



Clarksons
Research

Offshore & Energy, Shipping & Trade, a Market Update

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Presentation IUMI, Genoa

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Clarksons Research



Shipping and Trade

Market leaders in providing timely and authoritative information on all aspects of shipping. Data is available on over 100,000 vessels either in service or on order, 10,000 companies and 600 shipyards as well as extensive trade and commercial data, and over 100,000 time series.



Offshore and Energy

The leading provider of data to the offshore industry for more than 30 years. Providing clients with the key information they need to operate their business more effectively. Market intelligence is available on more than 25,000 structures, vessels and companies and 6,000 oil and gas fields.



Valuations

The world's leading provider of valuations to the shipping industry and financial community. More than 20,000 valuations are handled annually, covering the full range of vessel types.



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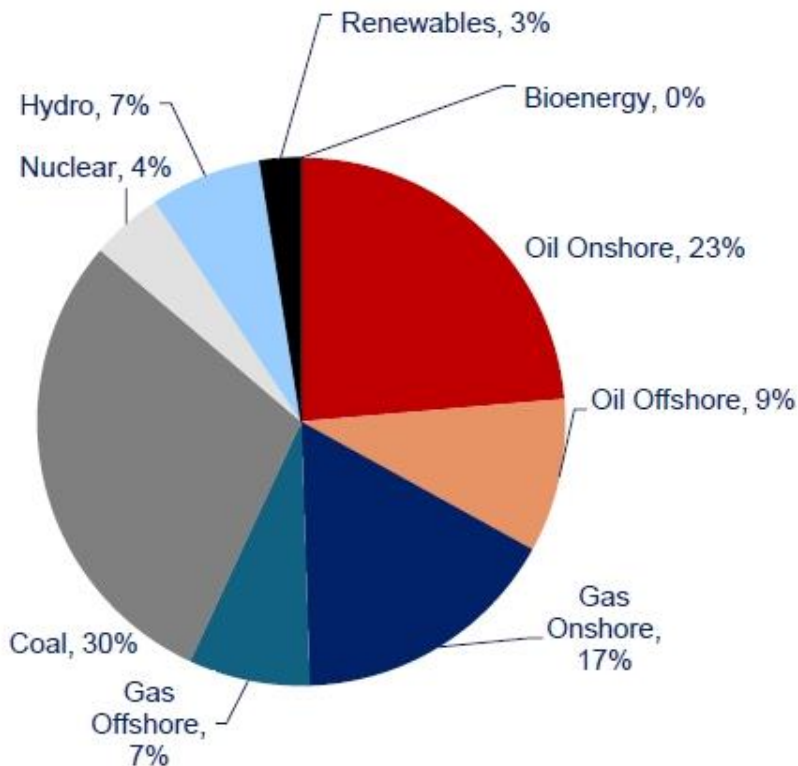
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Market leader, excellent brand, 100 staff globally, track record of growth, innovation and investment, broad and diverse product range and client base.



Offshore and Energy

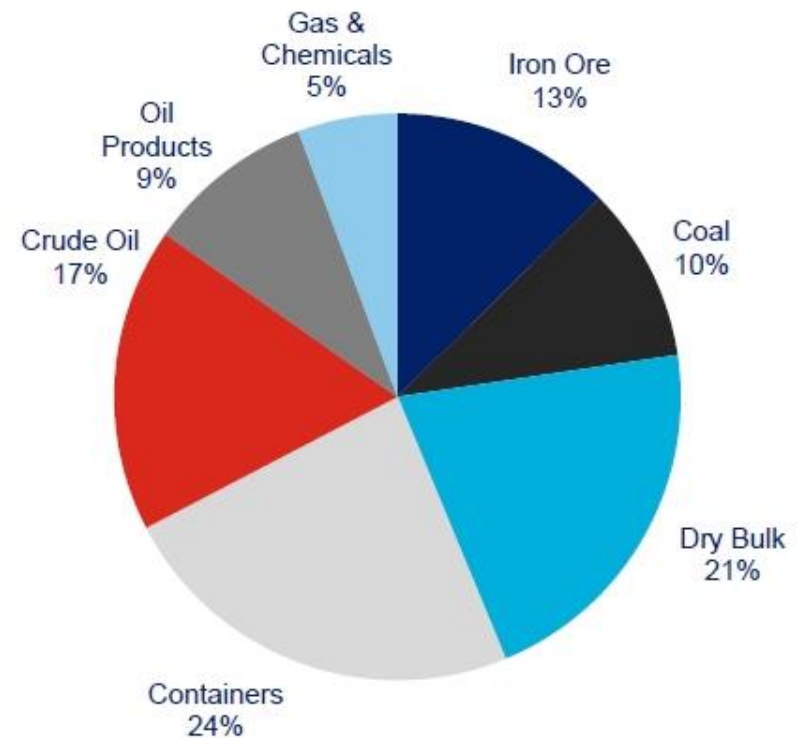
2015 (e) – 17% of energy,
26m bpd and 107bn cuft



Data Source: Clarksons Research/BP Statistical Review May-15

Shipping and Trade

2016 (f) – 11bn tonnes,
85% of world trade



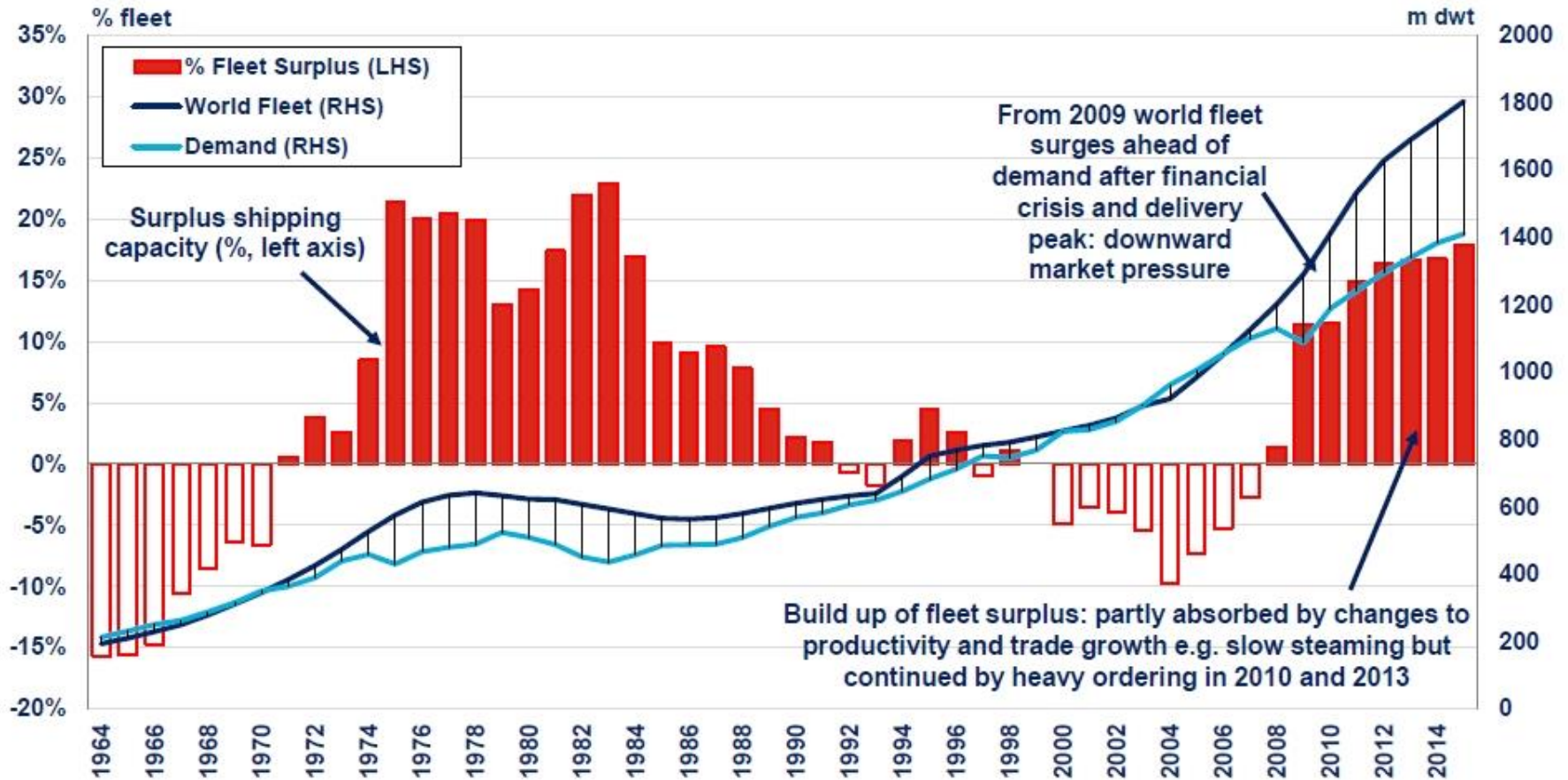


Shipping Market – Key Points

- 1. Stressed Market Conditions.** Clarksea Index down to \$7,000 in 2016 with very weak sentiment – possibly some of the toughest years since financial crisis for shipping. Oversupply continues after ordering in 2010 and 2013. Stress in bulkers, tankers OK but easing back. Pressures in container market building and major stress across offshore driven by oil price collapse. Better markets in some niches (Cruise, Ferry, Ro Ro).
- 2. Shipping at Heart of Trade.** World economy now sluggish and risks building. Trade impacted by Chinese economy & oil prices. But still 85% of trade by sea and long term growth potential.
- 3. Fleet Growth Slowing.** Still 50% bigger than after financial crisis so opportunities for service sector. Steady deliveries in 2016 and 2017 and higher demolition. Delivery levels in 2018 uncertain and “non-delivery continues”.
- 4. Shipyard Pressure.** Shipyard ordering very weak and pressures building for further consolidation and capacity reductions. Weakest ordering since 1980s expected in 2016 – continued weakness in 2017 anticipated with focus on small and niche (not offshore). Still long term newbuild demand next ten years but timing very volatile and very low investment in short term.
- 5. Ownership Change.** Ownership consolidation.
- 6. Financing Change.** Big change in financial landscape & restructuring increasing. Is limiting short term investment and orders.
- 7. Regulation, Environment & Technology Change.** Regulation accelerating & Technology and innovation opportunities with e-commerce, data, IT and satellite communication to ships to support productivity and regulation.



