

---

## Changes in the Global Shipbuilding Industry on the Examples of Selected States Worldwide in the 21<sup>st</sup> Century

---

Submitted 11/03/21, 1st revision 09/04/21, 2nd revision 18/05/21, accepted 10/06/21

Małgorzata Kamola-Cieślik<sup>1</sup>

**Abstract:**

**Purpose:** The paper aims at analysing the changes in the shipbuilding industry and the decisions of various states seeking to increase the competitiveness of Asian and European shipyards in the 21st century, the impact of the COVID-19 pandemic on the portfolio of shipbuilding orders in 2020.

**Design/Methodology/Approach:** The method of decision analysis makes it possible to identify the causes and effects of decisions made by governments and the management of shipbuilding groups. The comparative method is used to compare the changes taking place in the European and Asian shipbuilding industries. The statistical method is used to illustrate the dynamics of the economic and financial situations of shipyards.

**Findings:** Shipyards operate on a competitive world market which experiences cyclical fluctuations in demand for ships. The dominant position of East Asian shipyards in the world market in the 21st century is the result of state subsidies, low labor costs, and the establishment of shipbuilding groups. In 2020, due to the COVID-19 pandemic, shipowners reduced orders for ships in the wake of a decline in demand for sea transport. The pandemic crisis hit shipyards in Europe specializing in the construction of cruise ships hardest.

**Practical implications:** The European Union should adopt solutions that will allow European shipyards to maintain their leading position in constructing complex, technologically advanced ships. To survive the difficult situation on the shipping market, the European shipbuilding industry should use its shipbuilding potential in the field of ship repairs and offshore wind energy better.

**Originality/value:** The research conducted made it possible to present the differences between the European and Asian shipbuilding markets and compare the outcomes of decisions made by various states faced by the financial crisis of shipyards.

**Keywords:** Shipbuilding industry, public aid, economic crisis, Asia, Europe.

**JEL Classification:** G28, R40, L91.

**Research type:** Research study.

---

<sup>1</sup>University of Szczecin, Institute of Political Science and Security Studies, ORCID: <https://orcid.org/0000-0003-2956-3969>, [malgorzata.kamola-cieslik@usz.edu.pl](mailto:malgorzata.kamola-cieslik@usz.edu.pl)

---

## **1. Introduction**

The shipbuilding sector is crucial to the world economy, as 80% of world trade is conducted by sea. Up to the end of the 1990s, Europe was a leader in all segments of the shipbuilding industry. Since then, China, South Korea, and Japan have dominated the shipbuilding market across the world. Asian shipyards have specialized in producing bulk carriers and container ships, that is, vessels that are relatively simple technologically. In this situation, European shipyards have had to build highly specialized vessels, such as cruise ships and vessels for the offshore industry, to stand a chance of survival. European shipyards have been able to fill a niche in the shipbuilding market by offering innovative ships to potential shipowners (Tenold, 2019).

The rapid expansion of the COVID-19 pandemic in 2020 profoundly shook many markets and proved difficult for shipbuilding, shipping, and tourism. The pandemic hit the shipbuilding industry on three levels: operational capacity, supply within the supply chain, and demand for ships. The article aims to analyze the changes taking place in the Asian and European shipbuilding markets, considering the impact of the crisis in the shipbuilding industry due to the pandemic. The article puts forward the thesis that orders for new ships will decline in the immediate future. The pandemic will affect European shipyards specializing in the construction of cruise ships more than Asian shipyards.

When analyzing the above issues, it is reasonable to pose the following research questions: What changes occurred in the shipbuilding market before the pandemic? What impact did the COVID-19 pandemic have on shipyard operations in 2020?

Seeking answers to these questions, decision analysis and comparative and statistical methods have been used. The research material used in the article includes, among other things, the documents produced by the Organization for Economic Cooperation and Development (OECD), the governments of respective states, and articles and interviews with the management of shipbuilding groups.

## **2. The Transformation of Asian and European Shipbuilding Markets before the COVID-19 Pandemic**

### **2.1 China**

At the beginning of the 21st century, the global demand for ships increased, which was caused by the development of international sea transport. At that time, Chinese shipyards carried out orders for domestic shipowners and export. The demand from Chinese shipowners seeking to purchase new ships was related to China's economic growth, based on the export of steel and coal, among other things. The 2003 National Maritime Economic Development Plan, the 2006 Medium and Long-Term Development Plan of the Shipbuilding Industry, and the National Five-Year Economic

Plan (2006-2010) all defined the shipbuilding industry as strategic for the state's economy. The development of the shipbuilding industry was expected to benefit the Chinese economy by creating jobs, and accelerating regional development and foreign investment, among other things. The government's policy was for Chinese shipyards to achieve the dominant position in the world (Kalouptsidi, 2018).

In the late 1990s, Chinese shipyards were grouped around two shipbuilding companies: China Shipbuilding Industry Corporation (CSIC) and China State Shipbuilding Corporation (CSSC), which the Chinese government ran. The CSIC and CSSC groups were tasked with building and repairing ships. The CSSC constructed modern ships. Repair and production shipyards, ship design companies and ship equipment producers, and research institutions operated within the CSIC (OECD, 2008).

