

Analysis of China's Cruise Ship Repair Industry Development Status Quo

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1. INTRODUCTION

1.1 Construction of domestic large cruise ships

1.1.1 Planning stage of domestically produced large cruise ships

In September 2013, CSG officially launched the cruise ship localization design and construction project. In October 2014, Carnival Group and CSG signed a memorandum of understanding (MOU), planning to set up a joint venture company to build luxury cruise ships in China. In November 2014, CSG signed a strategic MOU with Fincantini Group, initiating the negotiation on setting up a joint venture for a cruise shipbuilding turnkey company in China. In December 2014, CSG and Lloyd's Register signed a Memorandum of Cooperation. In August 2015, CSG and CIC signed a cruise investment agreement. In October 2015, Baoshan District, together with CSG, CIC, Carnival Group, Fincantini, and Lloyd's Register issued a six-party joint declaration on cooperation in the cruise industry. In October 2015, witnessed by the heads of state of the UK and China, CSG, CIC and Carnival Group signed a joint declaration on cooperation in the cruise industry. In October 2015, CSG, CIC and Carnival Group signed a joint declaration on cooperation in the cruise industry. In December 2015, Shanghai Waigaoqiao Shipbuilding Co., Ltd. prepared for the establishment of the cruise ship project department and started the shipyard assessment and technical transformation. In April 2016, Shanghai Waigaoqiao Shipbuilding Co., Ltd. proposed to invest in the establishment of China Shipbuilding Cruise Industry Development Co. In July 2016, CSBC Cruise Technology signed a cruise shipbuilding joint venture agreement with Fincantini Group. In September 2016, CSBC, CIC and Carnival and Fincantini signed a letter of intent for the construction of 133,500 gross tons of large-scale luxury cruise ships. In December 2016, CSBC took the lead in setting up China's first cruise industry fund, which was led by CSBC, with the participation of Shanghai Wusongkou Cruise Port Co. In February 2017, CSG and Carnival and Fincantini signed a Memorandum of Agreement (MOA) for the construction of China's first domestically-built large cruise ship, confirming the cruise ship construction plan and the delivery of the first domestically-built cruise ship in 2023.

1.1.2 Progress in implementing the construction of domestically produced large cruise ships

In August 2018, Shanghai Waigaoqiao Shipbuilding Co. signed a general contract for cruise ship assembly and construction master planning project management with China Ship Nine Academy. In November 2018, China Shipbuilding Group formally signed a contract for the construction of 2+4 135,000 gross tons Vista-class large cruise ships with Carnival Group and Fincantini Group, marking the official construction of China's first large-scale cruise ship design, construction, and related supporting industry clusters Launched. In October 2019, the first domestic large cruise ship officially started ignition steel plate cutting and entered the substantive construction stage. The first large cruise ship is jointly designed and built by CSBC Cruise Technology Development Co. and Shanghai Waigaoqiao Shipbuilding Co. The ship owner is CSBC Carnival Cruise Co. and it is designed by CSBC Fincantini Cruise Industry Development Co. The tonnage is 135,500 gross tons, with a length of 323.6 meters, a breadth of 37.2 meters, a maximum draught of 8.5 meters, a maximum speed of 22.6 nautical miles per hour, and it is equipped with 2,125 The maximum speed is 22.6 knots. 2,125 staterooms are available, of which 47.7% are balcony rooms, with a maximum capacity of 5,260 passengers. The ship is equipped with 2 sets of 16.8MW, 3 sets of 9.6MW main diesel generators and 2 sets of 16.8MW pod thrusters. Classified by China Classification Society (CCS) and Lloyd's Register (LR), the ship adopts the German AIDA brand and is scheduled to be delivered on September 30, 2023, with the second domestic large cruise ship initially scheduled to be delivered in December 2024.

On December 22, 2020, at the 2020 Shanghai Intelligent Manufacturing Promotion Conference, Shanghai Waigaoqiao Shipbuilding Co., Ltd. won the title of the first batch of "Shanghai Intelligent Factories" for its intelligent thin plate production workshop supporting the construction of domestic large cruise ships, and became the only enterprise in Shanghai's shipbuilding industry to be selected. January 18, 2021 On January 18, 2021, H1508, the first large super-wide section N2 of the first large cruise ship, was successfully shifted and loaded, marking a major breakthrough in the construction of the large super-wide section of H1508, and laying a foundation for the continuous loading of the subsequent large super-wide sections.

