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The Asian Giants against EU Shipbuilding and the Covid-19 Factor: How Could the European Shipping Industry Survive?

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Abstract

The dominance of Europe in the shipbuilding market has been declining at a slow yet steady pace in the last forty years while the Asian shipbuilding sector grew massively and emerged as the leading market in the global shipbuilding industry. The Asian competition stemming from China, Japan, and Korea (the Asian Giants) together with the Covid-19 pandemic have been identified as urgent threats to European Union (EU) shipbuilding by numerous scholars and industry actors. The scope of this paper is to identify specific sets of proposals for the EU shipbuilding to be able to battle the challenges from the Asian shipbuilding market as well as the difficulties rising from the Covid-19 pandemic. Firstly, a comparative analysis between the competitors, the three Asian Giants and the EU will be presented to highlight wrongdoings and gather valuable outtakes of each industry. Secondly, we will be looking at how Covid-19 is disrupting the maritime and shipbuilding industries of the EU. Evidence suggests that the nature of European shipyards' work and expertise places them in a highly

vulnerable position amidst Covid-19, as well as, that the Asian Giants are proven to be more resilient against the EU and Europe's Covid-19-affected advantage in quality, expertise, and niche-equipment production.

Keywords: Shipbuilding, Covid-19, Maritime Transport & Services, World Competition, Shipyards

1. Introduction

The shipbuilding industry includes the production of large sea-going vessels that make part of the merchant fleet and are used either for cargo or passenger transport, the offshore energy industry or security and defense. Maintenance, repair, and conversion of vessels is also part of the industry, along with the products and services provided for such developments (European Commission, n. d.; Pounder & Conn, 2018). The importance of imports and exports of goods at a global level has turned shipbuilding into an industry of strategic nature and in the European Union (EU) sea transport accounts for almost 50% of trade in terms of value (Eurostat, 2017).

The main industry actors are split between China, Japan, Korea, the EU, and the rest of the world (BRS Group, 2020). Halfway through the last century, Europeans controlled the global maritime industry and had the lion's share of global shipbuilding (Mickeviciene, 2011). Europe's uncontested advantage in technology, trade dominance, economic development and expertise left no room for foreign competition in shipbuilding. However, in the 1950s, competition arose from the East, first with Japanese shipbuilders, followed by the Koreans twenty years later and finally the Chinese in the 1990s (Tenold, 2019) who are now dominating the market today both in terms of value and size (BRS Group, 2020).

The industries to be examined, the Asian Giants and the EU, have followed opposite directions, with the fall of one signifying the rise of the other (Athanasiou & Koutroulis, 2018). Europe's decline in market share coincided with Asia's path to dominance and the languishing of European shipbuilders left the Asian shipyards with little competition today. One main factor is the dynamic process of globalisation and how Europe ceased being the only worldwide trader as other countries joined capitalism and the free market (Tenold, 2019). With lower production costs and a more competitive environment to attract foreign capital, the Asian Giants gradually led European shipowners away from the European shipyards. Then, the policy-factor in each region which varies significantly alters the presumed balances between the two industries (Athanasiou & Koutroulis, 2018).

The Asian industries combined their opening to the free market with well-funded, state-support schemes to counter their incompetence in various fields while in Europe and particularly in the EU, a free-market approach forbidding states from intervening and funding the shipbuilding industry left shipyards being unable to cope with the new global macro-trends and antagonise the Asian low-wages and costs of production (OECD, 2017).

With the global Covid-19 pandemic affecting every industry on the planet, yet more challenges and unexplored paths lay ahead for comparison and analysis. Knowing that the global maritime industry, irrespective of regional differences, has been devastated by the pandemic (EMSA, 2021; Sea Europe, 2020), the ways in which Europe will be reacting and adjusting over new terms remain to be explored. How can the European shipbuilders overcome the severe damage inflicted by Covid-19? How can the European industry come up with alternatives to the present challenges when competition from Asia has placed it at a vulnerable condition for decades? The scope of this paper is to form a specific set of proposals for European Union (EU) Shipbuilding to be able to battle the challenges from the

Asian shipbuilding market as well as the difficulties rising from the Covid-19 pandemic.

