

## The future world merchant fleet - new orders and order book 2016/2017

### Status

Although there is a little light at the end of the tunnel with respect to the development of world shipbuilding, this industry is still in the doldrums. On the one hand most recent figures published by CRSL a strong increase of new orders throughout the first half of 2017 compared to the same period in 2016. To be accurate, the number of new ordered ships as well as the cgt volume grew by 57 %. Based on the fact, that mostly tankers were ordered, the dwt numbers were even higher with +362%.

On the other hand there is still a decline of around 25% in all categories of the actual order book compared to figures of last year's July. As of July 1<sup>st</sup> 2017 a number of 2484 ships totalling 180 million dwt and 69 million cgt were on order.

The total order book represented only 9.7% of the existing fleet capacity, down from 14% mid of 2016 and more than 51% mid of 2008. Due to high new building contracts in 2015, tankers (including gas and chemical tanker) now constitute the largest market segment in the current order book with 29 million cgt (43%), followed by container ships (20%) and bulk carriers (18%).

In the first half of 2017, shipyards worldwide recorded 385 new orders, totalling 10.2 million cgt. The majority of these new orders are 184 tankers, of all types, and 85 bulk carriers.

More than half of all shipyards have left the market since 2008. Looking at commercial shipbuilding, the number of active shipyards fell from 590 in 2008 to 290 yards mid of 2016, and at least 108 of these companies booked orders in 2017, this compares to 550 ship yards in 2007, and around 300 in 2012/2013.

Moreover, the sharply decreasing order book leads to shrinking yard coverage of around 2.5 years across all yards. Most buoyant are the cruise ship building European yards with 4.5 years coverage, followed by Chinese and Japanese yards with around 2.3 years coverage. Worst hit Korean shipbuilders just show a 1.2 – 1.3 years coverage.

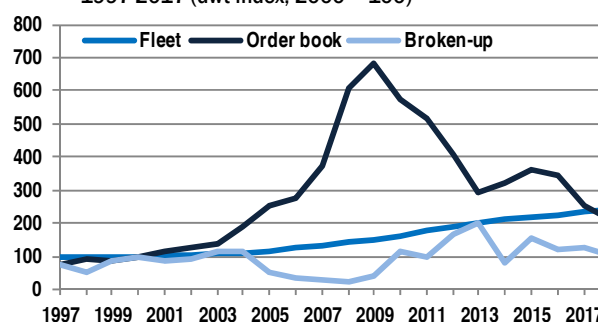
### German shipyards worldwide ranked second

In this global environment, European and especially German shipyards have held up well. In terms of the contract value of building of merchant and non-merchant vessels, European shipbuilding achieved a world market share of 56% in the first half of 2017. That did not happen for a long time - the yards of the three top shipbuilding countries South Korea, China and Japan have dominated the world market for decades.

A fitting symbol for the crisis in world shipbuilding is the development of the Brazilian yards that were engaged in building large oil tankers and brigs.

In the back of rising energy prices and strong growing demand, the Brazilian government decided to bolster its domestic shipbuilding sector from 2003 onwards by constructing all the tankers, brigs and production platforms

**Fig. 1:** Development of fleet, order book and broken-up tonnage 1997-2017 (dwt index; 2000 = 100)



Source: Up to 2011 based on IHS Fairplay, since 2012 on Clarkson Research Services Limited (CRSL). Please see disclaimer

**Tab. 1:** New orders by major ship types during 2014, 2015, 2016 and January-June 2017 (revised figures)

Ship type	2014		2015		2016		cgt-% change 15/16	January - June 2017	
	No	mill cgt	No	mill cgt	No	mill cgt		No	mill cgt
Tankers	519	15.5	614	16.1	194	3.8	-76.2	184	5.3
Bulk carriers	716	14.4	357	6.2	54	1.9	-70.1	85	1.8
Container ships	145	5.4	237	10.2	99	2.0	-80.3	18	0.3
General cargo ships	158	2.1	174	2.3	52	0.6	-72.5	46	0.5
Passenger ships	52	2.4	48	1.9	102	3.6	87.5	52	2.3
<b>TOTAL</b>	<b>1590</b>	<b>39.8</b>	<b>1430</b>	<b>36.7</b>	<b>501</b>	<b>12.0</b>	<b>-67.4</b>	<b>385</b>	<b>10.2</b>