Chinese shipyards could compete on the global market thanks to financial support from the state. Since 2000, China's policy has been focused on supporting the domestic shipbuilding industry through various instruments shaping the operations of the shipyards. The government's intervention consisted, among other things, in reducing the cost of shipbuilding by providing inexpensive steel, an essential raw material for their production. As part of the government's policy, the Export-Import Bank China offered potential ship buyers low-interest export credits up to 80% of the value of the trade agreement. The Export-Import Bank China provided the shipyards with guarantees to produce ships. The Bank of China, Agricultural Bank of China, and Commercial Bank of China all provided loans to shipowners on similar terms. Another form of support for the shipbuilding industry involved exempting businesses from customs duties for the transport of components necessary to produce ships.

Interestingly, financial support and low production costs translated into low prices for Chinese ships worldwide. In 1998-2008, thanks to strong government support, China became a world leader in producing bulk carriers and container ships. In 2005, there were more than 2,000 shipbuilding companies in China, with approximately 400,000 employees (OECD, 2008).

In 2005, China's share in global shipbuilding amounted to 9%, and in 2015 -to over 24%. The share of the European Union, Japan, and South Korea in the global ship production decreased significantly in 2015 compared to 2005. In terms of the number of ships built in 2006-2007, China came second after Japan. In 2006, Chinese shipyards commissioned 491 ships and Japanese shipyards -603. The following year, Chinese shipyards built 459 ships and Japanese shipyards -559 (SEA Europe, 2016).

The global financial crisis harmed the shipbuilding industry in 2008-2012. To curb the adverse outcomes of the crisis in the shipbuilding industry, the Chinese government adopted a program of subsidies for scrapping and building ships. The program aimed to scrap old ships that polluted the environment, even though their

---

service life had not expired. This measure was intended to reduce the imbalance between supply and demand in the shipbuilding industry and promote the fleet's modernization. In 2013-2015, the Chinese government allocated approximately CNY 8.59 billion to purchase new ships for state-owned shipping companies (OECD, 2017). In 2012, Chinese shipyards signed 651 contracts to build ships. In the following year, the number of orders for new ships amounted to 1,060. In 2015, due to low freight rates, shipping companies were moderately interested in purchasing new ships.

The crisis in bulk carriers' freight rates was caused by the oversupply of these vessels and low fuel prices. The decline in the interest of shipowners in new investments affected Chinese shipyards. The limited number of orders resulted in Chinese shipyards going bankrupt (including Mingde Heavy Industries, Wuzhou Shipyard, Sainty Marine, Zhong Chuan Heavy Industry, Zhong Chuan Heavy Industry Equipment, and Zhoushan Xuhua Metal Material). The problematic situation in the shipbuilding market prompted the Chinese government to adopt a 2016-2020 action plan for the shipbuilding industry. The plan aimed to apply modern technologies for the first time in the production of large cruise ships.

The production of modern, highly specialized ships is to help to support shipbuilding and maintain a competitive advantage on the global market. The shipyards are to be efficiently managed using automation and digital technologies (EC, 2017). In 2019, the Chinese authorities, seeking to improve and develop the production process in the shipbuilding sector, decided to form the largest shipbuilding group in the world -the China Shipbuilding Group. The group was established due to the merger of two Chinese shipbuilding companies -CSIC and CSSC. At the end of 2019, the China Shipbuilding Group had 310,000 employees. The group incorporated academic institutions, production and repair shipyards, and companies from the shipbuilding industry.

The China Shipbuilding Group applies innovative technologies in the implementation of its projects, therefore being able to compete in all the segments of the shipbuilding industry, including the production of cruise liners. The Chairman of the State-owned Assets Supervision and Administration Commission (SASAC), Hao Peng, during the official inauguration of the shipbuilding group, noted that "the creation of China Shipbuilding Group is a way to enhance the competitiveness of the domestic shipbuilding industry, promote the development of the national defense technology industry and reform state-owned enterprises" (China, 2019). Notably, the consolidation of Chinese shipyards was possible due to shipbuilding subsidies. According to the Center for Strategic International Studies, between 2010 and 2018, state aid granted to Chinese shipbuilding and shipping companies amounted to approximately USD 132 billion (including USD 127 billion from state-owned banks and USD 5 billion from direct subsidies). This data did not include indirect subsidies and preferential loans (CSIS, 2020).

In October 2019, a shipyard in Shanghai started constructing a large cruise liner for the American shipowner Carnival Corporation. This project was a harbinger of changes to take place in the global shipbuilding market. According to the organization representing the European shipbuilding industry, SEA Europe, the construction of a cruise liner and the establishment of the China Shipbuilding Group posed a threat to European shipyards because of the dumping activities of Asian shipyards. The shipbuilding group in China and the planned mergers of shipyards in South Korea and Japan made them compete in all segments of the shipping market, including cruise ships, with low ship prices. In the view of SEA Europe, the unfair trade practices of Asian yards posed a risk of their taking over the cruise ship segment, in which European shipyards were the leader. In this situation, SEA Europe asked the European Commission to launch a round table with the industry to define practical European answers to meet the increasing threat from Asian state-led competitors and enable the strategic European shipbuilding sector to grow (SEA Europe, 2019). The European Commission announced the adoption of legal regulations regarding subsidizing products by countries outside the European Union in violation of the principles of fair competition, including in the shipbuilding market (Aegis Europe, 2021). The SEA Europe community received the position of the European Commission as an announcement of changes for the shipbuilding industry.