1.2 China's polar expedition cruise ship construction

1.2.1 Orders for Polar Expedition Cruises in China

China Merchants Cruise Manufacturing Co., Ltd. is the first company in the world named after cruise ship manufacturing, and is committed to becoming a global first-class cruise ship manufacturer and service provider, constructing river cruise ships, polar expedition cruise ships, medium-sized cruise ships, small cruise ships and super-large cruise ships in phases and at different levels. The main customer group of polar expedition cruise ship is polar expedition enthusiasts, with strong polar ice resistance, perfect tourism facilities function. On April 27, 2017, China Merchants Industry Group and the U.S. shipowner Sunstone formally signed a contract for the construction of 4+6 polar expedition cruise ships, and China Merchants Industry formally entered into the field of cruise ship construction. At present, China Merchants Haimen Base promotes the construction of domestic polar expedition cruise ships and cruise ships in the Greater Bay Area, and undertakes the first domestic medium-sized cruise ship order, holds nearly 10 cruise ship orders, and the number of orders for the same type of cruise ships ranks among the world's top.

1.2.2 Construction of Polar Expedition Cruise Ships in China

The Polar Expedition Cruise is an important project for China Merchants Group to transform into a luxury cruise ship builder and carry out industrial upgrading. On September 6, 2019, the first Polar Expedition Cruise Ship manufactured in China was officially delivered, creating a precedent for "Cruise Ships Made in China", named "Greg Mortimer", which was chartered by the owner, Sunstone Cruises, to Polar Expeditions Australia, and naturalized in the Bahamas. Naturalized in the Bahamas. The cruise ship started construction on March 16, 2018, with a length of 104.4 meters, a width of 18.4 meters, a draft of 5.1 meters, a gross tonnage of 0.8035 million tons, a speed of more than 15.5 knots, a maximum speed of 16.3 knots, 135 cabins, and a passenger capacity of 254. In August 2020, the China Merchants Industry Haimen Polar Expedition Cruise No. 4 "Ocean Adventure" was successfully launched. Expedition" was successfully launched.

2. CONSTRUCTION OF SUPPORTING SYSTEM FOR CRUISE SHIP CONSTRUCTION IN CHINA

2.1 Supporting construction of domestic large cruise ships

In October 2016, as the first cruise ship industrial park in China, Shanghai CSIC Cruise Ship International Industrial Park (CSICIP) was established as a park within a park in Baoshan Industrial Park, with a total planning area of 2 square kilometers in the first phase, which provides a strong support for perfecting the supporting system of the cruise ship industry. In March 2017, CSIC JI AI Cruise Ship Science and Technology Development (Shanghai) Co. In June 2017, Baoshan District Government, CSSC Group and Fincantini Group signed a tripartite strategic cooperation letter of intent to jointly promote the construction of Chinese domestic cruise ships, promote the construction of Shanghai CSIC Cruise Park, and further improve the supporting industry system of cruise ships. In April 2019, Baoshan District cooperated with Italy Fincantini Group and China Shipbuilding Group to organize "Cruise Supplier Day - Cruise Ship Construction Forum" in Italy, attracting the participation of representatives from 123 core suppliers of Fincantini Group. In September 2019, China Ship Cruise Technology Development Co. industry base project, to create an influential cruise headquarters base.

Gao Dong Town, Pudong New Area, Shanghai, has set up a cruise industry project office to coordinate and promote the development of the cruise industry as well as the landing of related industrial projects. Gao Dong Industrial Park is constructed with an area of about 500,000 square meters of supporting facilities and properties, providing commercial supporting services such as office, personnel training, catering, entertainment, recreation and accommodation for the cruise industry in Pudong. CSBC Waigaoqiao Cruise Supply Chain (Shanghai) Co., Ltd. was established on May 9, 2020, as a joint venture between CSBC Cruise Science & Technology Co., Ltd. and Shanghai Waigaoqiao Group Co., Ltd. to co-ordinate domestic and international resources to build a supply chain system for the cruise industry, to gather high-quality global interior industry projects, and to provide related enterprises with supply chain derivatives services, such as logistics, authentication, training, life insurance, financing, factoring, leasing, and so on. The cruise ship interior manufacturing platform base project built by CSBC Waigaoqiao Cruise Supply Chain (Shanghai) Co., Ltd. has landed in Waigaoqiao to create a platform for the interior industry to gather.