Source: Based on Clarkson Research Services Limited (CRSL). Please see disclaimer, revised figures as per October 2017

**Tab. 2:** Total world order book by major ship types and ratio of ordered tonnage to fleet as of July 1<sup>st</sup>, 2017

Ship type	Total Fleet No	Fleet mill. cgt	Order book No	Order book mill. cgt	Order book cgt % share
Crude & Products tankers	7352	106.4	441	11.6	10.9
Oil Chemical & Chemical tankers	5527	74.2	352	5.9	7.9
Liquid gas tanker	1904	56.5	203	11.8	20.9
Bulk carrier	11316	191.0	600	12.4	6.5
Container ships	5123	124.8	396	13.7	11.0
General cargo ships	16956	106.3	291	3.9	3.7
of which					
Conventional cargo	12282	50.0	101	0.6	1.3
Special ships	1579	17.5	107	1.3	7.6
Vehicle carriers	778	21.5	40	1.3	5.9
Reefer ships	757	6.4	11	0.1	1.9
Ro/Ro ships	1560	10.9	32	0.5	4.8
Passenger ships	4524	53.9	201	9.4	17.5
of which					
Passenger ships/Cruise	1790	30.7	98	8.0	26.0
Cargo/Ro-Ro					
Passenger	2734	23.2	103	1.4	6.2
<b>TOTAL</b>	<b>52702</b>	<b>713.0</b>	<b>2484</b>	<b>68.8</b>	<b>9.7</b>

### Sources

If not otherwise mentioned, the source for tables and figures concerning the world fleet, and order book information up to 2011 is based on IHS Fairplay, since then the source is Clarkson Research Services Limited (CRSL). Please quote accordingly. In general merchant fleet data refer to ships of 300 gt and over.

that Petrobras (Brazil's monopolistic oil company) needed, creating tens of thousands of jobs in the process. But the global economic crisis in 2007/2008 and its conclusions, upset this plans. Nowadays the Brazilian shipbuilding industry is still in bad temper.

In the late 1970s, Brazil's shipyards employed almost 40,000 people. But after economic turbulence in the 1980s, they employed just 2,000 workers. Then came the year 2003, Petrobras found vast oil reserves under the Atlantic seabed and the country began building new shipyards and reopened others. During this rapid expansion, the weaknesses of the strategy started to show, several ups and downs were recorded and at the end Petrobras decided to invest \$221 billion to build more than 100 production platforms, drilling rigs and oil tankers mostly in domestic yards. All in all, the country's shipyards were employing 82,000 workers. Then the price of oil began to fall, from a peak of over \$100 per barrel to below \$30 with the consequence, that none of the 28 rigs that Petrobras ordered from Brazilian yards were ever delivered. All in all, 52,000 shipyard workers have lost their jobs. The company is now seeking permission to build a new production platform for an enormous offshore field overseas.

### Asian yards still struggle

While the European shipyards are well positioned in the shipbuilding crisis, as they are mostly concentrated on building high valued ships, their cgt share in 1H 2017 stood at 21%, especially Korean, Chinese and Japanese shipyards have huge problems.

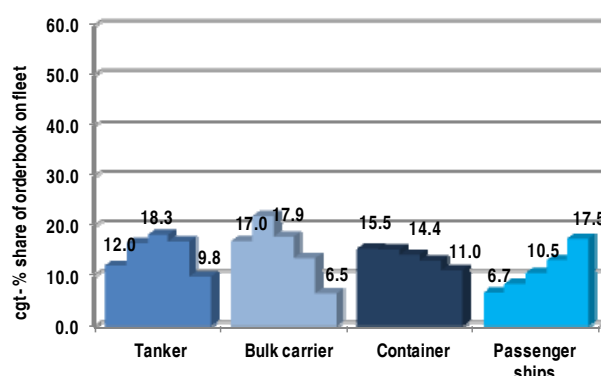
In the first half of 2017, Korean, Chinese and Japanese shipyards accounted for "only" 67% of new contracts in terms of cgt, compared to shares of around 90% in the years before.