2. Research Methodology

The research was divided into a body of two main parts that leads to a set of policy-proposals. To fully understand the challenges posed to European Union (EU) shipbuilding, a comparative analysis is conducted between the three Asian countries and the EU industries, by breaking down the global market share between the two regions, separating it at value and size-terms, highlighting the quantitative and qualitative differences between them. A policy review of the state-support in China, Japan, and Korea on the one side, and the EU on the other followed to highlight the importance of policies behind the contrasting patterns of the two regions.

After having identified the weaknesses and wrongdoings in the case of EU shipbuilding, empirical data was used to underline the consequences to the industry added by the Covid-19 pandemic. Reports and calls for action by industry leaders and actors have been gathered to underscore the effects of the pandemic for the maritime industry and the EU shipbuilding. The sectoral particularities of the European market surfaced and were found behind the severity of the pandemic for the region. The final part that includes a set of proposals addressing the dual nature of the competition for the EU is based on the outcomes of the previous comparative and empirical analysis. The proposals targeted both the incompetence of European shipbuilders vis-à-vis their Asian counterparts and the pandemic consequences. The drafted proposals represent a new outlook that the EU industry can adopt to succeed at securing its position in the market and surviving the Covid-19 standstill.

3. Market share of EU and the Asian Giants

What is of great interest for our analysis is found on the opposite pathways of the Asian and the European shipbuilding industries, first witnessed in the 1970s. The success of the European shipyards ended with the parallel rise of the Japanese and other Asian industries when the oil crisis hit the industry, in the late 1970s. Just before the crisis, in 1975, European shipyards delivered more than 14 million gross tons (GT) of vessels and in 1985, the figure reduced to 3,6 million GT, with a continuously downward trend (Tenold, 2019). Japan, China, and Korea then began to increase their shipbuilding capacity rapidly, while capacity has been decreasing in European Union (EU) countries ever since (OECD, 2017).

Japan was the first Asian country to claim a big share of the shipbuilding market once sectoral balances started to readjust and globalisation made room for non-Western countries to emerge. The market trends of that crisis-hit era signified a new emphasis on cost-efficiency rather than technological developments. This orientation was due to the instability of the global market and the shortage in capital after the energy crisis stagnated investments and trade. Hence, Asian shipyards were able to develop their industry by adopting the European know-how and applying it to their value chains, demanding significantly less costs and only a small percentage of the European workers' wages for the same amount of work (European Commission, 2009).

Research in data analysis has concluded that the OPEC-initiated oil crisis of the 1970s took

place in an era where technology and expertise were easy to imitate by the Japanese first and the other Asian shipbuilders later. Soon, major European shipbuilders were forced to close their production sites and European shipowners started placing their orders within the Asian shipyards (Athanasiou & Koutroulis, 2018).

Looking at the market share in compensated gross tonnage (CGT) deliveries, a figure that reflects the amount of work every industry is putting through, the three Asian Giants together are dominating 86% of the global shipbuilding market and the EU claims a 6% share. In terms of actual ship numbers built, Asia claims 82,2% of the vessels and Europe 11% (OECD, 2018).

In value terms, according to 2020 data, the global shipbuilding industry's worth is estimated at 126$ billion. The leading industry in terms of total production value is the European, with 48,5$ billion. The Chinese shipbuilders come second with 46.8$ billions of total production value, followed by the Korean industry with 19,5$ billion and the Japanese with a 17$ billion. (Mordor Intelligence, 2020). In contracting terms, the market share sees Europe at 34%, China and Korea with 28% and 25% and Japan with only 6% (OECD, 2018). If the market share will be examined through the lens of the number of ships each region has built, China comes first with 40% of new deliveries, followed by Korea with 31%, Japan third with 22% and the EU comes last with just 2.4% of the newly built ships in 2020 (UNCTAD, 2021). Marine equipment, a subsector of maritime technology, is dominated by the EU at a staggering 50% of the global market in terms of production and 35% of the market in terms of volume (European Commission, 2021).

The contrasting evidence between market share in quantity and quality is due to the European monopoly in cruise ships and its highly advanced technology used in marine equipment. These two sub-sectors of the maritime technology industry championed by European shipyards are of the highest added value (Gourdon & Steidl, 2019). Bulk carriers (designed for cargo transport) are almost exclusive to the Chinese and the Japanese industry, with around 75% and 25% of the world bulk carrier orders placed in their shipyards. The dry bulk industry is associated with China's imports and exports in coal, iron, steel, and grains (Sand, 2020). Japan and Korea continue to contribute large numbers of vessels in Tanker vessels but are falling second to the Chinese shipyards. The Korean shipbuilders are currently dominating the LNG vessel industry (BRS Group, 2020), ships that require higher technology and expertise that comes with higher added value than conventional cargo vessels (Liping, 2010; OECD, 2014).