2.2 Polar Expedition Cruise Ship Construction Supporting Construction

In October 2018, China Merchants signed three project agreements with Haimen, Jiangsu Province, on cruise ship manufacturing base, cruise ship supporting industrial park, and international cruise city cooperation. The total investment of China Merchants International Cruise Supporting Industrial Park is 5 billion yuan, covering an area of 2,000 acres, with a total construction area of 750,000 square meters, and the construction of four service platforms, including a national material and technology test and inspection center, a cruise ship research and development service platform, a bonded warehouse for the cruise ship supporting industry, and a display center for the cruise ship industry, to introduce glass products, furniture products, modular cabin units, air-conditioning equipment, propulsion equipment, aluminum products, Kitchen equipment, entertainment equipment, electrical control equipment and other cruise ship supporting enterprises. The 2# shipyard of China Merchants Industry Haimen Base will be constructed as the first indoor dry dock in the country and a world-class one. With the full-process thin-sheet segment processing workshop, together with the industry-leading thin-sheet laser welding assembly line and other

intelligent manufacturing equipments, the shipyard will have the capacity to produce one 100,000-gross-ton large-scale cruise liner annually after its completion, taking into account the production capacity of two polar expedition cruise liners.

3. DEVELOPMENT OF THE CRUISE SHIP REFURBISHMENT MARKET IN CHINA

3.1 The situation of cruise ship refurbishment enterprises in China

Ltd. started to carry out cruise ship repair and modification business earlier and has rich experience in ship repair and modification. 98% of its business comes from foreign shipping companies, and the number of ships repaired each year is about 300, with rich technical reserve. Zhoushan COSCO Shipping Heavy Industry has rich experience in controlling the safety risk of cruise ship docking, upgrading cruise ship cabin facilities, and refurbishing the paint of cruise ship exterior panels, etc., and has a specialized management team, which has made professional adjustments based on the cruise ship business from the production management to the matching of equipments and facilities. In November 2017, COSCO JI AI Cruise Ship Science and Technology Development (Shanghai) Company Limited organized a cruise ship repair and modification business with Tianhai Cruise. "In November 2017, CSIC Chiai Cruise Technology Development (Shanghai) Co., Ltd. and Skysea Cruises held a signing ceremony for the turnkey refurbishment project for the New Century, and in September 2019, the New Century was sold and refurbished at COSCO Shipyard in Zhoushan, Zhejiang Province. CSIC Cruise Technology Development (Shanghai) Co., Ltd. focuses on the interior decoration business of cruise ships and high-tech ships, and builds the R&D center of cruise ship interior decoration engineering and technology, the incubation platform of local supply chain of cruise ships, and the training base of cruise ship interior decoration engineering management and construction personnel. Rongmei Cruise Technology Development (Shanghai) Co., Ltd. was established with Germany's R&M Group to enhance the comprehensive technical capabilities of cruise ship interior design, construction and supply chain management.

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3.2 Promotion of cruise ship refurbishment in China

On April 3, 2020, the Star Cruises ocean liner "Gulangyu" went to Zhoushan Port for maintenance, and completed the full docking renovation on April 24, after the renovation of the duty-free store across the 6-7 decks, the area from the original 250 square meters to 650 square meters of expansion, the gym paved with special shock-absorbing flooring, a reasonable layout of the training room, upgrading of theater sound and stage equipment to enhance the interpretation effect, using sports advanced mats, upgrading the runway on the 13th floor so that tourists can enjoy the morning exercise experience; comprehensively updating and reconstructing the balcony floor of the balcony room on the 10th floor; and sanding and painting and upgrading the bar, chairs, handrails, etc., of the 12-floor Splash Bar. In addition, the ship has specially added exclusive privileges for suite guests, such as priority boarding and disembarkation, VIP personal shopper, exclusive butler, free WiFi, and independent and private dining area. "The Blue Dream Star arrived at COSCO Shipping Heavy Industry in Zhoushan on June 1, 2020 for renovation and upgrading, which is the seventh luxury cruise ship repair project undertaken by COSCO Shipping Heavy Industry in Zhoushan, mainly involving overhaul and maintenance of the main engine and auxiliary engines, painting of the whole ship, and upgrading of the public areas, etc. The project is expected to be completed in the near future.