As Asian yards are mostly focused on building tankers, bulk carriers and containerships, their order book is more volatile than the order backlog of their European competitors which are building passenger ships, special cargo ships and ferries. However, as the Chinese Government has declared shipbuilding as one of the key industries for the future, it is to be due, that Chinese yards will perspective strengthen their activities in constructing more ambitious vessel types.

Consequently Shanghai Waigaoqiao Shipbuilding Co Ltd, is cooperating with Fincantieri/Italy and won orders for building two cruise liners for Carnival Corporation and options for another four ships. The first such vessels to be built on the Chinese mainland. They are expected to be delivered in 2023 and afterwards, marking a milestone in the evolution of the country's shipbuilding industry. CSSC's subsidiary Waigaoqiao Shipbuilding, announced earlier this month it will inject another 720 million Yuan into its cruise liner building technology company to improve its research and development strength.

When viewing on the shipbuilding industries of the top shipbuilding countries the following quintessence can be done:

**Fig. 2:** Ratio of the ordered tonnage to the existing fleet by type as of July 1<sup>st</sup>, 2013-2017



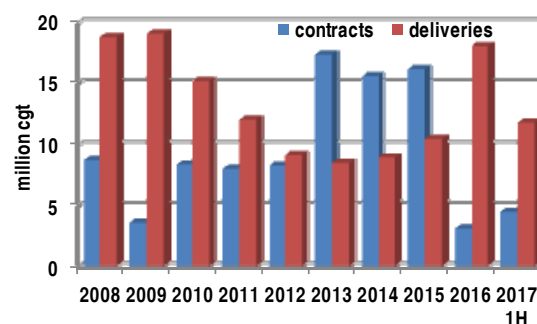
Source: Clarkson Research Services Limited (CRSL). Please see disclaimer

**Tab. 3:** New tanker orders by type during 2014 - 2016 and January-June 2017

Ship type	2014		2015		2016		cgt-% mill change '15/'16	Jan. - June 2017	
	No	mill cgt	No	mill cgt	No	mill cgt		No	mill cgt
Crude oil & products	155	4.3	326	9.0	90	1.9	-79.2	90	2.8
Oil chemical / chemical	181	3.1	192	3.3	82	1.1	-65.8	66	1.1
LNG tankers	75	5.8	31	2.4	10	0.7	-73.2	17	1.2
LPG tankers	108	2.4	65	1.4	12	0.2	-86.4	11	0.2
<b>TOTAL</b>	<b>519</b>	<b>15.5</b>	<b>614</b>	<b>16.1</b>	<b>194</b>	<b>3.8</b>	<b>-76.2</b>	<b>184</b>	<b>5.3</b>

Source: Based on Clarkson Research Services Limited (CRSL). Please see disclaimer

**Fig. 3:** All tankers: New orders and deliveries 2008 - 2017 (1H)

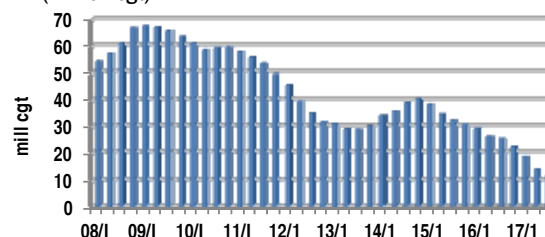


**Tab. 4:** New bulk carrier orders during 2014 - 2016 and January-June 2017

Ship type	2014		2015		2016		cgt-% mill change '15/'16	Jan. - June 2017	
	No	mill cgt	No	mill cgt	No	mill cgt		No	mill cgt
<b>Bulk carrier</b>	<b>716</b>	<b>14.4</b>	<b>357</b>	<b>6.2</b>	<b>54</b>	<b>1.9</b>	<b>-70.1</b>	<b>85</b>	<b>1.8</b>