The figures from the market share outlook confirm the domination of the Asian Giants, but strictly on size matters. When the value of the market share is divided, we saw EU shipbuilders clearly leading the race thanks to their production of higher added value vessels and equipment.

4. National Policies of Asian Giants vs EU

For the policy-review analysis of the Asian Giants and the European Union (EU), state-support is divided in three broad categories to give a detailed yet comprehensive image

of every state scheme before drawing a common pattern. Policies were conventionally divided to include market interference, taxation, and subsidies.

In China, there has been strong market interference from the state to transform the shipbuilding industry to a global player. Interference is traced at the formation of state-owned enterprises (SOEs) and debt-to-equity swap programs introduced various times in the last twenty years. To this day, 45 out of China's 100 biggest shipyards are state-owned and represent 59% of China's total production (OECD, 2017). The debt-to equity scheme has been vital for overcoming the overcapacity tampering the Chinese shipbuilding, especially after the global 2007-08 global financial crisis. By giving debt-ridden shipbuilders the opportunity to acquire bonds of enterprises deemed important by the state, China managed to rescue its shipyards after the storm in order cancellations.

Tax incentives have played a major role not only in supporting the domestic shipbuilding industry but attracting foreign investments for the Chinese shipyards (OECD, 2021). In its "Made in China 2025" initiative introduced in 2015, the Chinese government outlined vat-support in the form of refunds for shipbuilding enterprises that are leaders in the industry and vat-exemption for specific imported marine equipment that makes part of the value chain of the shipyards, to boost the overall profits of the domestic enterprises (CRS, 2021). In 2019, total vat-reductions were estimated at 240$ billion. When it comes to subsidies, they have been credited with being of strategic importance in turning the Chinese industry from infant to global. The Chinese subsidy program of 2006-2013 was estimated at 90$ billion and managed to increase the country's market share by 40%. Subsidies include access to cheap raw materials necessary for shipbuilding or even financing for imports and exports of the shipyards (Barwick et al., 2019).

Korea's shipbuilding industry has been an important part of the country's rapid industrialisation that began in the 1970s and peaked in the 1980s. The country's output tripled from 2000 to 2011 (OECD, 2014). State involvement in the ownership of shipbuilding companies is of a small degree unlike in China's case. However, in front of the 2007-08 crisis that hit one of the world's leading shipyards, Korea's *Daewoo Shipbuilding* company (Hess et al., 2020), the Korean Development Bank (KDB) proceeded to buy the largest share of the company's stocks that led to its eventual survival. Government-related agencies appear as shareholders, although not major-ones, in various other shipbuilding companies too as part of a broad debt-to-equity program, like the one in China (OECD, 2014). Korean shipbuilders have had at points, debt-to-equity ratios reaching up to 400% (Tsutsumi et al., 2010).

Though no official tax-exemption or lower-taxation scheme is in place today, it must be underlined that tax exemptions were of strategic importance during Korea's first steps in shipbuilding, in the late 1970s. Among the country's major shipyards, *Hyundai Shipbuilding* enjoyed significant tax cuts ahead of establishing its shipyards and landing its first contracts with foreign investors (Kee Tan, 2020). Current State subsidies related to shipbuilding are of great importance for Korea's increased Research and Development (R&D) funds, which have more than doubled since 2008 to follow the industry's turn to high added-value vessel production, technology development and sophisticated equipment in recent years. The

government has provided close to 8,2$ billion in support for shipbuilders. Other shipping funds include KDB's subsidies of 1,2$ billion to assist with technology advancements (OECD, 2014).

The Japanese government has a slightly different outlook on the support of the shipbuilders. There is no direct market interference by state actors, but the government's plan consists of strong business incentives in the field of taxation and subsidies. Capital-wise, the support plan rose from 378$ million in 2004 to 16.22$ billion in 2011. State support included subsidies for enterprises investing in R&D ahead of producing energy-efficient and environmentally friendly vessels. Such shipbuilding can be state funded by up to 33%. Companies' R&D investments are entitled to tax-exemption for Japan's shipyards while a well-set scheme of export credits has also been established.