World Cargo Fleet: Supply-Demand Balance

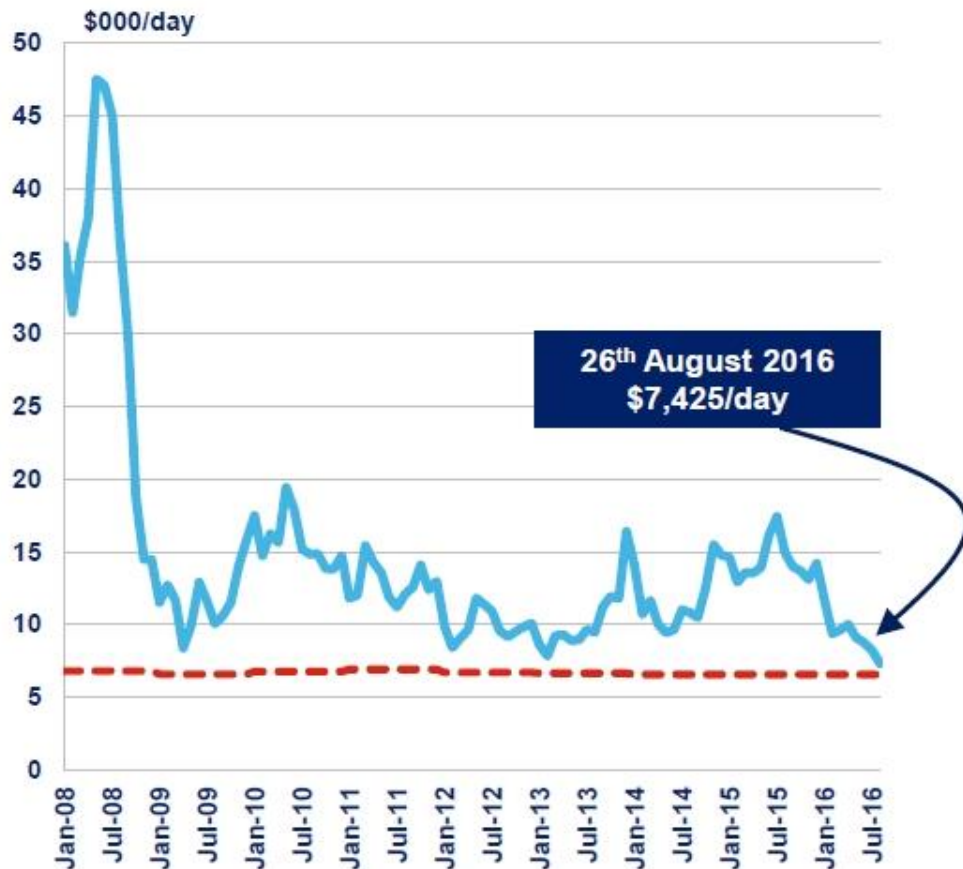


Source: Clarksons Research



Shipping Since the Financial Crisis

ClarkSea Index 2008-16



Uses Moore Stephens OPEX – weighted using ClarkSea assumptions

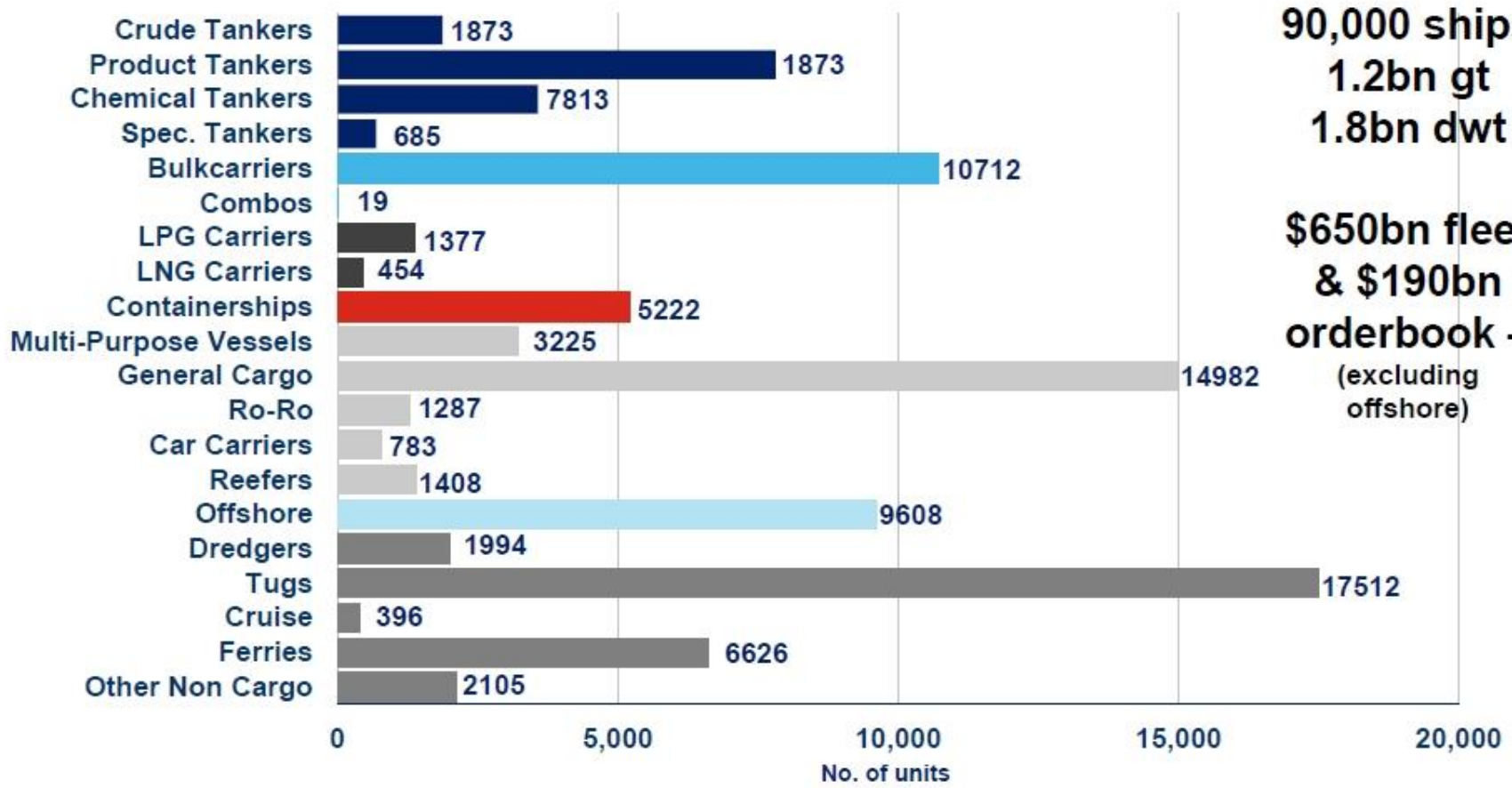
| | ClarkSea Index (\$/day) | Opex Index (\$/day) |
|-------|-------------------------|---------------------|
| 2008 | 32,654 | 6,823 |
| 2009 | 11,330 | 6,597 |
| 2010 | 15,489 | 6,789 |
| 2011 | 12,312 | 6,931 |
| 2012 | 9,576 | 6,722 |
| 2013 | 10,263 | 6,672 |
| 2014 | 11,743 | 6,593 |
| 2015 | 14,410 | 6,589 |
| 2016* | 9,359 | 6,586 |

