Chinese shipbuilders have a clear lead in the race to land more newbuilding contracts Source: Shutterstock

Asian builders extend their lead as new contracting spree speeds up

OVERVIEW As new ship orders gather pace after the worst ravages of the pandemic, China's lead in global shipbuilding becomes even more evident. But South Korean and Japanese builders are also contributing to Asian dominance in the newbuild sector, writes freelance journalist Paul Bartlett.

By the end of 2021, Asian shipbuilders held more than 92% of ships on order, with European yards almost entirely focused on a small number of specialised vessels of different types. Even more telling, perhaps, is that 'the big three' – China, South Korea, and Japan – hold between them more than 90% of contracts, according to statistics from Clarkson Research.

China is steadily extending its lead over South Korea, in second place, with Japanese yards trailing in a distant third. According to end-2021 figures from the research firm, Chinese shipbuilders held just over 44% of global contracts (70.6 million compensated gross tons), South Korean yards almost 34% (53.8 million cgt) and Japanese builders 12% (19.1 million cgt).

There is no let-up in China's increasing dominance, with shipyard strategies designed to progress into the most sophisticated vessel construction sectors. The first large cruise ship to be built in China, for example, is a 135,500-gt vessel ordered by British-American cruise line Carnival Corporation, for operation in the nascent Chinese market.

Cruise building specialist, Fincantieri, is a consultant on the project, and structural work on the Lloyd's Register-classed ship has now been completed. Outfitting is in progress ahead of a planned completion date in 2023 (for more information see pages 14-15).

Covid repercussions

The country's move into cruise is significant in more than one way. First, cruise ship construction has traditionally been the preserve of specialist builders in Europe, with large yards in France, Germany, and Italy focused on the high-end sector. Second, the Chinese advance comes at a time when the cruise sector is struggling to handle the impact of Covid-19, the disposal of many older assets, and the laying up of newer ones.

Although many idle vessels have been recommissioned, planned itineraries are suffering severe disruption as the omicron variant continues to impact passengers and crews. Cruise lines, meanwhile, are offering astonishing discounts to persuade their customers to book again.

The sector's financial woes have, of course, come with some casualties. One of these is Genting Hong Kong, owner of MV Werften with three shipyards in Germany. The German subsidiary

is now in administration but the future of the three construction facilities remains uncertain. Their demise would make a serious dent in Europe's cruise building capacity.

Smart strategy

In another significant development, China is extending its capacity in one of the most sophisticated commercial ship sectors – LNG carriers. Fleet renewal and expansion in recent years has been handled mostly by South Korea's major yards – Daewoo, Hyundai and Samsung – although China's Hudong Zhonghua has built a healthy order book recently, buoyed by a 20-ship contract from Qatar Petroleum in 2020.

Now, though, two more Chinese yards are muscling in on the specialised sector. Dalian Shipbuilding and Jiangnan Shipbuilding have both entered the field recently. In December, China Merchants Energy Shipping announced plans to build two 175,000m^3 LNG carriers at Dalian.

Meanwhile, Jiangnan recently signed a letter of intent with CSSC (Hong Kong) Shipping, the corporation's financial leasing arm, for two 'large' LNG carriers of unknown size so far. The shipbuilder has, until now, focused on mid-sized vessels.

It held a steel-cutting ceremony late in December for a 79,800m^3 ship for Chinese energy firm, Jovo. According to reports, the carrier will have a GTT Mark III Flex containment system, the first time this technology has been used in China.

The Jovo contract follows a two-ship deal for 80,000m^3 LNG carriers at Jiangnan signed in 2018 by the energy firm. The ships were intended to ship LNG from Malaysia to Indonesia and are thought to have been delivered last year.

China's expansion into LNG construction could prove to be a smart move for two reasons. One, even the six specialist companies building LNG carriers today lack the capacity to construct all the vessels required if sector expansion continues as envisaged between now and 2030.

Two, a large number of existing LNG carriers are unlikely to meet IMO carbon intensity indicator (CII) targets following their entry into force next January. According to Lloyd's Register's Global Gas Segment Manager, Panos Mitrou, as many as 400 existing ships are likely to fall into CII categories D and E.