## **2.2 South Korea**

Since the mid-2000s, the Korean shipbuilding industry has ranked second after China regarding its share of the global shipbuilding market. China and Japan specialize in constructing container ships and bulk carriers, while South Korea specializes in the production of tankers, gas carriers, and container ships. South Korea's use of modern technologies in shipbuilding has made it possible to remain competitive on a global scale in shipbuilding. South Korea was and is the largest exporter of ships, and China, the largest producer. Three large private companies have dominated South Korea's shipbuilding industry -Hyundai Heavy Industries Co. Ltd., Daewoo Shipbuilding and Marine Engineering Co. Ltd., and Samsung Heavy Industries Co. Ltd. The worldwide economic crisis in 2008 harmed the operations of Korean shipyards. The order book for new ships decreased, amounting to 557 ships in 2008, 140 in 2009, 464 in 2010, 351 in 2011, and 231 in 2012 (SEA Europe, 2016). The decreasing demand for Korean shipbuilding products from 2009 resulted from the difficult financial situation of shipowners, who resigned from the purchase of ships or decided to buy cheaper ones from China.

The shipyards' problems with maintaining liquidity prompted the government to adopt a plan for restructuring and competitiveness in the shipbuilding sector. Government agencies bought stakes in large shipyards and granted them loans and warranties. The implementation of the government program resulted in improvements in the qualifications of shipyard employees and access to the latest technologies. In 2013-2014, the global shipbuilding market saw a slight improvement. South Korea's

---

shipbuilding output exceeded the low demand for new vessels by Korean shipowners. In 2015, the export value of Korean shipbuilding products amounted to USD 38 billion, which accounted for 30% of Korea's total exports. From mid-2015 to December 2016, the operations of the shipbuilding groups, Hyundai Heavy Industries, Daewoo Shipbuilding, and Marine Engineering, and Samsung Heavy Industries, generated losses of USD 5.8 billion. Due to increasing corporate debt, 40,000 shipyard workers were made redundant (OECD, 2015).

Along with the significant drop in orders for ships, the crisis in the Korean shipbuilding industry was also influenced by the bankruptcy of the Korean shipowner, Hanjin Shipping. At the end of 2016, the Ministry of Trade, Industry, and Energy developed a program to increase the competitiveness of the shipbuilding industry. The government planned to allocate KRW 11 trillion for the implementation of the program.

The program provided for the government to place orders for ships' construction and encourage companies to do the same. By the end of 2018, the government had placed orders for the construction of 63 ships, and by the end of 2020 - for 75 ships. Companies ordering small and medium-sized ships were offered a 5-year extension of the loan repayment period as an incentive. The program's implementation resulted in the closure of the shipyards producing offshore vessels due to their insolvency and lack of orders. Government funds were allocated to modernize the technology to produce LNG-powered ships (MTIE, 2016).

In September 2019, Japan filed a complaint with the World Trade Organization (WTO), arguing that South Korea had violated free-market rules by granting public aid to its shipyards. The Japanese believed that the financial assistance provided violated WTO rules. According to the South Korean government, Japan's claims were groundless, and the funds allocated to the development of the industry complied with international standards. Japan did not request that a clearinghouse be established.

Seeking to strengthen the shipbuilding industry in South Korea, Hyundai Heavy Industries Co., Ltd. acquired the state-owned group Daewoo Shipbuilding & Marine Engineering Co., Ltd. (the Korean Development Bank had over 55% of shares). The 2019 merger of these two shipbuilding conglomerates aimed to increase Daewoo Shipbuilding & Marine Engineering Co., Ltd. on the shipbuilding market and reduce the price of ships.

### **2.3 Japan**

The Japanese shipbuilding industry occupied a high position in the world market in the 1990s. Over the two decades of the 21st century, it ceased to be the leader in the shipbuilding market. Since 2000, more than 1,000 shipyards have been operating in Japan. Most of them are private enterprises. The largest shipyards are Imabari Shipbuilding, Tsuneishi Holdings, and Oshima Shipbuilding Company. These

companies construct bulk carriers, container ships, and chemical tankers. However, most of the shipyards in Japan (around 700) concentrate on the construction and repair of smaller ships. Japanese shipyards have long faced their smaller production capacity compared to shipyards in China or South Korea (Tan, 2017). Chinese and South Korean shipyards have an advantage over ships offered by Japan as their production costs are lower, which translates into lower prices and more orders. The designs of ships offered by shipyards in China and South Korea are simple compared to Japan's passenger vessels and gas carriers. In 2000, the production of passenger ships generated losses in Japan. Japan's Mitsubishi Heavy Industries shipyard lost approximately USD 293 million in 2000, failing to meet the completion date for two passenger ships.