2016* = Year-To-Date



Shipping – The World Fleet

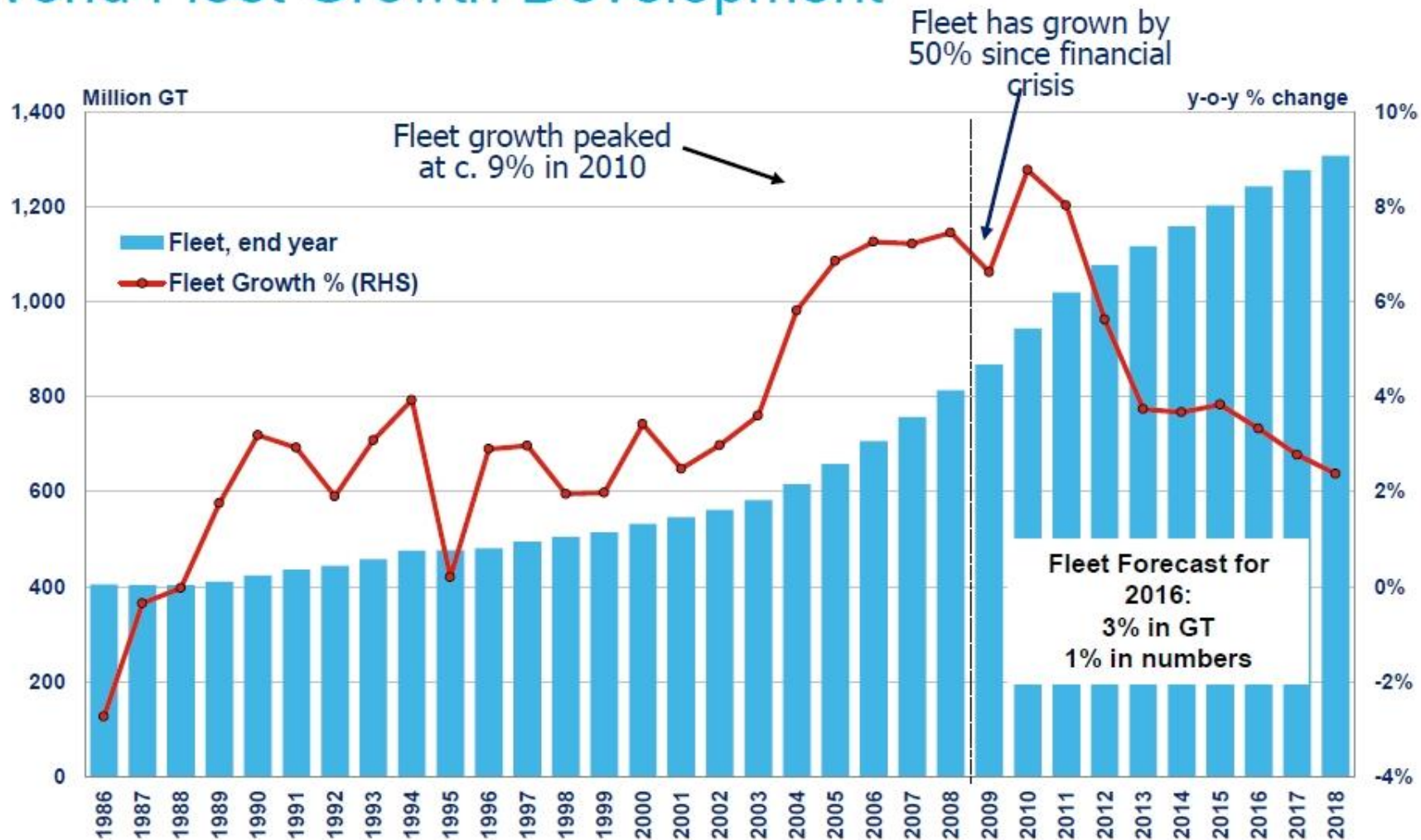
World Fleet as at June 2016 (No. of Units)



Data Source: Clarksons Research



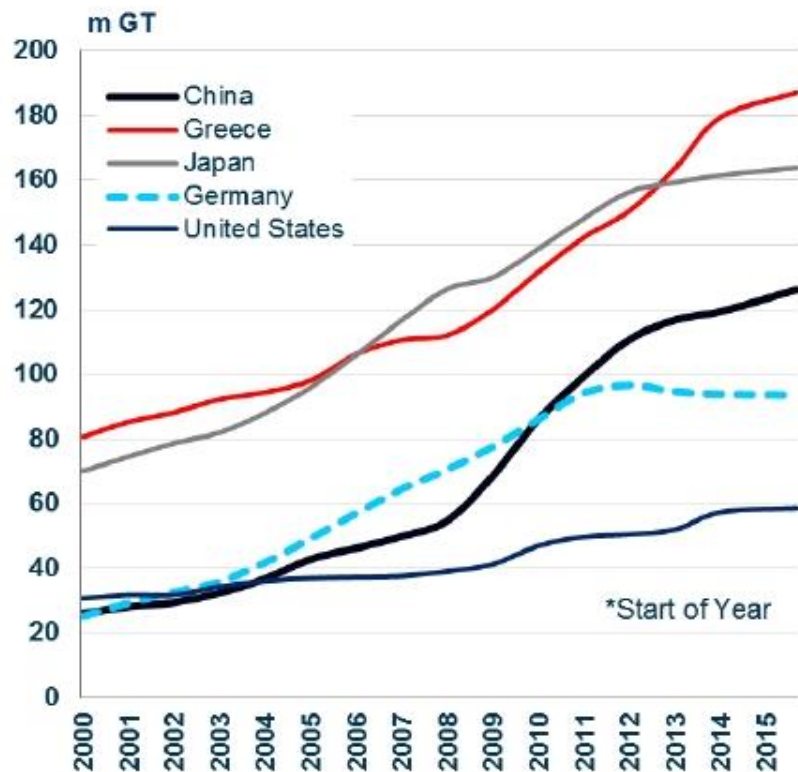
World Fleet Growth Development



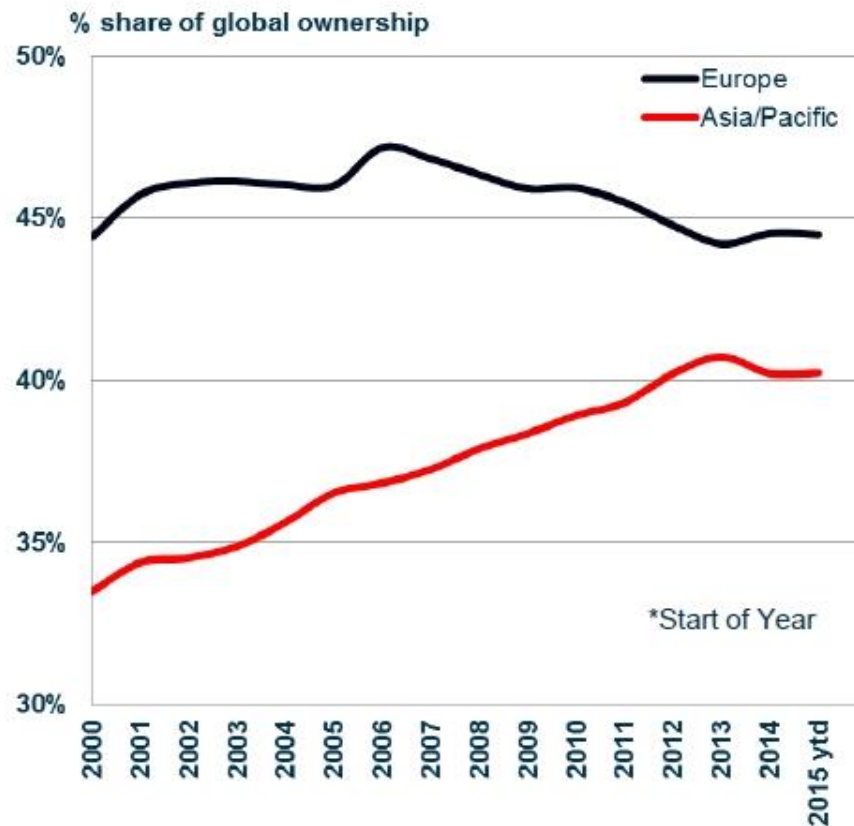


Regional Ownership Trends

Regional Ownership – Top Five Countries*



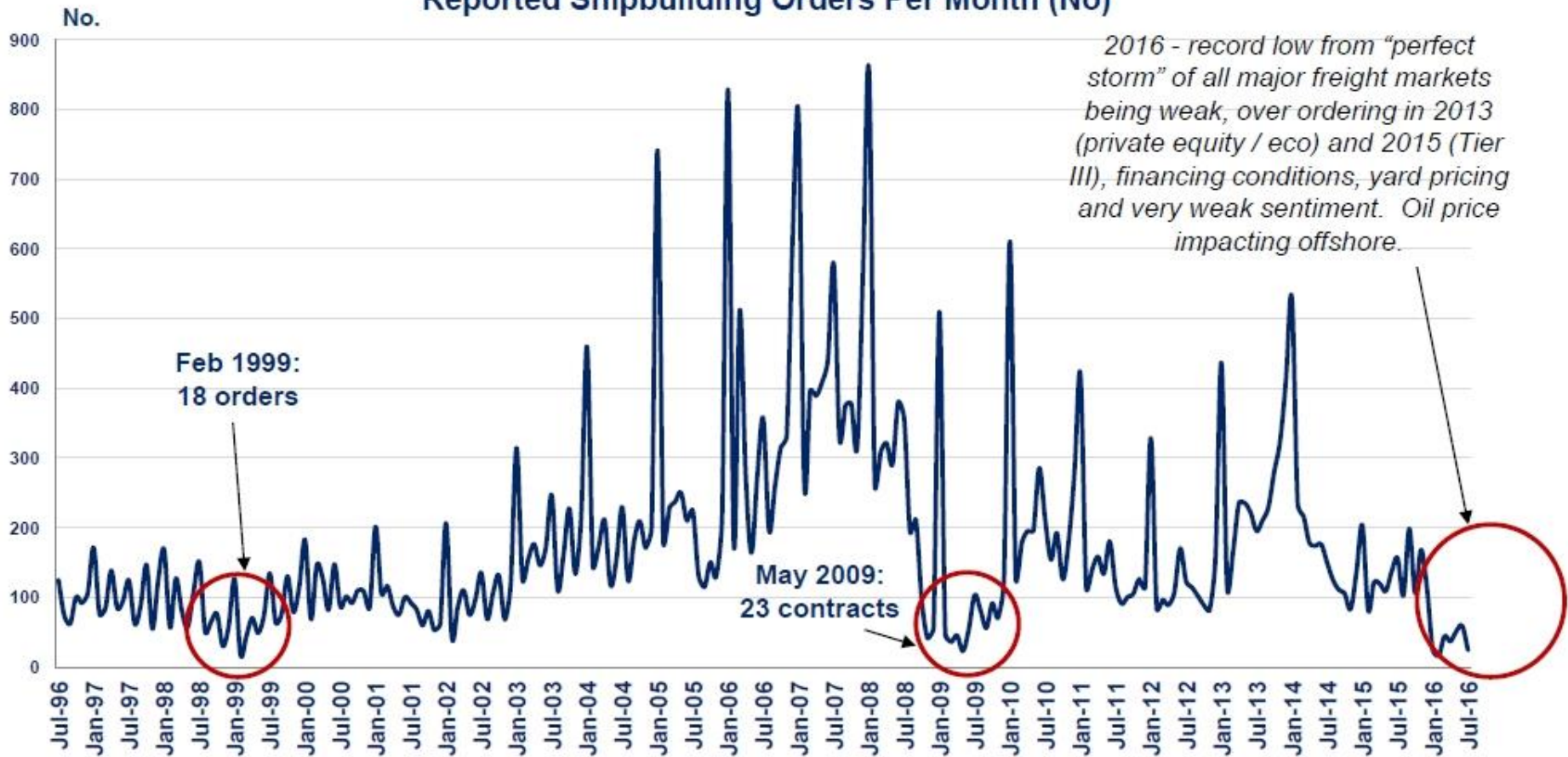
Regional Ownership – Europe v Asia*





Monthly Orders By Number (>1,000 dwt)