4. THE PATH TO PROMOTE THE HIGH-QUALITY DEVELOPMENT OF CHINA'S CRUISE SHIP REPAIR INDUSTRY

4.1 Increased focus on cruise ship repair

Cruise ships and offshore equipment manufacturing is highly systematic, integrated "giant systems engineering", is the national industry, science and technology level of the comprehensive strength of the concentration of the embodiment, especially cruise ship manufacturing is known as "the most dazzling pearl in the crown of shipbuilding". At present, China's large cruise ship design and construction technology is in the ice-breaking stage, with the large cruise ship construction process of technical challenges continue to be overcome, it is expected that in the next 10-15 years China's large cruise ship construction technology and the market will enter a fast track of development. Made in China 2025" will be marine equipment and high-tech ships as one of the ten key areas of development, clearly put forward to breakthroughs in the design and construction of luxury cruise ships technology, master the key supporting equipment integration, intelligent, modular design and manufacturing of core technologies. The Ministry of Industry and Information Technology issued the "views on the implementation of the development of tourism equipment manufacturing industry" clearly pointed out that, after 5-10 years of development, the basic mastery of large and medium-sized cruise ship design, construction, repair technology, and cultivate the formation of large-scale cruise ship assembly manufacturing enterprises and a number of specialized cruise ship supporting and interior companies, and gradually open up the international market for the construction of mainstream cruise ships. Global cruise ship development has been monopolized by a very few foreign shipyards for a long time, the current global shipbuilding industry has entered into a period of deep adjustment, and China wants to move forward from a major shipbuilding country to a shipbuilding power, and the development of cruise ships is an essential area to break the monopoly of foreign countries and realize the value chain of the marine shipbuilding industry. Increase investment in the construction of domestic cruise ships, promote and implement the independent design and construction projects of large luxury cruise ships, and realize the breakthrough and development of national shipbuilding.

4.2 Cultivate localized cruise ship repair talents

The design and construction of large cruise ships is a highly systematic, integrated "giant systems engineering", its design, manufacturing has a special nature, is the national industry, science and technology level, management level and other comprehensive strength of the concentration of the embodiment. The design and manufacture of complex structural units within the cruise ship requires first-class construction techniques, details of the accumulation and cultural accumulation. China as the world's leading shipbuilding country, has a wealth of experience in large-scale ship construction and power system construction technology, but in the cruise ship power technology level, China's shipyards and international shipyards compared to the gap is still large. At this stage, China has no experience in building large cruise ships, and lacks the technology of designing and manufacturing cruise ship power units as well as the core technology team for designing and manufacturing. At the present stage of independent cruise ship design and construction, China should learn from the lessons of Japan's cruise ship manufacturing, fully recognize the problems and challenges faced in the process of cruise ship manufacturing, and make full preparation and verification work to ensure the success of China's first large-scale luxury cruise ship. Although China has explored the core competitive points and design capability of cruise ship construction, whole ship construction, interior and cabin construction, project management, etc., the whole is still in the groping stage, and it has not fully mastered the common and key technologies in the design and manufacture of luxury cruise ships. In addition, there is also a lack of efficient, environmentally friendly power plant and highly sophisticated welding equipment and other technologies, and there is an urgent need to enrich the technical and management personnel to form a team of various types to master the core technologies of design and manufacturing.

4.3 Enhance the rate of local support for cruise ship repair and construction

Cruise ship construction is a huge systematic project, which needs a complete supply chain supporting system as a support, which is not only the need to reduce shipbuilding cost and improve shipbuilding efficiency, but also the need to guarantee the manufacturing progress and schedule. Cruise ship construction process requires a large number of materials and systems are completed by the supplier, under normal circumstances the construction of a 100,000 tons of luxury cruise ships need parts generally about 20 million pieces, including skeleton construction system, power transmission system, safety and fire prevention systems, pipeline laying system, power systems and on-board recreational facilities and equipment, etc., involving the core of the key suppliers there are hundreds, all the suppliers are thousands. There are hundreds of core key suppliers and thousands of suppliers. However, the domestic supply chain supporting system in the field of cruise ship construction has not yet been established, and there is a lack of stable and reliable suppliers, which leads to uncontrollable risks in terms of schedule, finance and quality. Contrast with the high localization rate in Europe, China's local cruise ship construction supply chain system has not yet formed, can not well support the localization of China's luxury cruise ship construction, cruise ship construction of many parts and components need to be imported from abroad. To this end, we should speed up the establishment of a two-way interactive platform for international procurement and domestic supply of cruise ships, and promote more Chinese enterprises to enter the procurement system of international cruise companies and learn from their relevant experience. At the same time, we should also control the logistics costs in the procurement and production process, train local cruise ship suppliers, and establish a regulatory mechanism for the supply of cruise ship construction materials in order to accelerate the construction of China's independent supply of cruise ship construction.

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