The Japan Bank for International Co-operation (JBIC) provides loans to support exports of Japanese shipbuilders for them to diversify their client portfolio and counter competition. In 2010, 26% of all state-issued export credits were directed toward the shipbuilding industry and were the equivalent of 440$ million (OECD, 2016). Data on the current orderbook highlight that Japanese vessels are destined for a wide range of markets, although domestic buyers are more prominent in this. Around 51% of order completions, including mainly oil tankers and cargo vessels, are destined for foreign industries (OECD, 2018).

In the European Union (EU), member states are forbidden from establishing support schemes and funding their national shipbuilding industries. According to Article 107 of the Treaty on the Functioning of the European Union (TFEU) and Articles 87-88 of the Treaty Establishing the European Community (EC), member states cannot provide aid in any form that distorts or threatens to distort competition (EC Treaty, 2002; TFEU, 2008). These commercial rules were in line with the then-Commission that saw reducing the capacity and restructuring European shipyards as the only way to combat Asian competition (USITC, 1992). Nonetheless, limited contract-related production aid, framed on EU directives 87/167/EEC (1987) and 90/684/EEC (1990) was permitted and led to an upward trend in shipyard productivity. Since 2005, it is no longer in force and that translates to the downward trend in shipbuilding capacity.

EU shipyards have recorded a decrease in their capacity in the era of shipbuilding progress (in 2000s) compared with what happened in the Asian shipbuilding economies (OECD, 2017). These free-market competition rules have led to multiple fines issued by the Commission toward member states and shipyards, for bridging state aid rules. Examples include European Court of Justice's (ECJ) decisions on *Ellinika Nafpigeia AE v European Commission* (ECJ, 2012) and *European Commission v Kingdom of Spain* (ECJ, 2003). Oddly, the Commission acknowledges that its strict rules on subsidies are not enough to prevent market distortions, especially in the global environment under the umbrella of WTO where the Asian policies are allowed (European Commission, 2009).

The European Commission's Directorate-General Maritime Affairs and Fisheries (DG Mare) is responsible for the shipbuilding and repair sector among member states. DG Mare is publishing studies and analyses calling for action on various fields as well as presenting its

two main initiatives, LeaderSHIP 2015, and LeaderSHIP 2020 (DG Mare, 2020). Unlike the Asian industrial policies, the LeaderSHIP agenda only mentions funding opportunities for shipbuilders strictly related to sustainable and green growth opportunities or Research-Development and Innovation (RDI) (LeaderSHIP 2020, 2015). Such funding opportunities are materialized through the "Horizon 2020" innovation project of the Commission, with a total budget of approximately 90$ billion (Horizon 2020, 2014).

After conducting research on the funds that ended for shipbuilding-related projects using open data from the *Community Research and Development Information Service* (*Cordis)*, we identified a total of 50 projects funded by the Horizon 2020 scheme in relation to shipbuilding and maritime equipment, co-funded by 341.5€ million (CORDIS, n.d.). Considering EU's orientation toward renewable energy, efficiency, and green initiatives around shipbuilding (DG Mare, 2012), we consider this sum to be insufficient, compared to the industries of Korea and Japan, that are also oriented toward value-added and modern vessel production (Gourdon et al., 2019).

The rest of the EU policies and initiatives around shipbuilding include an open dialogue between public and private actors to encourage better job opportunities in the sector, greater mobility, and transfer of vocational skills. LeaderSHIP 2020 also calls for European Investment Bank's (EIB) funding opportunities and exploring possibilities to broaden its lending activities, primarily for projects related to green shipping, offshore renewable energy, and retrofitting. The agenda also mentions life-long learning projects, harmonised certificates (or validation of non-certified skills), and mobility facilitation (LeaderSHIP 2020, 2015).

The policy-review for the Asian Giants vs EU case study has confirmed the contribution of well-set state policies behind the success of Asian shipyards. EU legislation has not only left European shipyards with a fragmented capacity and inability to compete against Asia's quantitative advantages but also restricted funding in R&D and sophisticated vessel production that could seal EU's qualitative advantage for the next generations of shipbuilders.