The share of Japanese shipyards in the global shipbuilding market decreased from 27% in 2005 to 13% in 2013. At the same time, the combined share of Chinese and South Korean yards increased from 53% to 77% (OECD, 2016). Starting in 2004, Japanese shipyards have begun to regain competitiveness. The shipbuilding industry in Japan is the responsibility of the Ministry of Land, Infrastructure, Transport, and Tourism, which developed plans to increase the competitiveness of shipyards in the global market and began their implementation at the beginning of the 21st century. The government's policy was to support the shipbuilding industry through export credits, among other things. In 2018, Japan maintained the third position globally in terms of its share in the order book for ships (29.9%) on a global scale.

## **2.4 Poland**

Polish shipyards had a strong position in the global shipbuilding market until 1989. The Soviet Union was the largest recipient of Polish ships. The situation of the Polish shipyards was influenced by government compensatory payments for exported ships, which sometimes amounted to 50% of the value of contracts for their construction. In the early 1990s, the shipyards in Gdańsk, Gdynia, and Szczecin found themselves in a difficult financial situation in the wake of the collapse of trade with the Soviet Union and the abandonment of government aid for exported ships. The privatization of the shipyards was intended to prevent their collapse. The privatized shipyards in Szczecin and Gdynia were profitable only in the first years of their operations. Due to contractual penalties for delayed commissioning of ships and high production costs, the shipyards in Gdynia and Szczecin lost their financial liquidity in the late 1990s.

The problematic situation of the shipyards was also related to a collapse in demand for the services of production shipyards on the global market. The State Treasury acquired most of the shares in the Szczecin and Gdynia shipyards in 2002. The implementation of the restructuring program did not improve their economic situation. The debt of the shipyards increased, despite public aid. In 2007, Stocznia Gdańsk SA was privatized. The Polish government sold most of the shares in Stocznia Gdańsk SA to the Ukrainian company ISD Polska. Since the operations of the privatized shipyard

---

generated losses, its restructuring became imperative (SRP, 2008). Public aid and the implementation of a plan to restructure the assets of the Gdańsk Shipyard failed to improve its economic and financial situation. The shipyard continued to be unable to compete on the market.

In 2008, the European Commission decided that the state aid granted to the Szczecin and Gdynia shipyards violated European Union law and had to be repaid. In 2009, the assets of the Szczecin and Gdynia shipyards were sold to numerous investors from the shipbuilding industry (OECD, 2017). In 2014, Stocznia Gdańsk SA put into service the last ship *Syn Antares*, which it had been building for six years. At that time, the operations of the shipyard were concentrated on the construction of wind towers. At the end of 2016, the government took over most of the shares in Stocznia Gdańsk SA.

At the same time, the government announced the implementation of the Batory Program, under which two passenger and car ferries for Polska Żegluga Bałtycka SA were planned to be built. The program was expected to facilitate the reconstruction of the shipbuilding industry in Poland. The construction of the ferries was contracted to Morska Stocznia Remontowa Gryfia SA, which did not specialize in the construction of this type of ship. Due to organizational and design problems and a lack of finance to construct the ferries, the Batory Program was not put into action (Kamola-Cieślak, 2019). In 2019, around 50 companies, with a total headcount of 1,500 people, operated on the former shipyard premises in Szczecin. Most of them were related to the shipbuilding industry. However, there was no large company leading the production of ships and cooperating with subcontractors. The assets of the Gdynia shipyard were acquired by repair shipyards (Stocznia Crist Sp. z o.o. and Stocznia Remontowa Nauta SA) and companies producing steel components (Elektromontaż-Północ SA).

Apart from private companies that are subcontractors of European shipyards, a private entity -Grupa Remontowa -operates there, which includes over 20 companies, including Remontowa Shipbuilding SA. Grupa Remontowa constructs small and medium-sized ships. State Treasury-dependent companies also operate on the Polish shipbuilding market. These include, among others, Stocznia Remontowa Nauta SA, Morska Stocznia Remontowa Gryfia SA and Stocznia Gdańska SA. After liquidating the large production shipyards in Szczecin and Gdynia, the Polish shipbuilding industry has lost its significant position in the European shipbuilding rankings. There are no large shipbuilding hubs where huge ships could be built, such as ferries. In 2019, 1,302 commercial companies operating in the shipbuilding sector were registered in Poland. In 2015-2019, 43 ships were constructed in Polish shipyards. During this period, the Polish order book for ships in Europe did not exceed 1%.

## **2.5 Germany**

Following German reunification in 1990, the German shipbuilding industry found itself in a difficult financial situation. The reason for that was the prices of Chinese, Japanese, and South Korean ships, which were lower than the prices for ships built in



German shipyards. Therefore, German shipowners ordered their ships from Asian shipyards. As concerns the shipyards in the former German Democratic Republic, they faced the collapse of the Soviet market. At the end of 1990, the German government adopted a program to restructure, modernize and privatize the shipbuilding industry in former East Germany. The program aimed to align the shipyard production capacity with the principles of a market economy. The government provided German shipyards with the financial support they needed to compete with foreign shipyards. The implementation of the government program did not fully produce the desired outcome.

