwan, that the use of force cannot be excluded in that regard, and that countries like the United States are expected to intervene in such scenario. Should such conflicts erupt, Chinese civilian maritime capabilities will likely be re-oriented towards military operations. The more Europe's maritime ecosystem shifts to Asia, the harder it will be for Europe to deal with the consequent adjustment crisis. Chinese and European policies in the maritime domain display a profound clash in terms of strategy and political values. While China can be criticized for inefficiency, the political and security consequences for Europe are important.

Notes and references

- ¹ Duchatel, Matthieu, 2019. *China's Port Investment*. Paris: Institut Montaigne.
- ² Garver, John, 1992. China's Push through the South China Sea. *The China Quarterly*, 132, pp. 999-1028.
- ³ Kondapally, Sikranth, 1999. China's Naval Equipment Acquisition. *Strategic Analysis*, 13, 9, pp. 1509-1530.
- ⁴ Gupreet, Khurana, 2001. China's String of Pearls in the Indian Ocean and Its Security Implications. *Strategic Analysis*, 32, 1, pp. 22-41.
- ⁵ Kamerling, Susanne Kamerling en Frans Paul van der Putten, 2011. An Overseas Naval Presence without Overseas Bases: China's Counter-piracy Operation in the Gulf of Aden. *Journal of Current Chinese Affairs*, 4/2011, pp. 119-146.
- ⁶ Shughart Thomas, 2021. Mind the Gap: How China's Civilian Shipping Could Enable a Taiwan Invasion. *War on the Rocks*, 16 August 2021. (link); Henley Lonny, 2022. *Civilian Shipping and Maritime Militia: The Logistics Backbone of a Taiwan Invasion*. Newport: US Navy War College. (link); Mc Kauley, Kevin, 2022. *Logistics Support for a Cross-Strait Invasion: The View from Beijing*. Newport: US Navy War College. (link)
- ⁷ Blanchette, Jude et al, 2020. *Hidden Harbours*. Washington: CSIS, July 2020; Greenwood, Jeremy and Emely Miletello, 2021. *To expand the Navy isn't enough. We need a bigger commercial fleet*. Washington: Brookings, 4 November 2021. (link)
- ⁸ Cardon, Isaac and Wendy Leutert, 2022. Pier Competitor. *International Security*, 46, 4, pp. 9-47.
- ⁹ *Fight against terrorism: Security of European maritime transport to be strengthened*. European Commission, 8 May 2003. (link)
- ¹⁰ *Regulation on enhancing ship and port facility security*. European Council, May 2004 (EC No 725/2004).
- ¹¹ European Council, 2014. *Maritime Security Strategy Action Plan*. Brussels: European Council, p. 2.
- ¹² European Council, 2018. *Council conclusions on the revision of the European Union Maritime Security Strategy*. Brussels, European Council, 26 June 2018, p. 4.
- ¹³ 向海洋强国进发, Towards Maritime Power, *Xinhua* 24 July 2021:
- ¹⁴ COSCO, 2017. Annual Report COSCO Group and 中远海运将利用海外资源优势 [COSCO Shipping will take advantage of overseas resources]. *Xinhua*, 20 June 2016. Also: Zhang, Wenting, 2016. 一带一路为航运企业国际化创造更好投资环境 [Belt and Road to Create a better Investment Environment for the internationalization of shipping companies]. *Xinhua*, 20 December 2016.
- ¹⁵ Tian, Qiubao et al, 2019. 一带一路中国海外港口项目战略分析报告. *Strategic Assessment Report of China's Overseas BRI Ports*. Beijing: Grandview Think Tank; Wang Weimin, et al. 2019 一带一路沿线海外港口建设调研报告, *Report on the Construction of Overseas Ports along the Belt and Road*. Shanghai: Shanghai Academy of Social Sciences Press.
- ¹⁶ Wang Weimin, et al. 2019. Op cit., p. 3.
- ¹⁷ Tian, Qiubao et al, 2019. Op cit., p. 41.
- ¹⁸ 中远中海重组或仅限集装箱业务 许立荣有望接新公司 [COSCO and CSCL in the process or reorganization and leading the container business, Xu Lirong expected to lead the new company], *Xinhua*, 08 August 2015.
- ¹⁹ Mei, Guanqun, 2022. 统筹谋划海外仓建设, 维护产业链供应链安全稳定, Broad planning for overseas warehouse building to preserve the security and stability of the industrial supply chain. *China Development Observation*, 17 February 2022. The author is senior researcher at the China Center for International Economic Exchanges.
- ²⁰ Chub, Nick, 2020. China will be a leader in autonomous shipping by 2025. 16 April 2020, Thetius (link)
- ²¹ See the webpage of the ISO/TC 8 Ships and Marine Technology Committee. (link)
- ²² For instance: The tripartite shipping industry meeting on 24 January 2011 (link) and the IMO-ISO joint meeting on 27 September 2016 (link).
- ²³ This concerns the so-called tier III and IV standards. In 2021, CSSC presented the world's first X52 low-speed engine with integrated Selective Catalytic Reduction (SCR). (link)
- ²⁴ Hu, Jun, 2019. Analysis of Chinese Patent Technology in Ship and Marine Engineering Equipment Industry. IOP Conference Series, June 2019. (link)
- ²⁵ 向海洋强国进发, Towards Maritime Power, *Xinhua* 24 July 2021:

- ²⁶ Xie, Qian, 2022. 依海富国 以海强国 Wealthy maritime nation, strong maritime nation. *Jiefang Daily*, 23 January 2022. The author is a researcher at the Center for Marxist Maritime Civilization and BRI research at Shanghai Maritime University. Building a maritime power can be said to be the only way to build a powerful modern socialist.
- ²⁷ Zhang, Haiwen, 2022. 奋力促进科技创新 加快建设海洋强国, Strive to Promote Scientific and Technological Innovation and Accelerate the Construction of a Marine Power. People's Political Consultative Conference, 19 April 2022. The author is director of the Institute of Marine Development Strategy of the Ministry of Natural Resources.
- ²⁸ Zhang, Wei, ed. 2021. 海洋变局 5000 年：一部新全球史, 5000 years of ocean change: A new global history. Beijing: Peking University Press.
- ²⁹ Zhou, Jingjiong, 2022. 坚持中国特色国家安全道路, Stock to the path of national security with Chinese characteristics, *Study Times*, 23 May 2022.
- ³⁰ Quoted in: Wang, Jong, 2022. 统筹好开放发展和经济安全, Coordinate open development and economic security. *Economic Daily*, 7 February 2022
- ³¹ Liu, Chunchia, 2022. 在全球产业变革中找准中国供应链发展新方位, Observing the new focus in China's supply chain development in the new global industrial transition, *China Economic Times*, 13 January 2022. Interview with Wei Jigang, deputy director at the Development Research Center of the State Council.
- ³² State Council of China, 2015. 国务院关于促进海运业健康发展的若干意见 Several Opinions of the State Council on Promoting the Healthy Development of Maritime Industry. *Guo Fa*, 32, 15 August 2015, art. 1.
- ³³ Yang Zhen, 2021. 海权视域下的中苏海洋安全战略比较——以海军战略为视角, Comparison of Sino-Soviet Maritime Security Strategies from the Perspective of Sea Power: From the Perspective of Naval Strategy. *Asia-Pacific Security and Maritime Studies*, March 2021. (Read via Aisi Xiang: link). The researcher works at the. China Ocean Development Research Center
- ³⁴ Hu Dekun and Yin Yu, 2021. 新时代中国海洋观及其对国际海洋治理的影响, China's Maritime Vision in the New Era and Its Consequences: The impact of international ocean governance. *CIIS*, 73-90
- ³⁵ 中国船舶集团党组召开 2020 年度成员单位党组织书记抓基层党建工作现场述职评议考核, Party group of CSSC held the 2020 annual evaluation meeting of the party secretary of the member unit to look at the work of grass-roots party building, CSSC, 28 January 2021. (link)
- ³⁶ 各成员单位深入学习贯彻习近平总书记“七一”重要讲话精神, All member units deeply study and implement the spirit of General Secretary Xi Jinping's important "July 1" speech, CSSC, 14 July 2021. (link).
- ³⁷ 中国船舶集团党组召开会议学习贯彻习近平总书记重要讲话精神, Party group of China Shipbuilding Corporation held a meeting to examine and implement the spirit of General Secretary Xi Jinping's seminal speech, CSIC, 16 January 2022. (link)
- ³⁸ Huang Qicui, 2022. 春风浩荡 奋楫远航, A strong spring breeze and a long voyage. *Xinhua*, 18 also: <https://www.guandian.cn/article/20191021/226270.html>
- ³⁹ COSCO, 可持续发展报告 2017, Sustainability Report, 2017. Dalian: COSCO, p. 57.
- ⁴⁰ COSCO Shipping Lines, 2020. 海运圈聚焦-新闻-“双循环”格局下航运如何全球化? How to globalize shipping under the "dual circulation" pattern? 31 August 2020
- ⁴¹ https://www.ccdi.gov.cn/toutiao/202205/t20220504_190366.
- ⁴² Xu Lirong, Cosco Party secretary, 2021. 巍巍巨轮驶向海洋强国, The majestic giant ship sails to the ocean power, Red Flag Manuscript, 10 September 2021
- ⁴³ Xu, Lirong, 2020. 中国远洋海运许立荣：助力交通强国——航运业的新航程, Helping a Powerful Transportation Country - A New Voyage for the Shipping Industry. *Study Times* 6 December 2020
- ⁴⁴ Zhao, Xueyi et al. 逐梦——中远海运的创新航程 Chasing Dreams - COSCO Shipping's Innovative Voyage. *Economic Daily*, 25 January 2022: Interview with Wang Xinbo, deputy general manager of COSCO Shipping Technology.
- ⁴⁵ <http://www.sasac.gov.cn/n4470048/n13461446/n15927611/n15927638/n16135038/c18236875/content.html>
- ⁴⁶ National People's Congress of China, 2008. 中国海洋 21 世纪议程 [China's Ocean Agenda for the 21st Century]. Beijing: National People's Congress, May 2008, § 2.6.

