

Singapore Marine Industry's Performance in 2016

OVERVIEW

Total Turnover

2016 was a difficult year for the Singapore marine and offshore industry as it waded through a worsening downturn in the oil and gas industry worldwide and uncertain business environment marked by subdued global economic growth. The prolonged offshore down cycle due to the continuing low oil prices coupled with a persistent supply overhang have resulted in lower day rates and lower rig utilisation levels as well as more cuts in offshore oil exploration & production (E&P) budgets and spending.

The major oil producing nations made a combined decision to reduce output, the first in over a decade. This brought renewed optimism and confidence to the industry, with oil prices rising to around US\$55 per barrel, double the price seen a year ago. However this has yet to bring about major changes in oil companies' capital investments and E&P expenditure, as oil majors are still holding out for oil prices to stabilise at a more sustainable level. At the same time, there is intensifying competition from the region, on the back of shrinking orders from the industry.

The Singapore marine and offshore engineering industry is experiencing a harsh winter with the weak offshore market, a slowing global economy and unsettled business environment. The present offshore down cycle is more protracted compared to the earlier ones the industry has experienced since the early days of its formation. This time round, the industry has experienced project deferments and customers undergoing insolvency and restructuring in their operations. This has resulted in reduced headcounts across the industry, with negative growth and losses for many of the players in the industry.

Amidst the unfavourable and volatile market conditions, the Singapore offshore & marine industry managed a respectable performance in 2016, posting a total turnover of S\$13.06 billion on the back of successful, safe and timely deliveries of projects from earlier contracts. The total turnover in 2016 was 11.3% lower than the turnover of S\$14.73 billion achieved in 2015. The major projects in 2016 included the construction of the world's largest ultra high-specification harsh environment jack-up rig, construction of harsh environment accommodation semi-submersibles and jack-up rigs, Floating Production Storage and Offloading (FPSO) conversions, construction of specialised vessels, platform topsides, and Liquefied Natural Gas (LNG) modules.

The offshore and rigbuilding sector continued to account for the largest share of the total industry turnover. It generated S\$8.29 billion in 2016, accounting for 63.5% of the total industry turnover. The ship repair and conversion sector brought in S\$4.57 billion or 35% of the total turnover. The shipbuilding sector contributed S\$0.20 billion, making up 1.5% of the industry's turnover.

Order Books

Against the increasingly challenging business conditions and tough operating environment, Singapore shipyards secured some S\$820 million in new orders during the year, mainly from non-drilling projects. This was a significant slowdown in new orders from that of S\$4.9 billion contracted in 2015. The reduced E&P and drilling activities have resulted in a dearth of new orders for drilling rigs given the weak utilisation of existing operating rig fleets, coupled with the supply overhang of newbuilds still under construction. Major shipyards had received requests for deferred delivery of projects or experienced customers undergoing major restructuring.

As at end 2016, the industry's total order book stood at some S\$8 billion, with deliveries stretching to 2021. This was a decline of 57.9% from the total order book of S\$19 billion as at end 2015. The total order books included the backlog of orders clinched from earlier years and these projects have completion dates and delivery schedules stretching into 2021.

Current work-in-progress projects include the world's first-of-its-type Floating Liquefied Natural Gas (FLNG) vessel conversion, construction of the world's largest semi-submersible crane vessel, the design and conversion of a new Floating Storage and Offloading (FSO) vessel, and the engineering, procurement and construction of harsh environment topside modules. Orders in the pipeline included jack-up rigs, semi-submersible rigs, FPSO modules, lift boats, dredgers, dual-fuel tugs, and FLNG and FPSO conversions.

Docking Capacity

In 2016, there were 17 dry docks in Singapore with docking capacity ranging from 5,000 to 500,000 deadweight tonnes. The total docking capacity was 4,552,500 deadweight tonnes.

Besides the dry docks, there were 16 floating docks and ship lifts with lifting capacity ranging from 2,050 to 40,000 tonnes. The combined total lifting capacity of these floating docks and ship lifts was 248,950 tonnes in 2016. The number and capacity of docking facilities remained unchanged from 2015.

Total Employment

The total employment in the local offshore and marine industry was 85,600 in 2016. The total workforce shrank by 10% from the year before. There were 9,900 fewer workers compared to the total of 95,500 workers employed in 2015. The tightening of work permit quota, fewer recruitment, retrenchment and natural workforce attrition contributed to the drop in the industry's workforce in 2016. The number of workers employed in the industry has been decreasing since 2013.

During the last few years, industry players had embarked on automation and technology upgrading to tackle the onslaught of international competition and manpower constraint. The industry is buttressed by a group of trained workers at all levels of the production hierarchy. This pool of trained and skilled personnel are its most important resource, and critical in enhancing its competitive edge. However, the lack of new contracts in the current downturn had resulted in fewer work permits being renewed, leading to a drain of skilled and trained manpower among its foreign workforce.