An example was the shipyards Mathias-Thesen Werft in Wismar and Volkswerft Stralsund, privatized by Bremer Vulkan AG. In 1992, the latter company received financial aid (DM 586 million) from the European Commission to restructure East German shipyards. Four years later, the European Commission proved that the financial aid had not been allocated for restructuring the shipyards in Wismar and Stralsund, but for the unsuccessful restructuring of the shipbuilding company Bremer Vulkan AG which violated European Union law. At the end of 1995, the losses generated by the operations of Bremer Vulkan AG amounted to USD 540 million, and its debt to banks -to nearly USD 1 billion. In 1997, Bremer Vulkan AG, which employed more than 20,000 people, was declared bankrupt due to mismanagement and financial problems. The state acquired the shipyards in Stralsund and Wismar, and the European Commission agreed to receive further public aid in the amount of DM 728 million (Długa historia, 2008).

In 2006, the German government commenced a program of developing innovative technologies. It aimed to support innovative technologies in shipbuilding. According to the German Association for Shipbuilding Industry and Marine Technology, Werner Lundt, the program would make it possible to build private passenger ships and large yachts. These capabilities were to make them able to face up to the competition of Asian shipyards (Studioguest, 2011).

The analysis of the research material shows that the global economic and financial crisis in 2007-2009 harmed the shipbuilding industry in Germany. Many shipyards went bankrupt. In 2008, 66 shipyards were operating in Germany, employing a total of over 23,000 people. During the economic crisis, the drop in freight transportation resulted in an oversupply of free tonnage in world fleets. This was followed by the number of orders for new ships dropping. At the same time, it became difficult to obtain loans to finance shipbuilding. In 2009, the German government adopted a loan and guarantee program aimed at helping companies, including shipyards, which the global financial crisis had hit in 2007-2009. Notably, the economic crisis caused banks to withdraw or reduce their share in financing shipbuilding. In 2008, the shipyards Cassens-Werft GmbH and Lindenau Werft GmbH were declared bankrupt.

Three shipbuilding groups were established in Germany in the wake of the global economic crisis and ownership changes in German shipyards. One of them is the

---

Malaysian company Genting Hong Kong, part of the Genting Group holding. In 2016, Genting Hong Kong acquired the majority of the shares of the shipyard Lloyd Werft Bremerhaven GmbH and the shipbuilding group MV Werften, which included the shipyards of Wismar, Stralsund, and Rostock-Warnemünde. In addition to Genting Hong Kong, the shipbuilding Meyer Group owns the shipyards Meyer Werft in Papenburg, Neptun Werft in Rostock-Warnemünde, and Meyer Turku in Finland operates on the German shipbuilding market. In 2019, the Finnish shipyard suffered a loss of USD 120 million due to delays in constructing the ship *Costa Smeralda* (Cruise, 2020). The third shipbuilding group in Germany specializing in the construction of luxury mega-yachts, among other things, is the Lürssen Maritime Beteiligungen GmbH & Co Group with shipyards in Bremen and Hamburg. Currently, the shipbuilding industry in Germany is mainly involved in the production of cruise ships, luxury mega-yachts, platforms for the oil and gas industries, and offshore wind farms.

### **3. Public Help for Shipyards During the COVID-19 Pandemic**

#### **3.1 Asia**

The analysis of the research material collected makes it possible to identify changes in the shipbuilding industry in the first two decades of the 21st century related to the crisis in the global shipping market. Low freight prices and the inability to obtain bank loans to finance shipbuilding resulted in shipowners not purchasing new vessels. At the same time, many shipyards in Asia and Europe were declared bankrupt, and various regions specialized in building different types of ships.

According to Clarksons' Research, a consulting and analytical company, the number of active shipyards in the world decreased from 2009-2017. In 2009, 934 shipyards were operating; in 2017, there were only 358. Two years before COVID-19, shipyards recorded a decrease in orders. In 2018-2019, Asian shipyards had the largest share in the order book for ships (85.2% in 2018 and 82.5% in 2019). In 2020, the rapid expansion of the COVID-19 epidemic took the global economy by surprise and seriously shook many markets. Blockades or lockdowns significantly reduced consumer demand, many supply chains were disrupted, which affected the container and bulk carrier sector. Global restrictions caused by COVID-19 reduced shipyards' ability to contract new ships. Some shipowners withdrew their orders or postponed delivery dates.

In early 2020, the COVID-19 pandemic brought most shipyards in China, Japan, and South Korea to a halt. These steps were intended to contain the spread of COVID-19. In mid-February 2020, most Asian shipyards resumed work. An overtime schedule was put in place in Chinese shipyards to catch up with production backlogs. In the second quarter of 2020, the biggest problem of Asian shipyards was the timely delivery of ships to shipowners, which resulted from delayed deliveries of equipment, quarantine of people working in the shipbuilding industry, and the closure of borders.