Source: Based on Clarkson Research Services Limited (CRSL). Please see disclaimer

**Fig. 4:** World bulk carrier order book, quarterly 2008-2017 (million cgt)



Source: Up to 2011 based on IHS Fairplay, since 2012 on Clarkson Research Services Limited (CRSL). Please see disclaimer

## China

Compared to mid of 2016, the order book measured in cgt diminished by 32.4% down to 995 vessels with 22.8 mill cgt. Throughout 2016, Chinese yards only delivered 555 ships totaling 10.4 mill cgt, the lowest figure since 2008 and down 12.9% from 2015 figures.

Around 57% of the order book is tankers and bulk carriers. Another 30% (6.9 mill cgt) are container ships.

New orders during 2016 went down 56% compared to 2015, the lowest figure since 15 years.

Probably the 2017 figures will be a little better, as during the actual year next to the above mentioned cruise vessels Chinese yards won a number of orders for tankers, especially in the LNG sector.

## South Korea

For the South Korean yards, which rely heavily on building of container and bulk vessels, the situation is threatening. They do not only have to cope with the situation of Hanjin Shipping, also Hyundai, Daewoo and Samsung fight for survival. Although the government in Seoul supports its maritime sector with \$ 31 billion thereof 2.6 billion \$ for the struggling shipbuilding industry.

During the last twelve months, the order book measured in cgt diminished by 32.7% down to 368 vessels with 15.9 mill cgt.

Throughout 2016, South Korean yards delivered 343 ships totaling 12 mill cgt, more or less a stagnating volume, but in times of crisis, this is a bit of a good news and down only 0.3% from 2015 figures.

Around 80% of the order book is tankers and another 15% (2.4 mill cgt) are container ships.

New orders during 2016 went down to 78% compared to 2015, the lowest figure for nearly 20 years.

The 2017 figures will be a little better, as during the actual year Korean yards won 88 new orders, already a little more than the result for the complete year 2016.

The top three Korean yards namely Hundai, Daewoo and Samsung, set up massive self-rescue plans to tide them over this worse slump. During 2016, their combined job cuts came to at least 20,000.

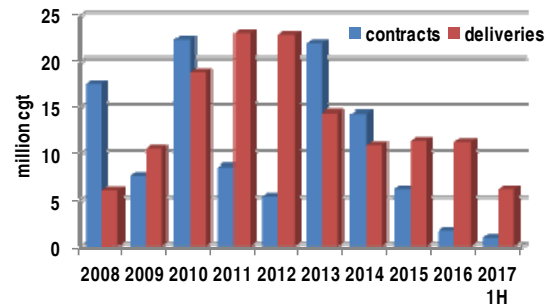
## Japan

If the situation in the Chinese and South Korean shipbuilding sector is named worrying, the Japanese shipbuilding can be seen in an awkward disposition.

While Imabari, JMU Oshima and their national competitors completed 400 vessels with a cgt volume of 6.9 mill, of all types during 2016, this was more or less the same level during the last four years, they only won orders of 76 ships totalling 1.5 mill cgt. This is equal to a fall from heights of nearly 90%, as they won 508 new orders equal to 11.8 mill cgt during 2015.

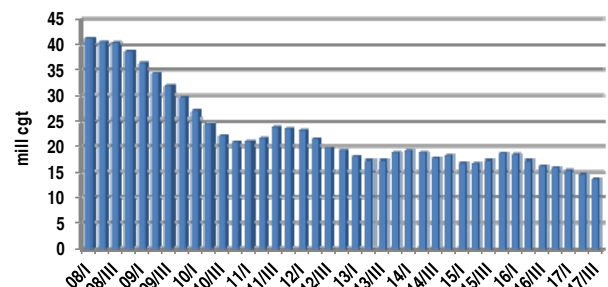
Necessarily this downturn forces the Japanese yards to find

**Fig. 5:** Bulk carriers: New orders and deliveries 2008 - 2017 (1H)



Source: Up to 2011 based on IHS Fairplay, since 2012 on Clarkson Research Services Limited (CRSL). Please see disclaimer