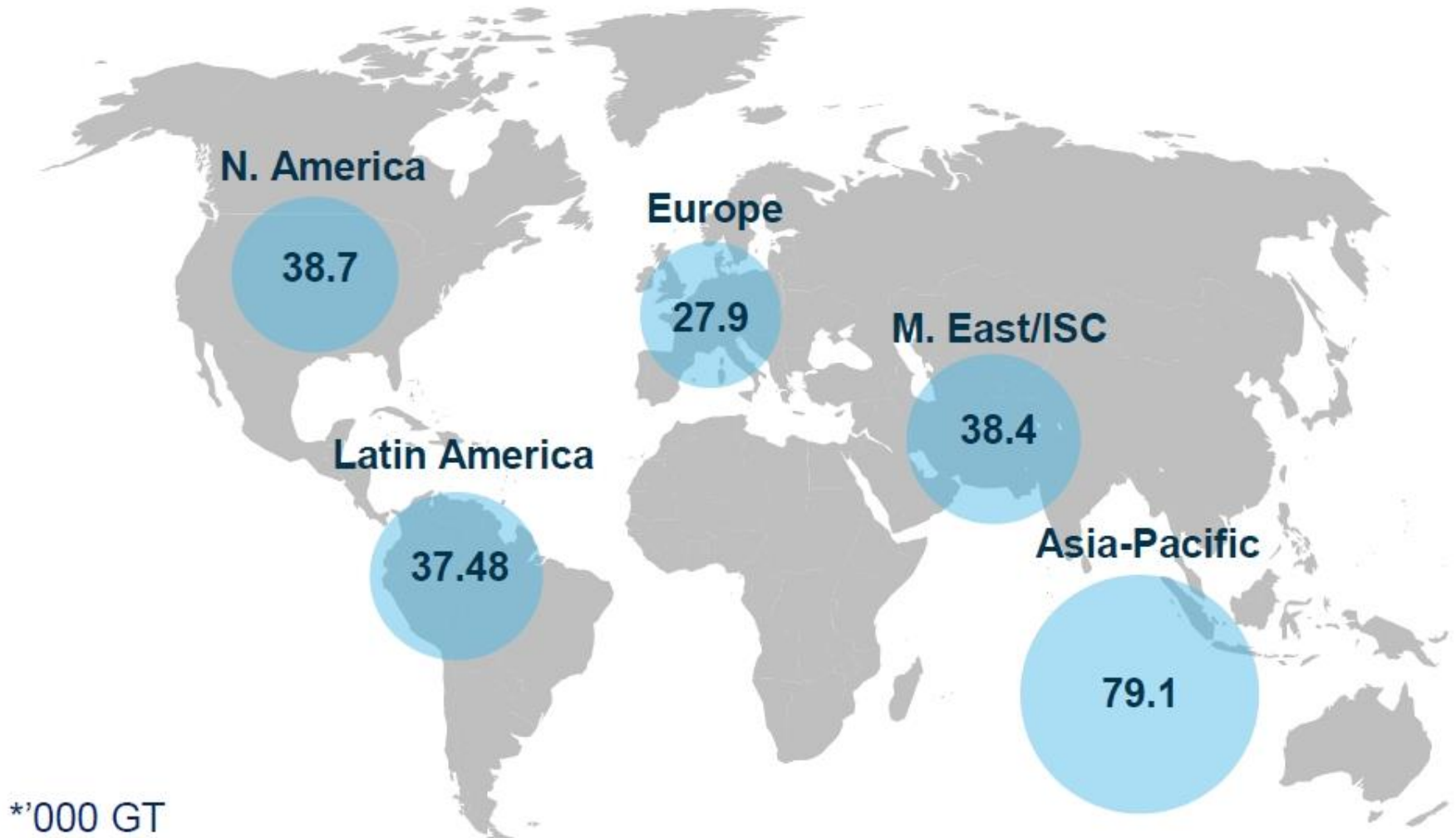
Reported Shipbuilding Orders Per Month (No)



Source: Clarksons Research



Merchant Fleet: Total Losses in 2015*



*'000 GT



Offshore Market – Key Issues

- **Cycle.** Multi-year downturn and worst market since 1986.
- **Oil Price Key Driver.** The oil price correction has been driven by over supply. Recovery in oil price since Q1 but further gains may be difficult in short term.
- **E&P.** Offshore E&P spending down 20% in 2015 and 25% in 2016.
- **Costs.** Project costs coming down by around 30% making some projects viable.
- **Strong growth in number of assets.** Over the past 10 years, the total number of rigs globally has increased by 25% (200 units but declining in 2016) and the number of FPSO by over 50% (70 units). Growing interest in FLNG. Strong increases in number of subsea assets also.
- **Removals and stacking** increasing. Rig utilisation at 70% (excludes cold stack and completed units at shipyards).
- **Delays** and non-delivery from shipyards increasing.
- **Day Rates** for high spec Jack-Ups down to \$90,000 and for floaters around \$225,000. Drop in OPEX also significant.
- **Financial Restructuring.** Widespread financial re-structuring will take place.
- **Few positives.** Wind and Decommissioning more active. Production projects may recover earlier. Middle East a little more active.



Offshore: Most Challenged Market on par with 1986



1986 Downturn

- Overproduction by the Saudis caused a major downturn in the offshore industry.
- This resulted in significant stacking of assets (Invergordon, Cromarty shown above).



2006-08, 2011-2014

- Record high oil prices stimulate investment in ever-more sophisticated assets capable of ultra-deepwater operations.



Production Assets



Fixed Platforms >7,500

- Fixed installations may also fulfil functions including:
- drilling
- accommodation
- processing



FPSOs >190

- Floating Production Units



Other Mobile Production Types >160:

- Include:
- Tension Leg Platforms
- SPARs
- Semi-Submersibles
- Jack-up Production

Drilling Assets



Jack-Up Drilling Units >500

- Drilling assets used in shallower water depths.



Semi-Sub Drilling Units > 170

- Used in Mid-, Deep and Ultra-Deep water depths.
- Wave-handling capabilities make Semi-subs the preferred floater units for harsh environment drilling.



Drillships >120

- Typically utilised to drill wells in deep and ultra-deep waters of up to 12,000 feet.