The border crossing ban made it impossible for specialists and service technicians to access ships during their construction.

According to the British analyst company VesselsValue, from January to November 2020, orders for new ships fell by 41% worldwide, compared to the previous year. In the same months in 2019, 906 ships to a total value of USD 38.7 billion were ordered. From January to November 2020, 532 ships were ordered to a total value of USD 26.7 billion. Most of the shipbuilding contracts were signed in the first quarter of 2020 before the COVID-19 pandemic began to have a worldwide impact (Ovcina, 2020). During the remainder of the year, ship orders were low, not exceeding 50 vessels per month. From January to December 2020, Asian countries had orders for 477 ships, including China -246 ships; South Korea -137 ships; and Japan -94 ships. The remaining shipbuilding contracts were outside of Asia. Of the three Far East countries, the slowdown in shipbuilding was the smallest in China.

From January to November 2020, Chinese shipyards recorded an 8.7% decrease in new ships' orders compared to the same months the year before. During the same period, the orders for new ships fell by 66.7% in Japan and by 8.4% in South Korea (China Shipbuilding Industry, 2021). In 2020, the China Shipbuilding Group was the shipbuilding world leader, defeating its South Korean rival Daewoo Shipbuilding & Marine Engineering. Despite the COVID-19 pandemic, the strong position of the Chinese shipbuilding market in the world was related to the policy of the Chinese government, which influenced the decisions of Chinese shipping companies to place orders for building ships. Chinese shipyards decided to cut prices, offering their ships discounts of around 20%.

### **3.2 Europe**

The European shipbuilding industry, geared primarily towards the construction of cruise ships and offshore vessels, suffered from the COVID-19 pandemic more than Asian shipyards. When the passengers and crew on the Diamond Princess cruise ship had been diagnosed with COVID-19 in February 2020, the world's largest shipowners (Carnival Corp., Royal Caribbean Group, and MSC Cruises) decided to suspend cruises. After an almost 6-month break, only 70% of shipping companies resumed cruises, which caused losses for shipping companies in 2020. The crisis in the cruise industry translated into no orders for new cruise ships from shipowners. In the first half of 2020, the production in most shipyards in Europe was stopped or restricted, and workers were sent on forced leave. Such shipbuilding groups suspended the production as MV Werften from Germany, Fincantieri from Italy, and Chantiers de l'Atlantique from France. In contrast, the Meyer Werft shipbuilding group in Papenberg and Meyer Turku carried out limited production while maintaining security measures to contain the potential spread of the coronavirus. The closing or limiting of the operations of shipyards harmed the companies cooperating with them, which suffered from payment gridlocks, as well as reduced orders for their services.

---

The examination of the research material concludes that shipyards in Europe would not be able to operate without state financial aid. In October 2020, the shipbuilding group MV Werften received a bridging loan of EUR 193 million to complete the construction of the cruise ship *Crystal Endeavor* for its parent company, Genting Hong Kong group, and support its operations the former by the end of March 2021. This aid came from the German Economic Stability Fund. The *Crystal Endeavor* ship is planned to be implemented in summer 2021 (Smith, 2021). Even though MV Werften has contracted 12 ships to be constructed by 2024, it has announced its intention to reduce jobs in 2021. The plans of the MV Werften management provide for 2,000 out of 3,100 employees to be dismissed. The respective managements of the shipyards have negotiated the conditions for the dismissals in Wismar, Rostock, and Stralsund, and the trade unions. It is necessary to cut the shipyards' crew to obtain another subsidy from the German Economic Stability Fund.

The economic crisis triggered by the COVID-19 pandemic has also impacted the Finnish shipyard Meyer Turku, owned by the Papenburg-based Meyer Werft shipyard. In the first months of the COVID-19 pandemic, the director of Meyer Werft, Thomas Weigend, observed that the cruise industry would face the biggest crisis in its history, which would harm shipyards building cruise ships. According to Thomas Weigend, the COVID-19 pandemic might result in "shipping companies breaking even in 2021 and generating profit again in 2022, but the huge loans they will have taken during the crisis will have to be paid back. This means that there will be no new orders for cruise ships until 2023-2024" (Landowski, 2020).

In April 2020, in the face of the difficulties in the cruise industry, the management of Meyer Turku started negotiations with trade unions on the redundancy terms for 450 out of approximately 3,000 workers. At the same time, the Turku shipyard announced that it would limit its production to one large ship per year. The Meyer Werft shipyard filled the order book for new ships until 2024 in Papenburg. Since the pandemic continues, the management of the Papenburg shipyard intends to reduce the production of ships from three to two per year. Interestingly, Meyer Turku is an essential enterprise in southwestern Finland as two-thirds of its subcontractors and suppliers are domestic companies employing around 4,000 people (Cruise, 2020).