**Fig. 6:** World container ship order book, quarterly 2008-2017



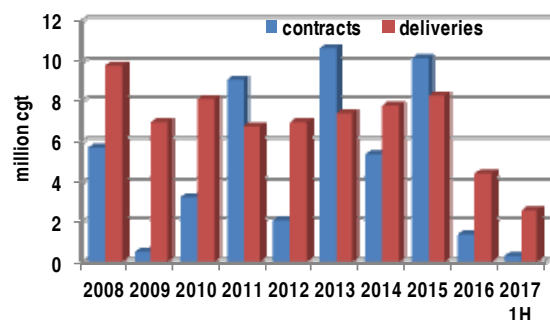
Source: Up to 2011 based on IHS Fairplay, since 2012 on Clarkson Research Services Limited (CRSL). Please see disclaimer

**Tab. 5:** New container ship orders during 2014 - 2016 and January-June 2017

Ship type	2014		2015		2016		TEU-% '15/'16	Jan. - June 2017	
	No	TEU	No	TEU	No	TEU		No	TEU
Container ships	145	1068	237	2179	99	297	-86.4	18	37

Source: Based on Clarkson Research Services Limited (CRSL). Please see disclaimer

**Fig. 7:** Container ships: New orders and deliveries 2008 - 2017 (1H)



Source: Up to 2011 based on IHS Fairplay, since 2012 on Clarkson Research Services Limited (CRSL). Please see disclaimer

**Tab. 6:** New passenger ship orders during 2014 - 2016 and January-June 2017

Ship type	2014		2015		2016		cgt-% change '15/'16	Jan. - June 2017	
	No	mill cgt	No	mill cgt	No	mill cgt		No	mill cgt
Cruise ships	16	2.0	13	1.5	33	2.8	84.9	16	1.9
other	6	0.0	3	0.0	3	0.0	-33.3	14	0.1
Passenger	30	0.4	28	0.4	55	0.8	112.9	22	0.3
Ferries									
<b>TOTAL</b>	<b>52</b>	<b>2.4</b>	<b>44</b>	<b>1.9</b>	<b>91</b>	<b>3.6</b>	<b>89.6</b>	<b>52</b>	<b>2.3</b>

Source: Based on Clarkson Research Services Limited (CRSL). Please see disclaimer

strategies to face this huge threat. MHI and Oshima Shipbuilding are forming a shipbuilding alliance for developing new ship designs and technologies, standardization of design and construction and efficient shared use of tools and equipment. Earlier this year MHI reached an agreement with Imabari (No. 1 in Japan with an order book of 114 ships and 4.5 mill cgt) and Namura Shipbuilding (ranked 7 with 26 vessels, only tankers and bulkers with 0.7 mill cgt) to strengthen competitiveness in focusing on core engineering capabilities and expertise eg. to decide new fuel-efficiency standards.

## SEA Europe

As European shipyards (with the exception of some smaller yards) are not involved in building tankers, bulk carriers and container ships, but more on vessels that require more technical skills, like cruise vessels, special cargo ships, small product tankers and non merchant vessels, they haven't been hit by the shipbuilding crisis like their Asian competitors.

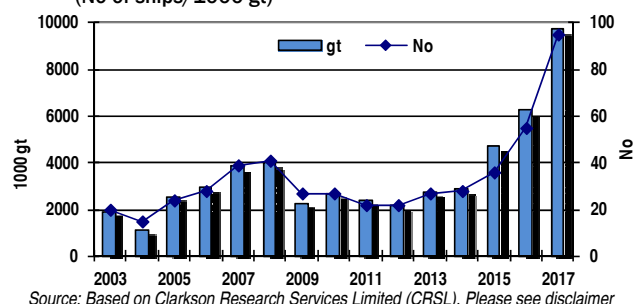
From mid of 2016 to mid of 2017, SEA Europe member yards increased their reported orders by around 24% up to 197 vessels totalling 9.2 million cgt, of which 88% are passenger ships and ferries. With regard to passenger ships, the European yards show a market share of 84%.