5. The COVID factor: Consequences of the Pandemic for the Shipbuilding Industry

The maritime and shipbuilding industries are export-oriented and highly dependent on global macroeconomic trends, trade volumes and market sentiments (Arias et al., 2020). Shipbuilding has been among the most affected sectors of the Covid-19 pandemic (EMSA, 2021). Shipbuilders across the world are dealing with disruptions in their supply chains, since vessels require a plethora of different marine equipment parts that are unlikely to come from one producer (Gourdon et al., 2019). Lockdowns imposed in different places and travel restrictions are adding to the already long-term process of shipbuilding, where a ship order takes at least two years to fulfil. Global trade shrinkage has led to many vessels being docked and new orders being halted or even cancelled by shipowners who are facing liquidity problems (Sea Europe, 2020; Stuhrmann, 2020).

Yet again, European shipbuilding is hit harder by the pandemic than its competitors, due to its characteristics. The orders in European Union (EU) shipyards have experienced a 64% decline in CGT between 2019 and 2020 and a 48%(!) decline in their deliveries, which tells a

lot about the current productivity climate. Many of them haven't had any workload or new orders for the last two years. Those that continue to operate, must do so at a reduced volume (EMSA, 2021; Kamola-Cieslik, 2021). The financial uncertainty is hiding a heavier wave of order cancellation that will appear soon at products with increased added value, such as the ones EU shipyards are producing.

These markets are heavily suffering from the financial consequences of travel restrictions and health issues onboard such ships. They also require an extensive network of value chains (Arias et al, 2020). Production of and demand for cruise ships, research vessels and related maritime equipment will not restore before shipowners will be confident about better market conditions and passengers about better financial and sanitary circumstances. Cruise-ships around the world have been put on hold with tourists opting for different travel and vacation options. The overall cruise tourism sector has dropped by 97% (EU Blue Economy, 2021).

EU shipyards that are responsible for almost the entire global cruise ship orderbook and repairs, have come to a standstill. The offshore energy sector is also heavily suffering from the ongoing energy crisis (IUMI, 2021; Sea Europe 2020). There is a high energy market fluctuation ranging from sky-high prices in gas to rock-bottom prices in oil due to the continuous fear of upcoming lockdowns and halting of transport. The effects of Covid-19 on the maritime equipment will take longer to unfold due to the nature of the supply chains. By 2022, the lack of new orders will lead to an overcapacity in the maritime equipment. Sea Europe, the Association representing European shipbuilders is estimating 1 million jobs lost if the Covid-19 uncertainty continues without the EU taking drastic measures (Sea Europe, 2020).

6. Suggestions & Proposals

The results of our analysis are eye-opening. While European Union (EU) Shipyards had managed to overcome the saturation created by the global overcapacity in the bulk and tanker market through investments on niche and complicated vessel production, the Covid-19 pandemic arrived to question the viability of the European industry (Kamola-Cieslik, 2021). Now, EU institutions must put into action tailor-made policies that could help the sector overcome both the Asian Giants and the pandemic.

The following proposals have been identified for the EU shipbuilding industry to survive:

- Incentives for European shipowners to begin placing orders at domestic shipyards are needed. The quantitative advantage of Asia is undeniable but noting the large EU-controlled fleet (39% of the world fleet in GT and a value of 320$ billion according to EU's *Blue Economy Report*) even a fraction of it being sent for repair in Europe would mean capital influx for the industry. Such a pattern is found in the new strategy for ship recycling, regulation 1257/2013 (2018) that demands all EU-flagged fleet to be sent for recycling in member-state shipyards. Similar strategies of insourcing shipowners' capital have been successfully applied in the case of China and Japan (OECD, 2016). 99% of the Chinese orders are fulfilled domestically, 91% of the Korean and 70% of the Japanese. Only 5% of the European orders are destined for European shipyards (Sea Europe, 2021).

- The supply chains of the EU shipbuilders are in urgent need of regionalisation. As the pandemic showcased, European shipyards are left hanging amid the complex-vessel assembly because of delays in the imported equipment. The extremely worrying reduced productivity of shipyards during the pandemic underlined the importance of a highly autonomous, if not, completely, domestic production.

- Knowledge-transfer and cooperation with Europe's always-strong naval industry is vital. The EU Defence forces have been the backbone of the European industry, responsible for most non-passenger ship orders of European shipyards. This favourable cross-fertilization between civil and military technologies (dual-use technologies), both at the prime contractors and at the supply chain levels, would lead to cost-effective designs and solutions, as the study of the European Defense Agency (EDA) highlighted. EU naval industries are also present in international markets such as the Middle East, Africa, Asia, and Latin America which all considerable budgets to defense and often have no substantial indigenous naval industry. Export markets nowadays account for 42% of the European naval orderbook value (EDA, 2016).