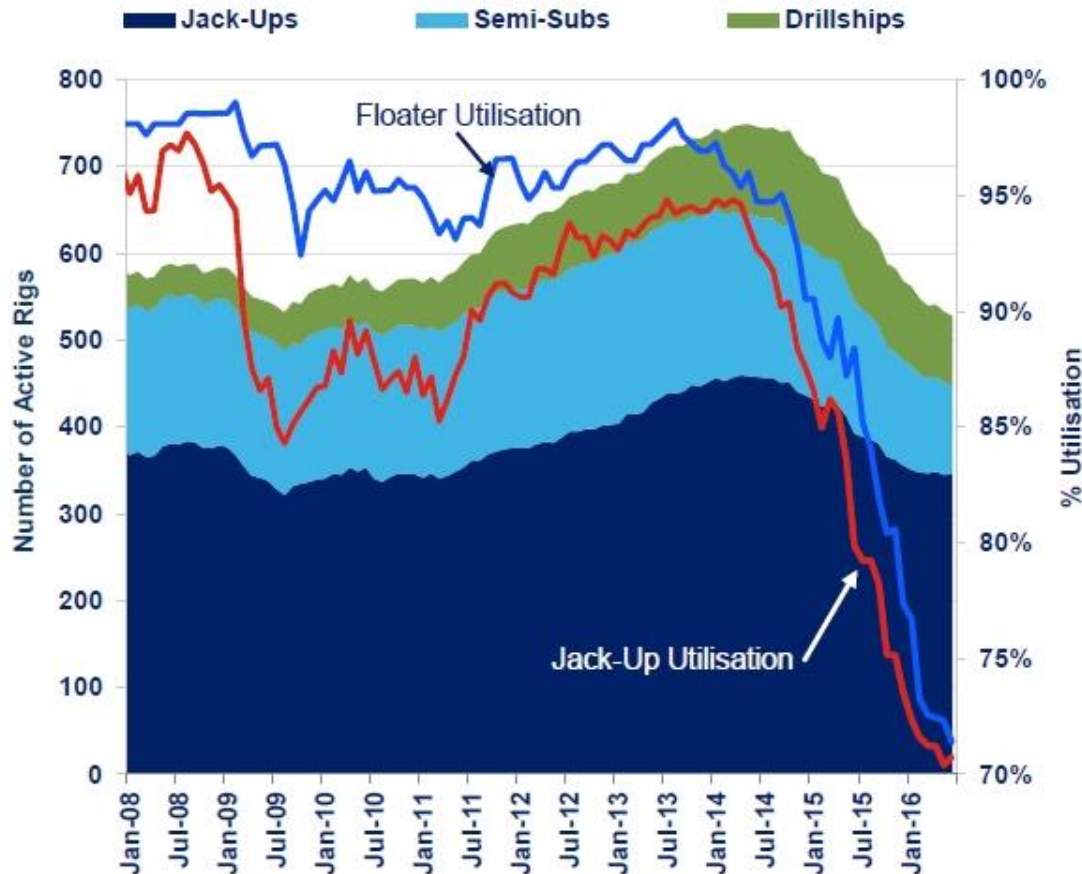


Rig Utilisation

July 2016 Utilisation

Jack-Ups: 70%

Floater: 71%



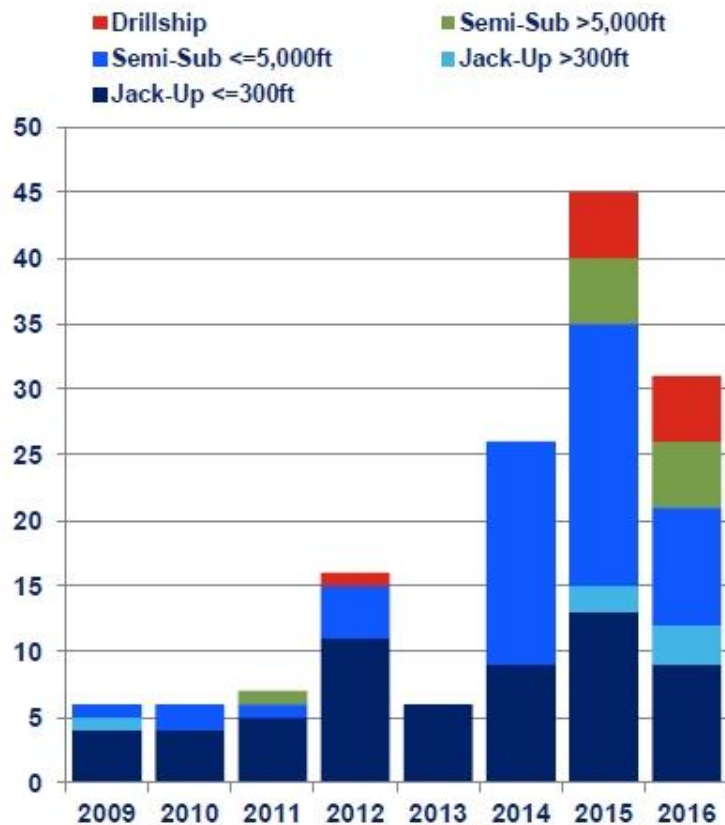
Data Source: Clarksons Research

| DEMAND | Jun 2015 | Jun 2016 | % Change |
|-------------------|------------|------------|-------------|
| Jack-Ups | 393 | 346 | -12% |
| Floater | 252 | 182 | -28% |
| Total Rigs | 645 | 528 | -18% |

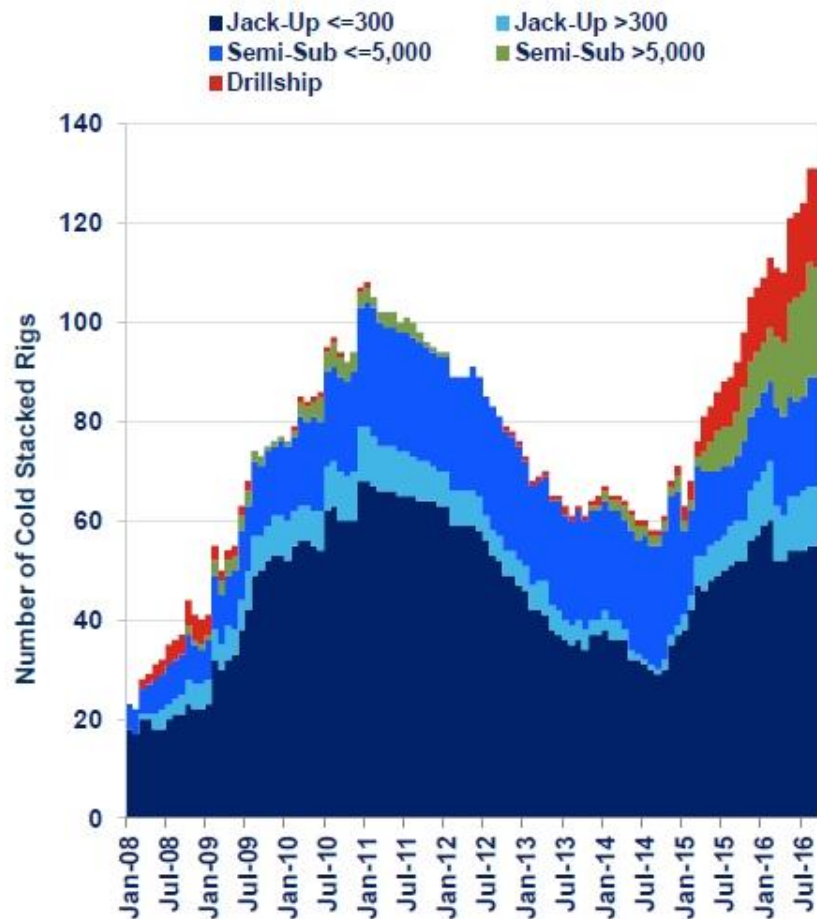
| ACTIVE SUPPLY | Jun 2015 | Jun 2016 | % Change |
|-------------------|------------|------------|------------|
| Jack-Ups | 492 | 489 | -0.6% |
| Floater | 285 | 255 | -11% |
| Total Rigs | 777 | 744 | -4% |