As cruise shipping is the only growing shipping segment, new orders of this type of ship grew by 84% during 2016. Six of the top ten European yards are to 100% involved in building cruise and passenger ships (see tab. 4.2.4 on page 32).

## Philippines

Ranked 6 in the list of shipbuilding countries, the export oriented part of the local industries is dominated by Korean owned Hanjin and Japans owned Tsuneishi sites. These yards are chiefly focused on bulk carriers and container ships, while the smaller yards concentrate on ship repair and small vessels for domestic or internal demand (i.e., fishing, government, some passenger/cargo). There are approximately 17 large or medium-sized domestic shipyards and 90+ smaller yards, while the two foreign owned yards account for 97% of the revenue. The order book of the Philippine yards decreased by 15.3% from January to July 2017 and actual stands at 63 vessels totalling 1.7 mill cgt. Bulk carriers and container ships are responsible to 36.6% of the ordered tonnage each, and 22.2% belong to tankers. As of July 1<sup>st</sup> 2017, there was only one small passenger vessel on order at Philippine yards.

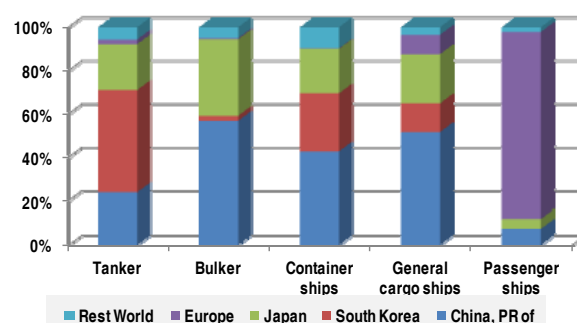
**Fig. 8:** Cruise ships order book development 2003 - of July 1<sup>st</sup>, 2017 (No of ships/1000 gt)



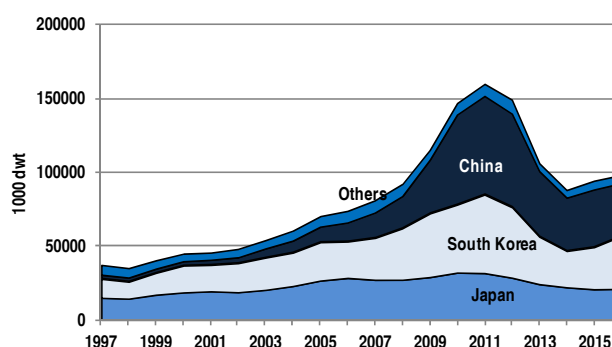
**Tab. 7:** New general cargo ship orders during 2014 - 2016 and January-June 2017

Ship type	2014		2015		2016		cgt-% '15/'16	Jan. - June 2017	
	No	mill cgt	No	mill cgt	No	mill cgt		No	mill cgt
Conventional cargo ships	52	0.4	57	0.4	21	0.1	-63.0	19	0.1
Special ships	73	0.9	17	0.2	4	0.1	-75.0	17	0.2
Pure car carrier	29	0.8	39	1.2	3	0.1	-91.5	2	0.1
Reefer ships	1	0.1	6	0.1	3	0.0	-66.7	-	-
Ro/Ro cargo ships	3	0.0	5	0.1	21	0.3	322.5	8	0.1
<b>TOTAL</b>	<b>158</b>	<b>2.2</b>	<b>124</b>	<b>1.9</b>	<b>52</b>	<b>0.6</b>	<b>-67.6</b>	<b>46</b>	<b>0.5</b>

**Fig. 9:** World shipbuilding - total orders by ship type and area of build as of July 1<sup>st</sup>, 2017 (cgt%)



**Fig. 10:** World merchant ship completions by country of build 1997-2016 (based on the total world merchant fleet, 1000 gt)



### Statistical details "World shipbuilding and shipbuilders"

- Tankers on order p. 24
- Bulk carriers on p. 25
- Container ships on order p. 26
- General cargo ships on p. 27
- Passenger ships on order p. 28