Workplace Safety & Health

Workplace Safety and Health (WSH) is a core value in the Singapore offshore and marine industry. The Association works closely with industry members to embrace the mindset that all injuries and ill health at work can be prevented. The industry supports the national Vision Zero movement and strives to build up a strong safety culture in the workplaces.

The number of workplace accidents in the industry dropped to 368 in 2016 from 390 in 2015. This was a decline of 5.6% in accident cases or 22 incidents fewer compared to 2015. Although there were fewer accident cases in 2016, the number of workplace fatalities, severity and frequency of the workplace accidents increased in 2016 as compared to the year before.

The number of workplace fatalities in the industry rose to six in 2016, up from four cases in 2015. Correspondingly, the workplace fatality rate also rose 6.7 per 100,000 employees in 2016, up from 4.2 per 100,000 employees in 2015. The trend in workplace fatality rate showed an increase over the last three years since its record low of 2.7 per 100,000 employees attained in 2013.

The Accident Severity Rate (ASR) increased from 137 man-days lost per million man-hours worked in 2015 to 190 man-days lost per million man-hours worked in 2016. This represented an increase of 38.7% or 53 man-days lost per million man-hours worked from the ASR in 2015. The industry's Accident Frequency Rate (AFR) also increased to 1.5 accidents per million man-hours worked in 2016 from 1.4 accidents per million man-hours worked in 2015. This was an increase of 7.1% in AFR or 0.1 accidents per million man-hours worked.

SECTORAL PERFORMANCE

Ship Repair & Conversion

The ship repair and conversion sector generated a turnover of S\$4,570 million, accounting for 35% of the industry's total turnover. This was a decrease of 6% or S\$290 million less than the S\$4,860 million earned in 2015. The sector's contribution to the total turnover rose by 2%, up from 33% in 2015.

The Maritime and Port Authority of Singapore (MPA)'s port statistics showed a total of 3,762 vessels calling in Singapore for ship repair works in 2016. This was a decrease of 379 vessels compared to the 4,141 vessel calls recorded in 2015. The reduction represented a drop of 9.2% in the number of vessels calling in Singapore for ship repair. The total gross tonnage of the vessels that called for repair also decreased to 30,221 million grt in 2016 from 40,898 million grt in 2015. This was 10,677 million grt or 26.1% lower than the total gross tonnage from the year before.

This decline was attributed to the depressed shipping sector, slowdown in global economy and intense competition for ship repair dollars from low cost countries. The shipping industry was hit by continued excess capacity, further changes in mega-alliances, new mergers and acquisitions as well as depressed freight rates.

The fleet agreements and alliance partnership contracts with long term customers continued to provide a steady stream of ship repair, upgrading and refurbishment projects for the major shipyards. These included cruise ships and LNG carriers

Seven FPSO/FSO/FSU repair, modification and conversion projects were completed in Singapore in 2016. These were for the conversion of *FPSO Prof John Evans Atta Mills* and *FSU Armada LNG Mediterrana*, the upgrading of *FPSO Karapan Armada Sterling III*, *FPSO Armada Kraken*, and the world's largest *Armada Olombendo FPSO*, as well as the major docking of *FPSO Okha* and *FSO Caspian Sea*.

Other vessels which docked here for major repairs during the year included LNG carriers *Hyundai Greenpia* and *Northwest Shearwater*, cruise ships *Sun Princess* and *Azamara Quest*, offshore support vessels *Castorone* and *Saipem FDS*, tankers *Polar Enterprise*, *Stolt Suisen* and *Alaskan Legend*, livestock carriers *MV Shorthorn Express* and *MV Ocean Drover*, container ship *Laust Maersk*, heavy lift vessel *Blue Marlin*, pipe laying vessel *Lewek Champion*, and cable layer *ULISSE*.

Shipbuilding

The shipbuilding sector contributed S\$200 million to the industry's total turnover in 2016. This was a decline of S\$90 million or 31% lower compared to the turnover of S\$290 million in 2015. Shipbuilding activities accounted for 1.5% of the total turnover in 2016, down from 2% in 2015.

The shipping sector remained weak, being weighed down by low freight rates and over capacity. 73 vessels were launched during the year with a total gross tonnage of 282,919 grt. This was 13 ships fewer than in the previous year. However, the total gross tonnage was 1.2% higher or 3,571 grt more than the total gross tonnage of 286,490 grt for the 86 vessels launched in 2015.