Most Polish shipbuilding companies are subcontractors to, among others, German, French and Norwegian shipyards. The temporary suspension or limitation of the production of Western shipyards has slowed down the construction of components in Polish shipyards. Interestingly, in 2020, Polish shipyards and smaller shipbuilding companies did not stop production but extended production cycles due to the possibility of COVID-19 spreading among their staff. Closed borders have disrupted the supply chains of, for example, specialized equipment or production materials for Polish shipbuilding companies. Most shipbuilding workers have not lost their jobs due to the pandemic crisis. Polish shipbuilding companies have been resistant to the shipbuilding industry crisis because of the diversification of their orders and specialization in niche maritime industries. The companies operating on the

shipbuilding market in Poland fulfill orders not only for cruise ships but also for hulls, fishing vessels, specialized units, e.g., tugs and icebreakers, and ships and steel structures for servicing offshore wind farms.

#### **4. Conclusions**

The demand for ships has been formed by international sea transport. The development of international maritime transport is related to global economic production and trade in goods. The shipbuilding industry is specific in its high capital intensity since significant funds are required during the ship's construction. There are cyclical fluctuations in demand for ships in the global shipbuilding market.

As concerns the first question posed in the introduction, it should be stated that Europe was the world leader in all segments of the shipbuilding industry until the mid-1990s. At the end of the 20th century, the global shipbuilding market changed. The Chinese government launched a policy seeking the self-sufficiency of China in maritime transport. Chinese and South Korean and Japanese shipyards began to specialize in the construction of bulk carriers and container ships. Due to low production costs, government subsidies, and tax breaks, Asian shipyards became strong players in the global shipbuilding market. In the first decade of the 21st century, the leading position of Far East shipyards was among the factors that contributed to European shipyards giving up competition in the cargo ship segment. Asian countries dominated the Asian market. European shipyards (MV Werften, Meyer Werft, Fincantieri, Chantiers de l'Atlantique) focused on building specialist ships. In the wake of the global economic and financial crisis, the demand for merchant ships declined between 2008-2012, resulting in limited production and the liquidation of some Asian shipyards. European shipyards also found themselves in a difficult financial situation due to the falling number of orders for cruise ships and banks' refusal to grant loans for the construction of ships, among other things. In this situation, state financial aid provided as part of the implementation of government programs turned out to be necessary. 2014 saw a slow recovery in the economics of developed countries and an increase in the portfolio of orders for ships.

As concerns the second question, it is worth noting that the rapid development of the COVID-19 pandemic in 2020 proved difficult for the shipbuilding industry and maritime transport, more that the world shipbuilding industry had been in crisis since 2016. The consolidation processes in the shipbuilding sector in Asia were aimed at attracting investors. As a result of the restrictions and limitations introduced to curb the spread of the COVID-19 pandemic, the global economy has slowed down. Consumer demand has decreased significantly, and many supply chains have been broken, disrupting the production capacity of shipyards. Across the entire maritime industry, the cruise sector has been hit the most by the economic crisis related to the COVID-19 pandemic. At the same time, scrapping has increased in this sector. State aid granted to shipyards in Germany, France, and Italy has been necessary for

---

shipyards building cruise ships to survive, although it did not prevent collective redundancies of shipyard workers. At the time of the pandemic crisis, East Asian shipyards, which have been receiving government subsidies for years, are in a better situation than European shipyards, and their share in the global order book for ships did not drop dramatically 2020 compared to the previous year. Despite the difficult situation in the shipbuilding market, in 2020, Chinese shipyards became the world leader in shipbuilding. The source of their success includes:

- the merger of shipbuilding groups in 2019,
- the liquidation of smaller unprofitable shipyards,
- an increase in orders for the construction of ships from domestic shipowners, and the state financial aid provided to shipyards.
- The extension of Chinese shipbuilding to include building low-priced large cruise ships could pose a severe threat to the operations of European shipyards. Asian, and Chinese, shipyards are pretty likely to dominate the global shipbuilding market in the coming years.

### **References:**

- Aegis Europe. 2021. Aegis Europe welcomes the White Paper on an Instrument on Foreign Subsidies and calls for early adoption of ambitious and effective EU measures. Retrieved from: [https://static1.squarespace.com/static/5537b2fbe4b0e49a1e30c01c/t/5eea345ea17bb35337d4e2cc/1592407140145/2020-06-17\\_AEGIS](https://static1.squarespace.com/static/5537b2fbe4b0e49a1e30c01c/t/5eea345ea17bb35337d4e2cc/1592407140145/2020-06-17_AEGIS).
- Center for Strategic International Studies (CSIS). 2020. Hidden Harbours China's State-backed Shipping Industry. Retrieved from: <https://www.csis.org/analysis/hidden-harbors-chinas-state-backed-shipping-industry>.
- China Shipbuilding Industry Report 2021-2025: Depending on COVID-19 Impacts in 2021, the Industry May Not Recover Until 2022. 2021. Retrieved from: <https://www.prnewswire.com/news-releases/china-shipbuilding-industry-report-2021-2025-depending-on-covid-19-impacts-in-2021-th>.
- China: World's Largest Shipbuilder Established. 2019. Retrieved from: <https://www.offshore-energy.biz/china-worlds-largest-shipbuilder-established/>.
- Cruise Shipbuilder Meyer Turku Announces Layoffs. 2020. Retrieved from: <https://www.maritime-executive.com/article/cruise-shipbuilder-meyer-turku-announces-layoffs-due-to-covid-19>.
- Długa historia bojów o europejskie stocznie. 2008. Retrieved from: <https://www.portalmorski.pl/stocznie-statki/10257-dluga-historia-bojow-o-europejskie-stocznie>.
- European Commission (EC). 2017. Study on New Trends in Globalisation in Shipbuilding and Marine Supplies -Consequences for European Industrial and Trade Policy. Retrieved from: <https://op.europa.eu/en/publication-detail/-/publication/bc5fa041-bac0-11e7-a7f8-01aa75ed71a1>.
- Kalouptsidi, M. 2018. Detection and Impact of Industrial Subsidies: The Case of World Shipbuilding. *The Review of Economic Studies*, 85(2), 1111-1158.
- Kamola-Cieślak, M. 2019. Assumptions and implementation of the policy of Polish government in the field of the development of shipbuilding industry in Poland in