Some of them will be modified or upgraded; others may prove too old. Either way, this will boost replacement demand during the second half of this decade.

Decarbonisation drive

As shipping's carbon profile climbs the agenda of ship designers and builders, sustainability and environmental performance are now hot topics at every level. Shipbuilding firms in all three Asian nations know that shipowners need a degree of assurance that ships ordered today will not become 'stranded' by technology advances in future.

Providing shipowners with this confidence will be essential to underpin the future of Asian builders. No surprise, then, that there are countless initiatives and fierce competition.

In Japan, three leading engine manufacturers have established a new company to pursue the joint development of marine engines fuelled by hydrogen. HyEng Corporation, set up by Kawasaki Heavy Industries, Yanmar Power Technology and Japan Engine Corporation, aims to launch hydrogen-fuelled engines by 2025.

Meanwhile, NYK Line has embarked on a project to develop ammonia-ready LNG-fuelled vessels with Finland's Elomatic, an engineering firm. The aim is to have the technology ready for such ships to be built across a range of sectors by the middle of the decade.

Imabari Shipbuilding is also focusing on ammonia, with a project to have a 200,000dwt-plus bulk carrier design powered by the fuel available from 2026. The shipbuilder's Nihon Shipyard will develop the design and the bulker will be built at Imabari's Saijo shipyard.

Power of the wind

New marine fuels are, of course, an essential component of decarbonisation. But there are also technologies available today – suitable both for new ships and retrofits – that have significant potential to raise efficiency. Wind energy is one of these, and partners in a project due for completion this year are focusing on wind-assisted propulsion for a Newcastlemax bulk carrier of 207,000dwt. ›

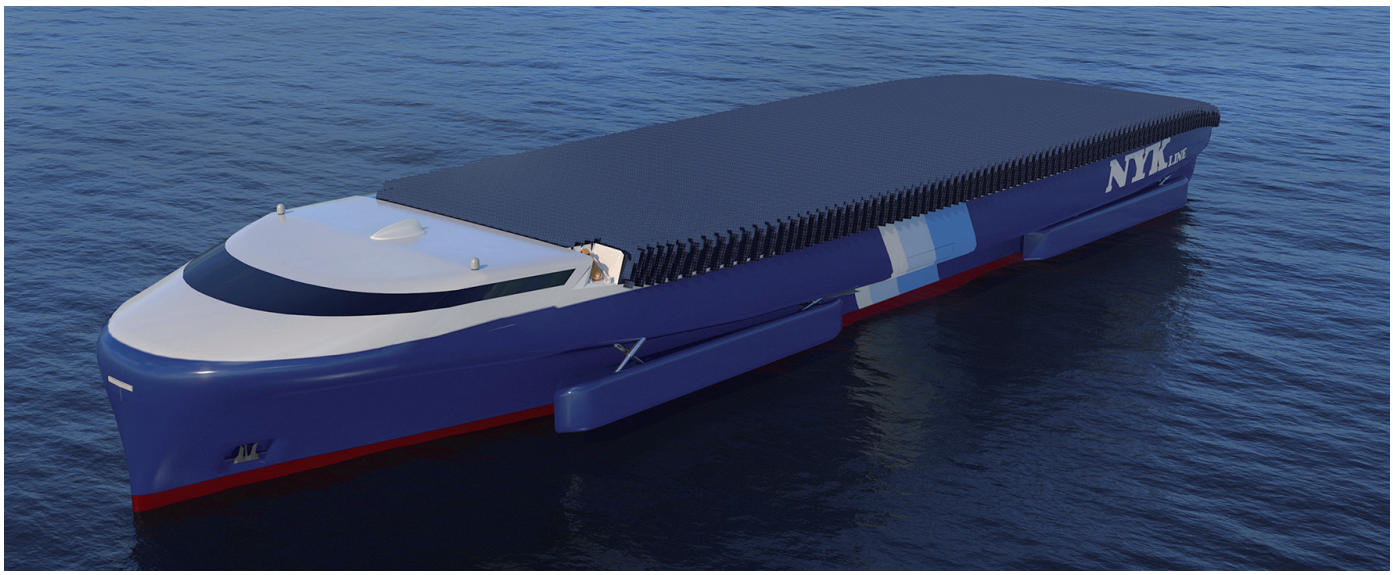

Illustration of the ammonia-ready vessel design for NYK Line

Source: Elomatic

The next-generation vessels for container giant Maersk will be built in South Korea Source: Maersk