Rig Demolitions



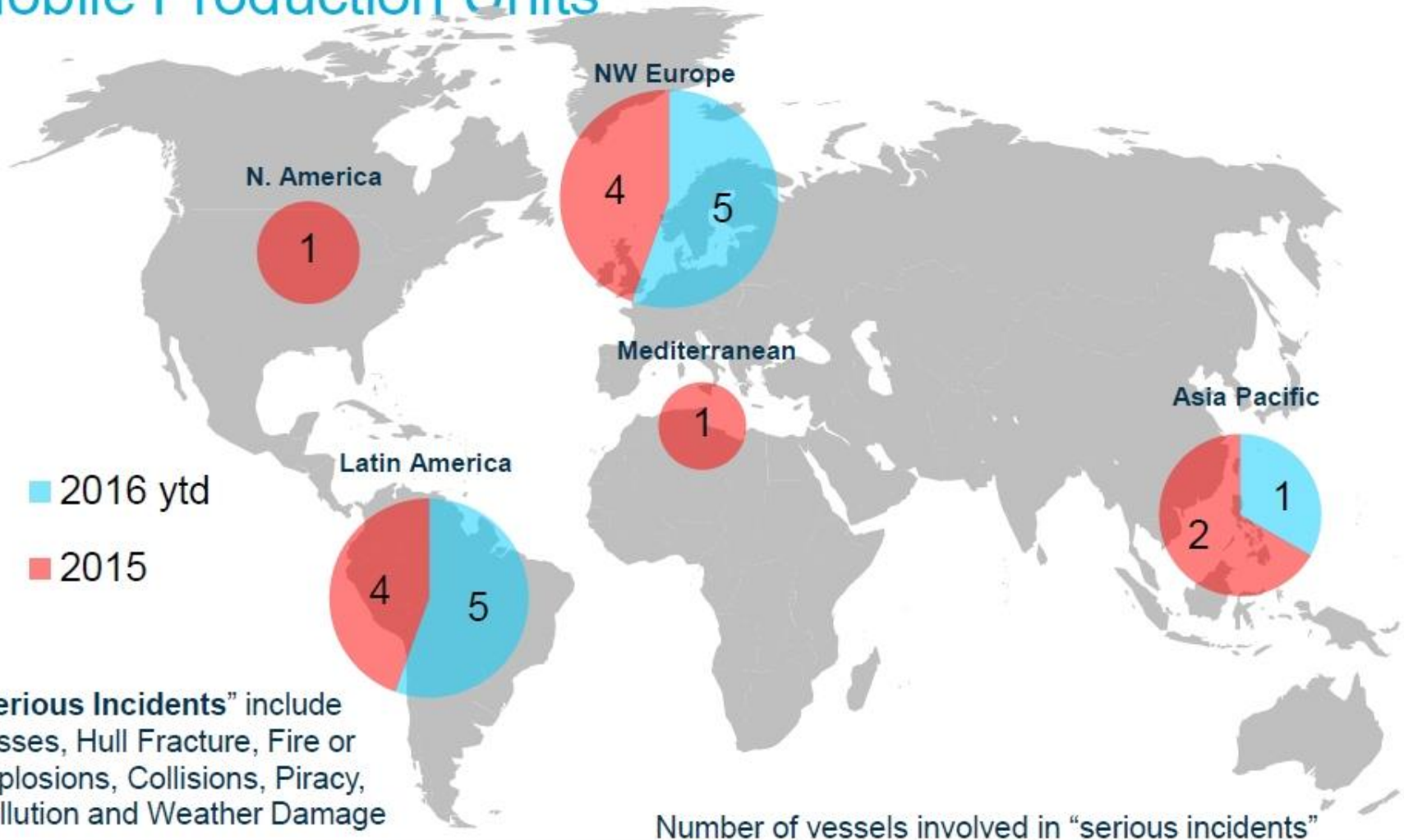
Rig Stacking



Data Source: Clarksons Research



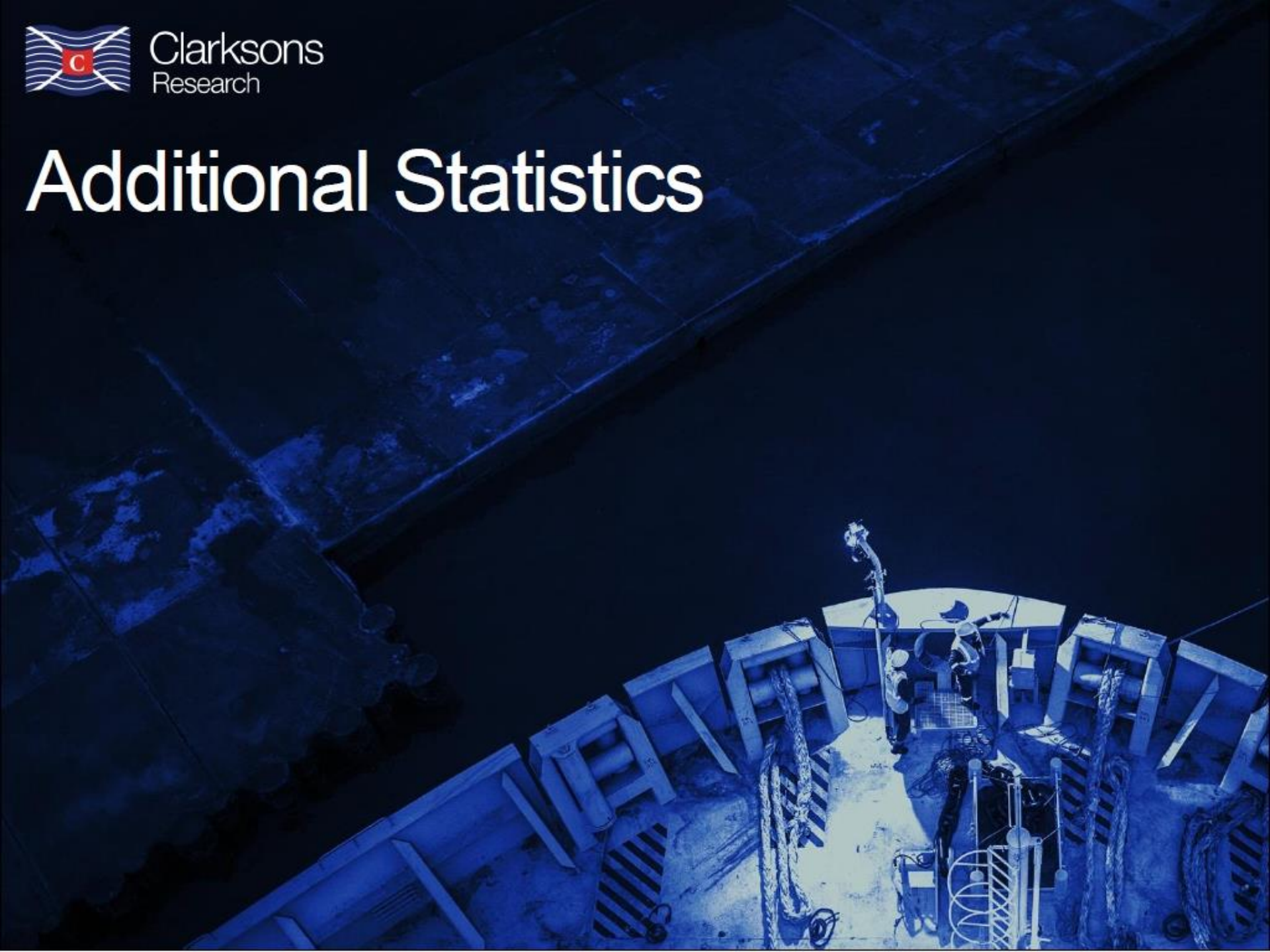
Serious Incidents 2015/2016 - Mobile Drilling and Mobile Production Units





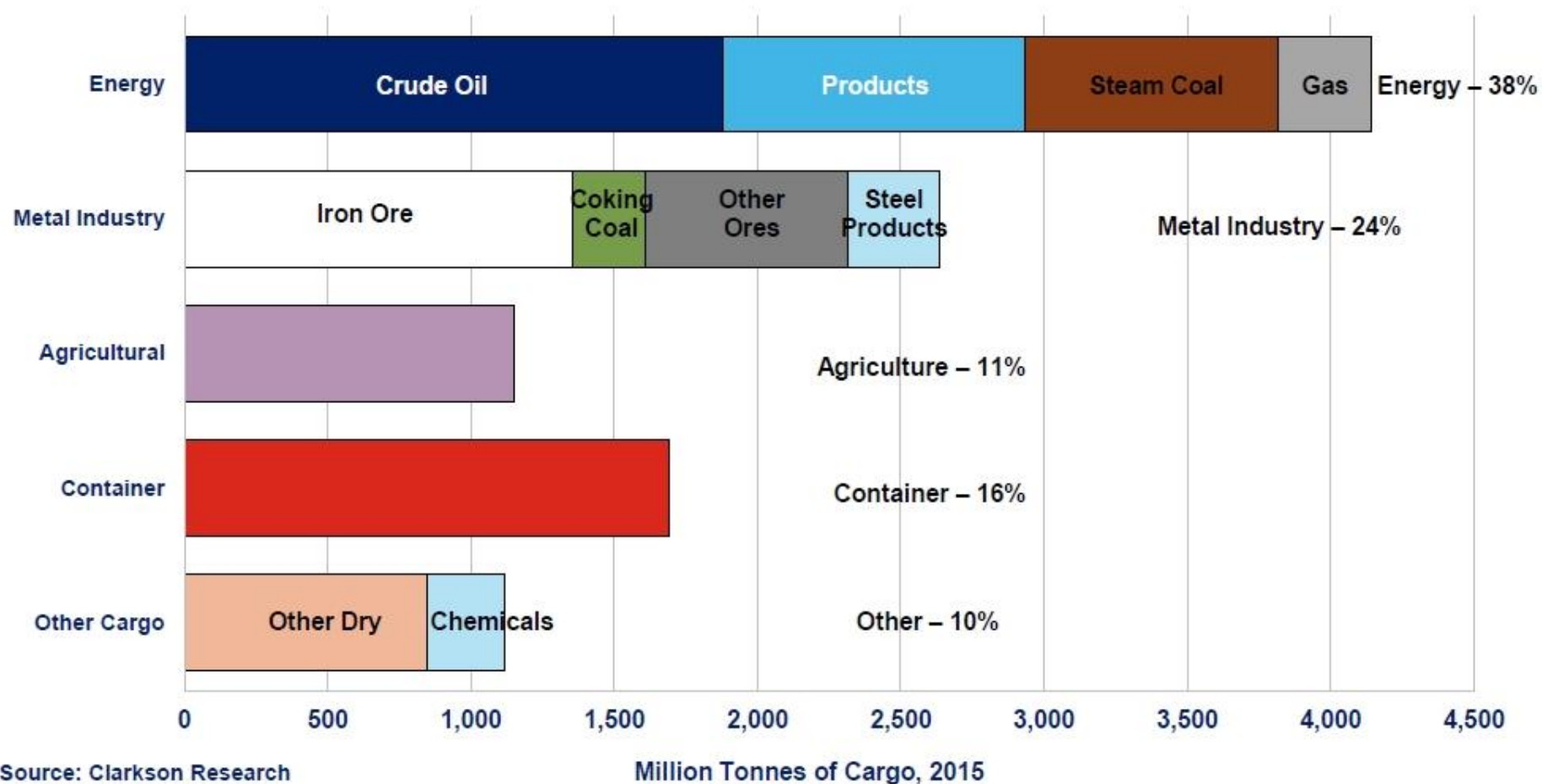
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Additional Statistics