As in previous years, most of the vessels launched were workboats, followed by barges, utility vessels, tugs and offshore supply vessels. Among the newbuilds completed in 2016 were navy vessels *RNOV Sadh* and *RNOV Khassab*, Littoral Mission Vessels *Sovereignty* and *Unity*, derrick lay vessel *DLV 2000*, anchor handling tug *Seaways 24*, and fast crew suppliers *MV Carnival* and *MV Kumawa Manbefor*.

Offshore Rigbuilding

The offshore rigbuilding sector generated a turnover of S\$8,290 million in 2016. It remained the largest contributor to the industry's total turnover since 2008. There was a decline of S\$1,280 million or 13.4% from the turnover of S\$9,570 million achieved in 2015. This sector accounted for 63.5% of the industry's turnover, down 1.5% from the 65% in 2015.

In 2016, the industry delivered a total of six newbuild jack-up rigs, two semi-submersible rigs, one fixed platform and three modules fabrication. The six jack-up rigs completed included the world's largest ultra high-specification harsh environment jack-up rig *Noble Lloyd Noble* as well as *Cantarell I*, *Cantarell II*, *Halul*, *Maersk Highlander* and *Perisai Pacific 103*. These jack-ups were built according to proprietary designs such as KFELS B Class, GustoMSC CJ70, Friede & Goldman JU 2000E design and Pacific Class 400.

The two accommodation semi-submersibles delivered were *Floatel Triumph* and *Safe Zephyrus*. Also completed during the year were modules fabrication for *Bumi Armada* topside modules, LNG modules for *Wheatstone LNG* and *Yamal LNG*, substation platform for the *Dudgeon Offshore Wind Farm* as well as the Process, Drilling and Quarters platform topsides for the *Ivar Aasen Field Development Project*.

INDUSTRY OUTLOOK

The upstream oil and gas industry remains challenging. Prospects in the marine and offshore industry have taken a more positive turn following the agreement by OPEC and major non-OPEC countries to cut production. However, a more robust recovery will take a longer time. The huge order backlog for drilling rigs together with weaker demand outlook for rigs in a global slowdown of the economy is expected to keep oil prices subdued in the near future.

The challenging environment in the offshore business is expected to remain for some time. Major oil companies have cautioned that it could be a few years before oil comes out of a US\$40 per barrel to US\$60 per barrel and a long time before oil returns to US\$100 per barrel. As a result, oil majors and national oil companies have pushed back their capital expenditure and global E&P spending has declined with the reduction in exploration activities. Nonetheless, there are pockets of opportunities with capex investments in Mexico, Iran and the Norwegian Continental Shelf, and offshore E&P activities remaining robust in the Middle East and India.

Demand for oil is postulated to remain high in the near to long-term future with increased urbanisation and a growing middle class population in Asia continuing to stimulate global demand for energy. The prolonged period of underinvestment coupled with the steady depletion of existing oil reserves would eventually lead to future supply shortages and drive up oil prices consequently. This will help to stabilise oil prices at a level that

supports a revival of offshore exploration and production projects. Hence, growth in the industry is expected to remain positive in the medium to long term.

Significant structural changes are happening in the shipping industry. With continued excess capacity and depressed freight rates amidst slower global economic growth and geopolitical uncertainties, as well as new international regulations, the ship repair market is expected to remain languid, with ship owners sticking to essential repair works.

Despite the depressed offshore market conditions, there are rising opportunities in the non-drilling sector and in the gas value chain. Gas as a cleaner fuel is expected to be increasingly used for power generation and bunkering. Rising global demand for gas, the use of LNG as an alternative marine fuel and lower charter rates for LNG carriers offer opportunities for a broad range of LNG solutions. Singapore shipyards have been developing technologies and a suite of solutions to cater to the LNG value chain. They have also made strategic acquisitions in this market for design, process and engineering capabilities and innovative solutions to seize opportunities in the gas and offshore value chains.

In shipbuilding, there are prospects in specialised non-oil related solutions such as vessels for subsea construction, cable lay, pipe lay and rock dumping as well as dredgers and dual-fuel diesel LNG vessels.

The current market lull presents opportunities for industry players to level up by strengthening core competencies and developing new capabilities to venture into adjacent business segments and new markets. Industry players should make use of the present low business activity period to improve operational efficiency, to optimise resources and streamline operations as well as to reorganise their business to be manpower lean, to ride out the downturn and prepare for the upturn.

To maintain its pole position in the global offshore and marine industry, Singapore shipyards and marine companies will have to continuously reinvent themselves, to invest in R&D and technologies to create better value for themselves and their customers. With the onslaught of the technology revolution, there is a need to invest in technology and innovations to keep pace with market developments and a changing business landscape.

With this in mind, the Singapore marine and offshore engineering industry will continue to strive to secure our position as the preferred solution providers for our partners in the global offshore & marine and oil & gas industries.