- the context of the situation on the shipyard market in the world. *Przegląd Politologiczny*, 1. DOI: 10.14746/pp.2019.24.1.14.
- Landowski, G. Meyer Werft: Żadnych nowych zamówień na wycieczkowce nawet do 2024 roku. 2020. Retrieved from: <https://www.portalmorski.pl/stocznie-statki/45009-meyer-werft-zadnych-nowych-zamowien-na-wycieczkowce-nawet-do-2024-roku>.
- Ministry of Trade, Industry and Energy (MTIE). 2016. Gov't provides five measures to increase competitiveness of shipping industry. Retrieved from: [http://english.motie.go.kr/en/pc/pressreleases/bbs/bbsView.do?bbs\\_cd\\_n=2&bbs\\_seq\\_n=475](http://english.motie.go.kr/en/pc/pressreleases/bbs/bbsView.do?bbs_cd_n=2&bbs_seq_n=475).
- Organisation for Economic Co-operation and Development (OECD). 2008. The shipbuilding industry in China. Retrieved from: <https://www.oecd.org/china/42033311.pdf>.
- Organisation for Economic Co-operation and Development (OECD). 2017. Imbalances in the shipbuilding industry and assessment of policy responses. Retrieved from: [https://www.oecd.org/industry/ind/Imbalances\\_Shipbuilding\\_Industry.pdf](https://www.oecd.org/industry/ind/Imbalances_Shipbuilding_Industry.pdf).
- Organisation for Economic Co-operation and Development (OECD). 2015. Peer review of the Korean shipbuilding industry and related government policies. Retrieved from: [http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=c/wp6\(2014\)10/final&doclanguage=en](http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=c/wp6(2014)10/final&doclanguage=en).
- Organisation for Economic Co-operation and Development (OECD). 2016. Peer Review of the Japanese Shipbuilding Industry. Retrieved from: <https://www.oecd.org/industry/ind/PeerReview-Shipbuilding-Japan.pdf>.
- Ovcina, J. 2020. Shipbuilding orders in 2020 down by 41% YoY. Retrieved from: <https://www.offshore-energy.biz/vv-shipbuilding-orders-in-2020-down-by-41-yoy/>.
- SEA Europe. 2016. The Shipyards' & Maritime Equipment Association of Europe. Shipbuilding Market Monitoring. Report, 40. Retrieved from: <https://maritimetechnology.nl/media/MM-Report-40-FINAL.pdf>.
- SEA Europe. 2019. The Shipyards' & Maritime Equipment Association of Europe. European Shipbuilding Industry Statement. Retrieved from: [https://www.portalmorski.pl/images/European\\_Shipbuilding\\_Industry\\_Statement\\_251119.pdf](https://www.portalmorski.pl/images/European_Shipbuilding_Industry_Statement_251119.pdf).
- Sejm Rzeczypospolitej Polskiej (SRP). 2008. Informacja nt. Sytuacji w morskich stocznjach produkcyjnych Stocznia Szczecińska Nowa Sp. z o.o. i Stocznia Gdynia SA, druk nr 900. Retrieved from: [http://orka.sejm.gov.pl/Druki6ka.nsf/wgdruku/900/\\$file/900.pdf](http://orka.sejm.gov.pl/Druki6ka.nsf/wgdruku/900/$file/900.pdf).
- Smith, A. 2021. MV Werften resumes production of Crystal Endeavor. Retrieved from: <https://www.cruiseandferry.net/articles/mv-werften-resumes-production-of-crystal-endeavor-1>.
- Studioguest: Werner Lundt. 2011. Retrieved from: <https://www.dw.com/en/studioguest-werner-lundt/av-6534235>.
- Tan, S.K. 2017. Race in the shipbuilding industry: Cases of, South Korea, Japan, and China. *International Journal of East Asian Studies*, 6(1), 65-81.
- Tenold, S. 2019. The Declining Role of Western Europe in Shipping and Shipbuilding, 1900-2000. In: Niels P. Peterson Stig Tenold Nicholas J. White. *Shipping and Globalization in the Post-War Era Contexts, Companies, Connections*, Palgrave. Macmillan Cham, 9-36.