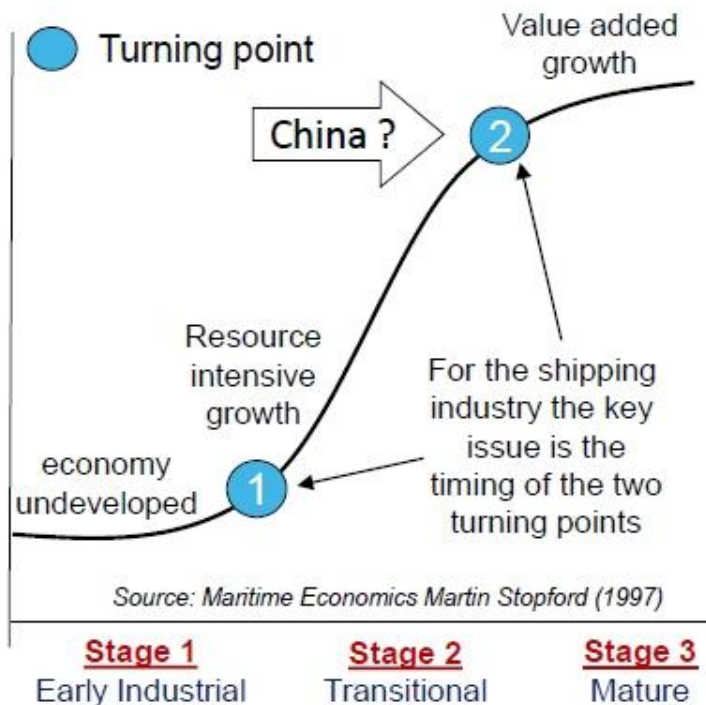


Seaborne Trade By Main Commodity





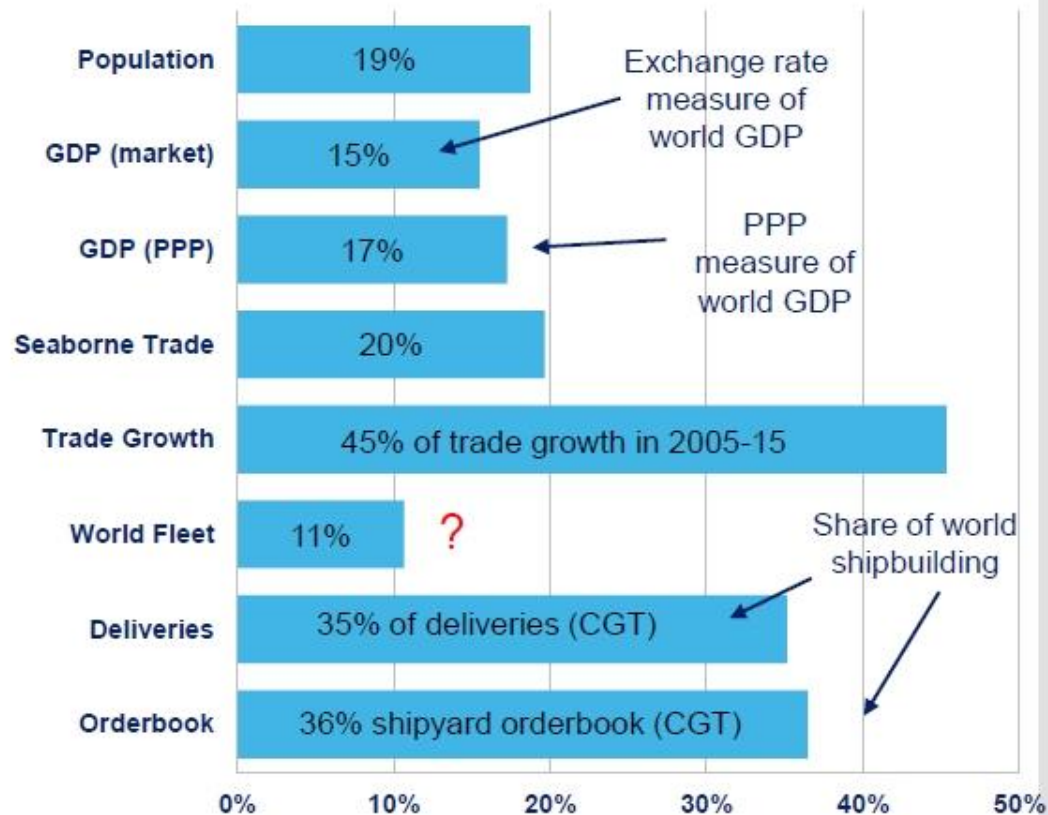
China in the World Maritime Economy



Key factors driving future trade growth scenarios:

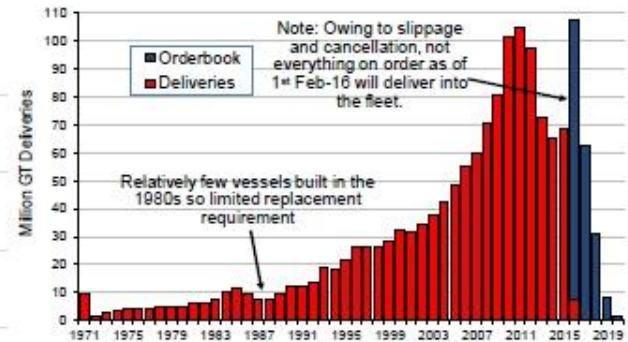
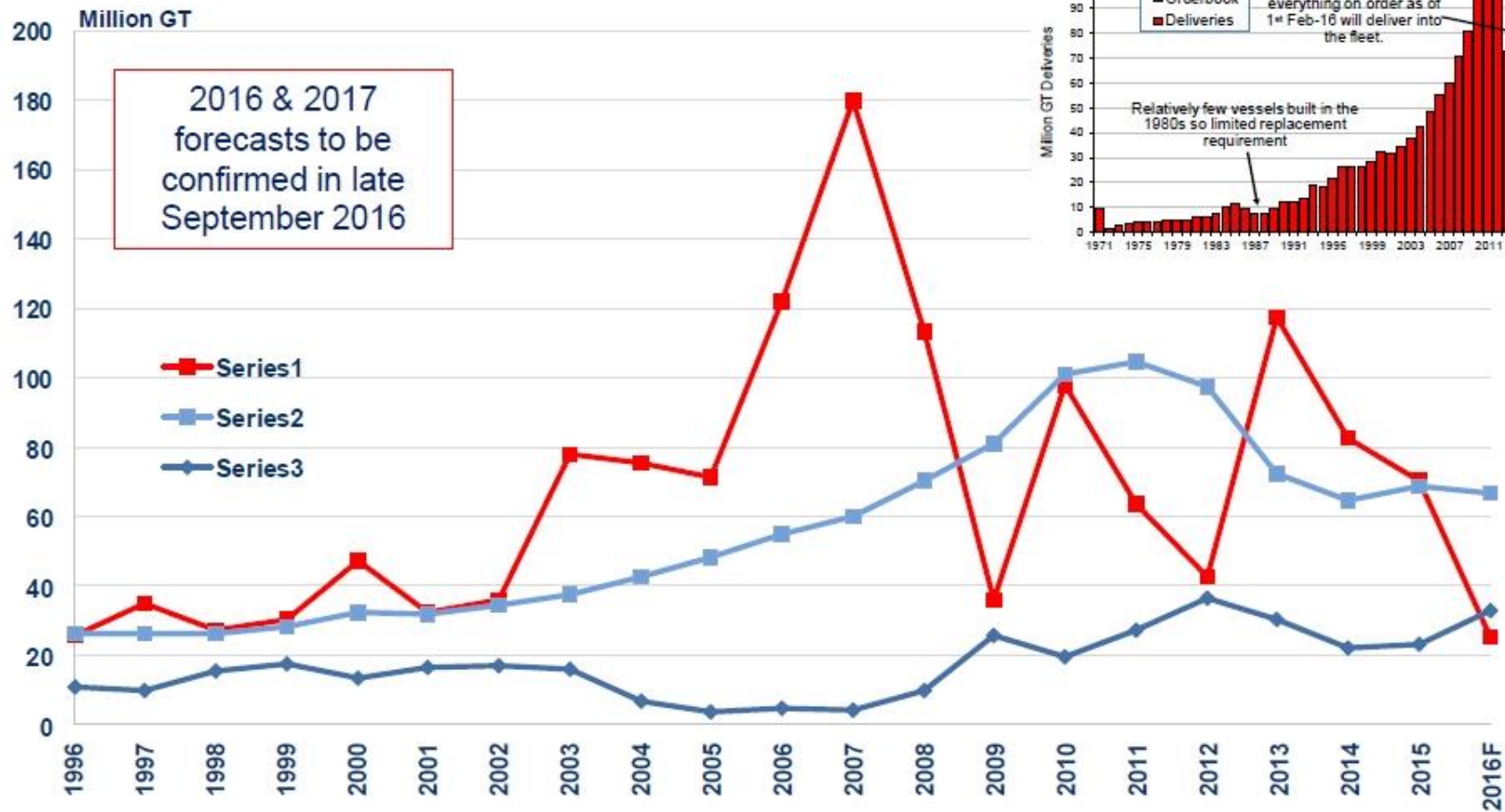
- Management of economy and stabilisation from current trends
- Future pace of growth in the economy and in domestic demand
- Extent of change in energy mix and pollution control
- Rate of change in construction activity and steel output
- Extent of regional contagion
- Competitiveness of exports