- ⁴⁷国务院关于推进国际产能和装备制造合作的指导意见国发, *Opinions of State Council and Guidance for Cooperation on the Promotion of International Production Capacity and Equipment Manufacturing*. Beijing: State Council; State Council, China, 2016. 船舶工业十二五发展规划, *Twelfth Five-Year Programme for the Shipbuilding Industry*. Beijing: State Council.
- ⁴⁸ Ministry of Industry and Information Technology, Ministry of Transport, and Ministry of Defense, 2018. 智能船舶发展行动计划 (2019-2021), *Smart Ship Development Action Plan (2019-2021)*. Beijing: State Council.
- ⁴⁹ Central Committee and the State Council, 2020. 国家综合立体交通网规划纲要, *National Comprehensive Three-dimensional Transportation Network Planning Outline*. Beijing: State Council, article 2.
- ⁵⁰ Ministry of Transportation, 2022. 海事系统十四五发展规划, *14th Five-Year Development Plan of the Maritime System*. Beijing: State Council, 12 January 2022, p. 2.
- ⁵¹ p. 7
- ⁵² p. 21.
- ⁵³ p. 12-14.
- ⁵⁴ p. 20
- ⁵⁵ State Council, 2021. 船舶工业中长期发展规划 (2021-2035), *Medium- and long-term development plan for the shipbuilding industry (2021-2035)*. Beijing: State Council.
- ⁵⁶ 未来 15 年船舶工业中长期发展规划正在编制, *The medium and long-term development plan of the shipbuilding industry in the next 15 years is being prepared*. Chinese Shipping, 22 September 2020. (link)
- ⁵⁷ 中国海油牵头签订国内最大规模液化天然气船舶建造项目 文章来源, *CNOOC leads the signing of the largest LNG ship construction project in China*, Sasac, 5 May 2022. (link)
- ⁵⁸ Ibid
- ⁵⁹ Xue Chengqing, Wang Jie, 2019 中远海运公司春节前夕慰问海军第 31 批护航编队: *People's Liberation Army Daily* 30 January 2019.
- ⁶⁰ Hu, Bo, 2016. Rising at Sea. Is China Ready This Time? 海上崛起——这次中国准备好了吗. Hu Bo is at Peking University.
- ⁶¹ Standing Committee of the 12th National People's Congress, 2016. 中华人民共和国国防交通法, *National Defence Transportation Law*. Beijing: Standing Committee of the 12th National People's Congress, art. 3.
- ⁶² Art 21.
- ⁶³ Art. 7
- ⁶⁴ 高端风电运维船动力设备全面实现国产化, *High-end wind power operation and maintenance ship power equipment realized complete indigenization*, CSIC, 22 November 2018. (link)
- ⁶⁵ Liu Kaicai, 2020. 渤海轮渡 打造行业拥军样本工程, *Bohai Ferry builds a sample project for the industry to support the army*. China Securities Journal, 13 July 2020.
- ⁶⁶ For instance: <https://www.sohu.com/picture/495763542>
- ⁶⁷ Ibid
- ⁶⁸ 登陆作战重要砝码, 我国拥有“海运航母”, 一次可运载 1 个集团军, *A decisive factor in amphibious operations, our country owns an “aircraft carrier of shipping” that can carry one group army at the time*, 9 June 2020. Retrieved from: <https://new.qq.com/omn/20200609/20200609A0MNOA00.html>
- ⁶⁹ For a report on this project: Kok, F., Opleveringen: Bang Chui Dao, in *Schip, Werf, De Zee*. November 1995, p. 17-26.
- ⁷⁰ COSCO, 2016. 可持续发展报告 2015, *sustainability report 2015*. Dalian: COSCO, p. 27;
- ⁷¹ Cansi, 2015. Prominent scientific and technological innovation to lead industry progress, *突出科技创新 引领行业进步*. Cansi, 7 June 2015. (link)
- ⁷² Danish Naval Architecture Firm, Knud Hansen, behind the coordination for Basic Design of new RoRo/Containerships for Hudong-Zhonghua, Knud Hanssen, 13 August 2012. (link)
- ⁷³ 中船集团与招商局集团签署战略合作协议, *CSSC and China Merchants Group signed a strategic cooperation agreement*. State Administration of Science, 2 July 2018. (link)
- ⁷⁴ CSSC Mission statement <http://www.cssrc.com.cn/info/62.html>
- ⁷⁵ CSSC, 2022. The 702 Institute Started 415 national security-themed education activities, 16 May 2022. (link)
- ⁷⁶ CSSC web portal for 船舶抗爆抗冲击, *Anti-explosion and impact resistance for ships* (link)

⁷⁷ CSSC, 2017. 七〇二所成功研制船舶振动噪声两项国际标准, The No. 702 Institute successfully developed two international standards for ship vibration and. CSSC, 20 October 2017. (link)

⁷⁸ IHS Data, OECD Patent Statistics for B63B, B63C, B63G, B63H, B63J

⁷⁹ EU official, digital meeting, 15 November 2021.

⁸⁰ Correspondence with stakeholder, 10 September 2022.