- Promotion of intersectoral cooperation and consortia. EU-sponsored vocational programs such as "*Codekilo*" (2019) and other funded through the *"Pact for Skills*" (European Commission, 2020), present evidence of the immense capacity of a united EU shipbuilding sector, ranging from the *Fincantieri* in Italy to *Chantiers de l' Atlanrique* shipyards in France. The funding of such programs is found to be at a minimum level compared to the Asian competitors.

- EU lobbying at international organizations such as the IMO and the WTO needs to be reinforced. Since the *Certain Measures Concerning Taxation and Charges* (2003) case of the then-European Communities v Korea, Asian countries have been meticulously flagging their shipbuilding support policies as non-subsidy measures, enabling their shipbuilders to dominate the global market with-sometimes-unfair competition. Progress in attempts to negotiate an international shipbuilding agreement under the OECD (addressing subsidies and dumping prices) was halted in 2005 (Mickeviciene, 2010). Trade defense instruments are also absent in the EU despite the Commission's positive assumptions more than thirty years ago (European Commission, 1988).

- Need for an EU-wide, tailor-made, and common policy. Funds have been released through RDI aid provisions (LeaderSHIP 2020, 2015; Horizon 2020, 2014) however, if there is no universal, EU-wide structural policy regarding shipbuilding with a predetermined budget, funding will be limited to vocational projects for certain shipyards. The relative importance of the shipbuilding sector to each member state is surely a major factor behind the lack of integration in the field (European Commission, 2009) however, a brief look at the existing EU common policies showcases other industries with different importance on national accounts too.

- Revision of the EU commercial policy prohibiting state support. The stagnation of most European shipyards is calling for urgent subsidies or other forms of state support, such as

special taxation, joint public-private ventures, or other means of market stimulation (Sea Europe, 2019, 2020), which is forbidden according to EU treaties.

- Unified action at the European level, coordinating union action in the sector in Europe through the establishment of a European Maritime Co-Ordinator (Sea Europe, 2019) and the reestablishment of European Maritime Industries Forum (MIF) that brought together all the maritime stakeholders, from shipowners to research specialists and shipbuilders, from 1992 to 2010 (CORDIS, n.d.)

7. Conclusions

The European Union (EU) Shipbuilding is in danger of losing its qualitative advantage to Asia due to the arrival of the Covid-19 pandemic. An industry that has been gradually losing its global market share opting for advanced maritime technology is sitting in front of unprecedented stagnation.

The comparison with the Asian Giants indicated that the EU has not only failed to counter overseas competition but refused to support the domestic industry, making small space for innovation and expertise that would be what European shipyards are hanging from today. On the opposite, Korean and Japanese shipyards, despite also faced with the global hegemony of China, managed to minimize their losses thanks to state-support (Daniel et al., 2021; Parc & Normand, 2016).

The Japanese and Korean shipbuilding industries are found to be at their post-grown and post-maturity level, dealing with a technology-intensive modernization process, the Chinese at an-acceleration of growth-level while European shipbuilders are captivated in their -lost leadership- business cycle since the middle of the last century (Mickeviciene, 2010). The value share of the global market sees EU still holding a considerable portion, but the declining pattern is obvious. If Asian shipowners will continue to advance their wealth maintaining their preference for their domestic shipyards, the value held in European hands will be declining.

The Covid-19 stands as the ultimate chance for the EU to reconsider the importance of the shipbuilding industry, making future scenarios dystopic if no action is taken. The catastrophic results of the pandemic could work as the ringing bell for stakeholders and decision makers in the EU. The pressure from the current standstill will be accelerating in the following months. Horizontal policies that would help the shipyards continue their function during the pandemic must be accompanied by further industrial and support policies that the industry has been lacking for the last 30 years. The creation of a more autonomous sector with regionalised value chains and more independence toward global market trends could in the long-term lead to Europe’s securing of the value share.

With a clear orientation toward renewable energies, a green and environmentally friendly industry, the EU will be paving the way that eventually all shipbuilders in the world have to follow. The question, however, is, whether European orderbooks would still be in place.

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