The Shanghai Merchant Ship Design Research Institute (SDARI), Oldendorff Carriers, Anemoi Marine Technologies and Lloyd's Register are working together on an initiative to harness wind energy through rotor sails, which can be lowered to meet air draught restrictions or during cargo operations. If the outcome of the joint development project proves successful, the Anemoi sails will be installed on an Oldendorff bulker in advance, potentially, of wider adoption.

South Korea, meanwhile, has set out its hand, with none other than President Moon Jae-in proclaiming in mid-2021: "We will strengthen the power of our shipbuilding industry and make it the overwhelming number one in the world that no-one can match."

The Ministry of Trade, Industry and Energy has set a target for the country's shipbuilders to win a 75% market share for sustainable ships with lower- or zero-carbon emissions by 2030, up from an estimated two-thirds today. It is also aiming for a 50% share of the fledgling autonomous ship market by the end of the decade.

South Korean builders already hold the lion's share of contracts for vessels designed to use alternative fuels. Hyundai Heavy Industries scooped a highly-sought-after deal last year when it booked Maersk's order for eight 16,000-TEU container ships designed with dual-fuel methanol propulsion.

Paint jobs down as owners chase high freights

DRYDOCKINGS | Buoyant freight markets and Covid-linked travel restrictions have combined to slash ship repair capacity in Southeast Asian yards by more than 25% compared with pre-pandemic levels, a leading marine coatings company has declared. According to Nippon Paint Marine, only 296 ships docked in Singapore yards for coatings work in 2020 and 316 in 2021, compared with 516 in 2019. A similar pattern was evident at other yards across the region.

Bill Phua, managing director of Nippon Paint Marine (Singapore) has recently completed a tour of repair yards in Indonesia, Vietnam, Singapore and the Middle East. He has warned of continuing capacity restrictions.

"We expect the number of vessels drydocking in the Asia Pacific region for a new coating to be 680 to 800," he said, "slightly up on the previous two years but still only 60 to 70% of the number of vessels that docked in 2019."

Phua noted that strict virus safety measures and travel restrictions to tackle the omicron variant are holding back labour resources while shipowners postpone scheduled drydockings to make the most of buoyant freight markets.

"It does create planning problems," Phua continued, "especially at Chinese repair yards where there are very strict quarantine protocols in place. Drydockings are taking considerably longer. We are seeing ships diverted to Vietnam, Dubai," he said.

The yard supply squeeze comes at an inopportune time. Many ship operators are thought to be considering significant investment in hull coatings as efficiency tops the agenda in advance of new IMO regulations on carbon efficiency.

Phua said that COP26's Clydebank Declaration and the drive to create "green shipping lanes" would result in a greater focus on hull coating technologies, given the adverse impact of biofouling, algae and barnacles on fuel consumption. This can have an even greater impact on ships waiting at anchor or slow-steaming in the face of port congestion.

"An idling ship is more attractive to marine life," Phua noted, "so an antifouling that minimises this risk offers the operator a real and measurable commercial advantage. Investing in greener coatings such as our new Fastar® XI can improve fuel efficiency by up to 8%."

The coating has a lower dry film thickness and fast drying time. Depending on the ambient temperature, this could be 37% faster for a large container ship, thus helping operators to minimise time out of service.

Singapore Docking Record - No. of vessels & DWT (2017 - 2021)

Year	Total No. of DD Vessels	Total DWT
2017	597	33,643,060
2018	531	27,412,768
2019	516	28,262,222
2020	296	17,396,671
2021	312	19,029,453

Singapore's docking record reflects a pattern across Southeast Asia where repairs have fallen by more than 25% Source: Nippon Paint Marine