China's Share of World Total



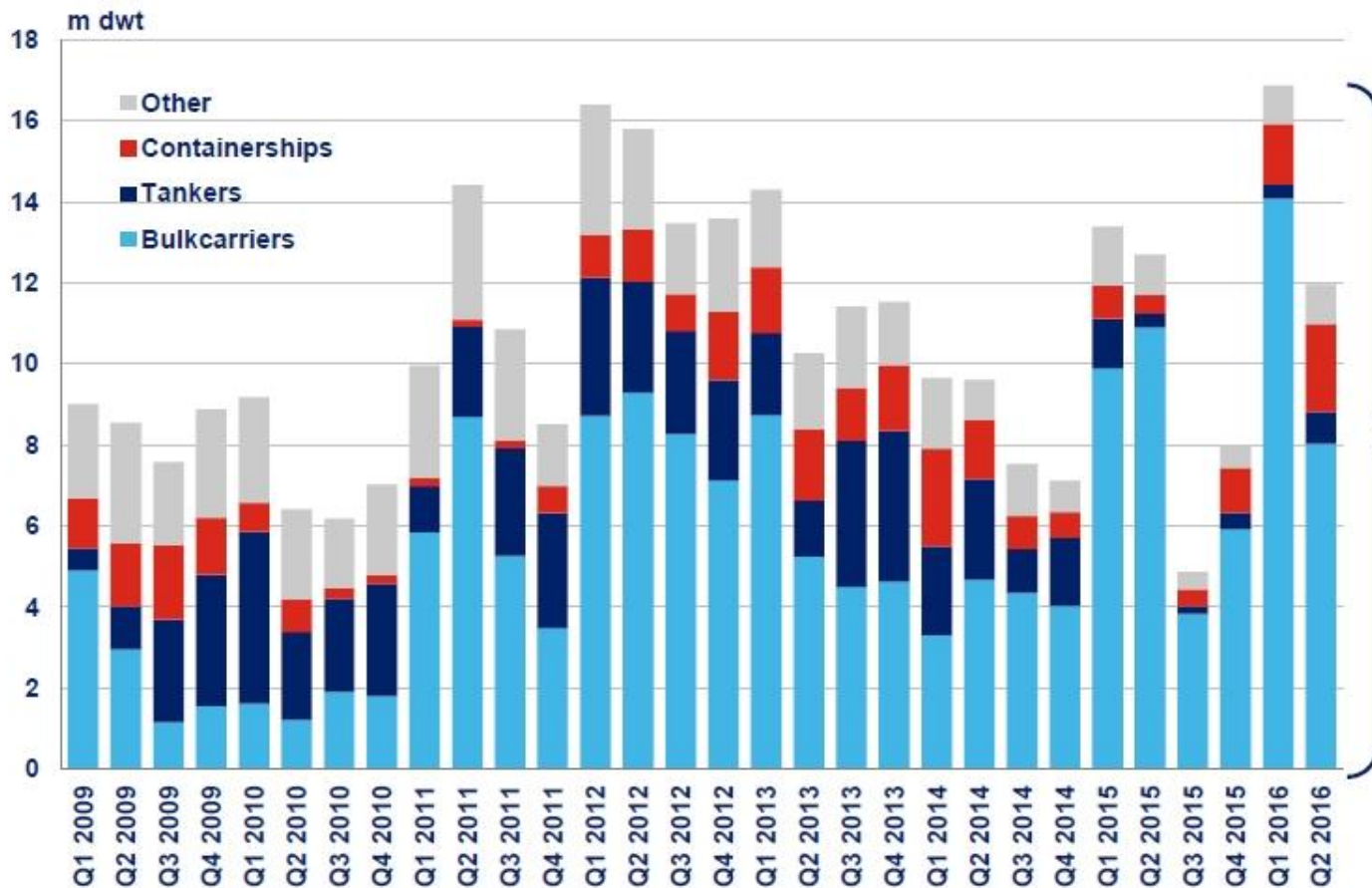


Contracting, Deliveries & Demolitions



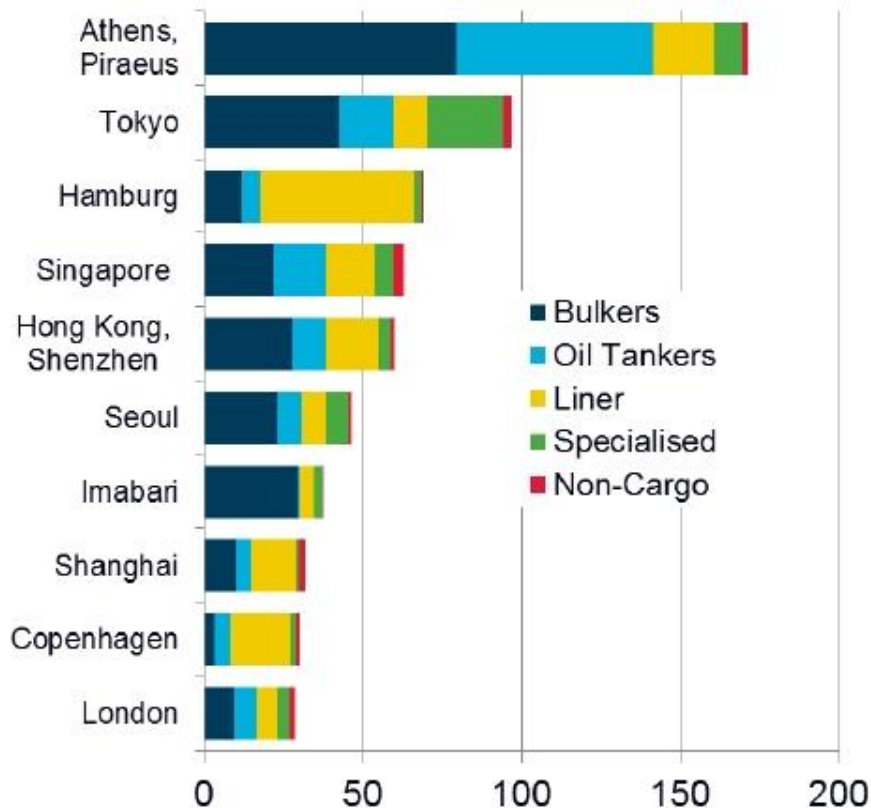


Demolition Trends



1H 2016 record half year for bulker demolition with 22.1 m dwt reported scrapped.

Major Shipping Centres – World Fleet

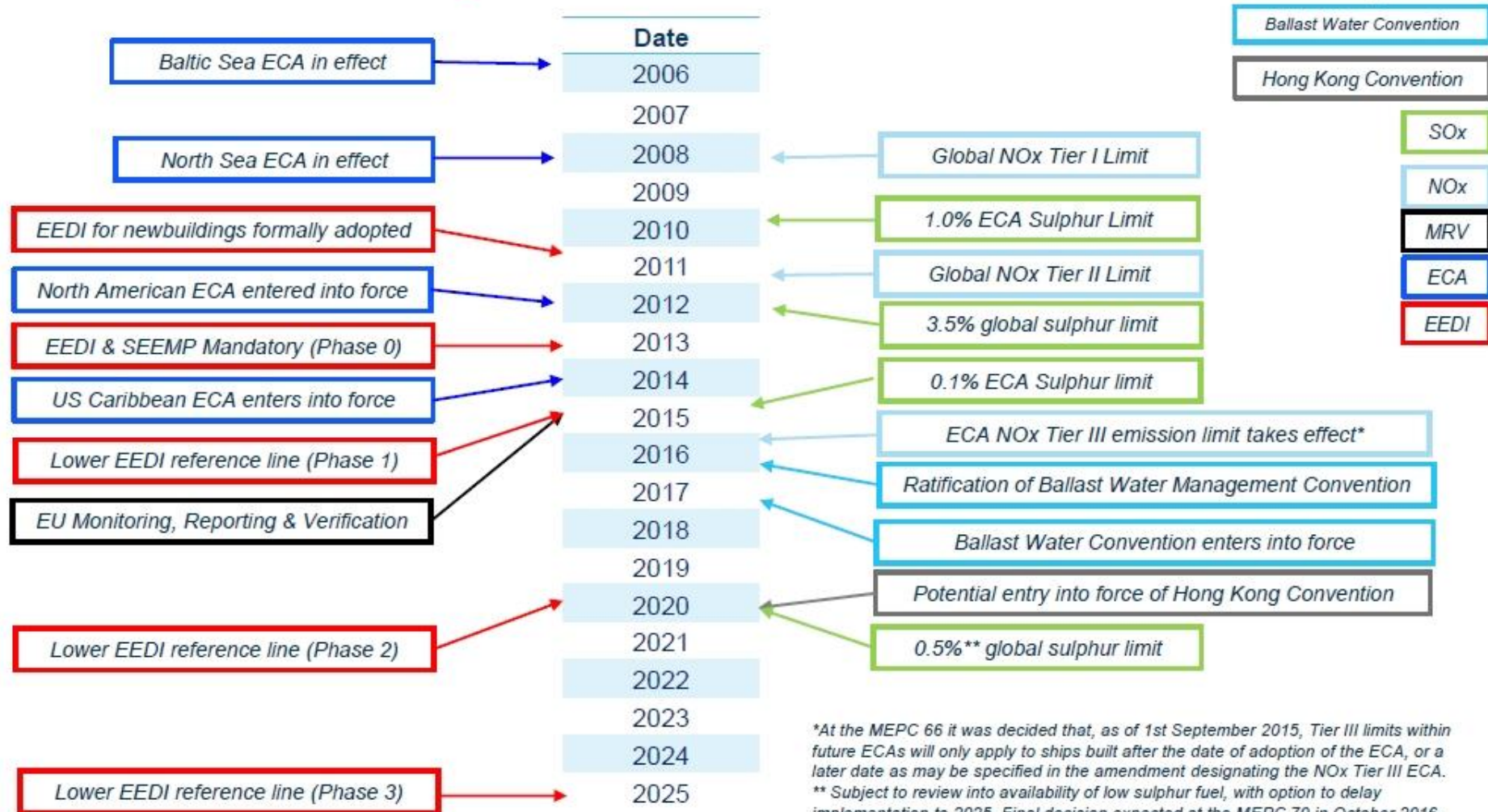


- Owners based in the top ten cities account for over 50% of world tonnage.
- The largest city zone is Athens, with owners based here controlling a combined fleet of 4,554 vessels of 171m GT.
- The next largest city is Tokyo, which controls a fleet of 97m GT.
- Hamburg has the largest liner fleet of any city, 48m GT, accounting for 70% of the cities total.

The graph shows the top ten 'owner zones' by the size of the fleet in terms of GT. The 'owner zones' are defined as the combined fleet of all shipowners who have a head office address that is within an approximate 40km radius of each major city. The data is based on the recorded location of the 'beneficial owner', defined as the ship owning company with the main commercial responsibility for the ship.



Environmental Regulation Timeline

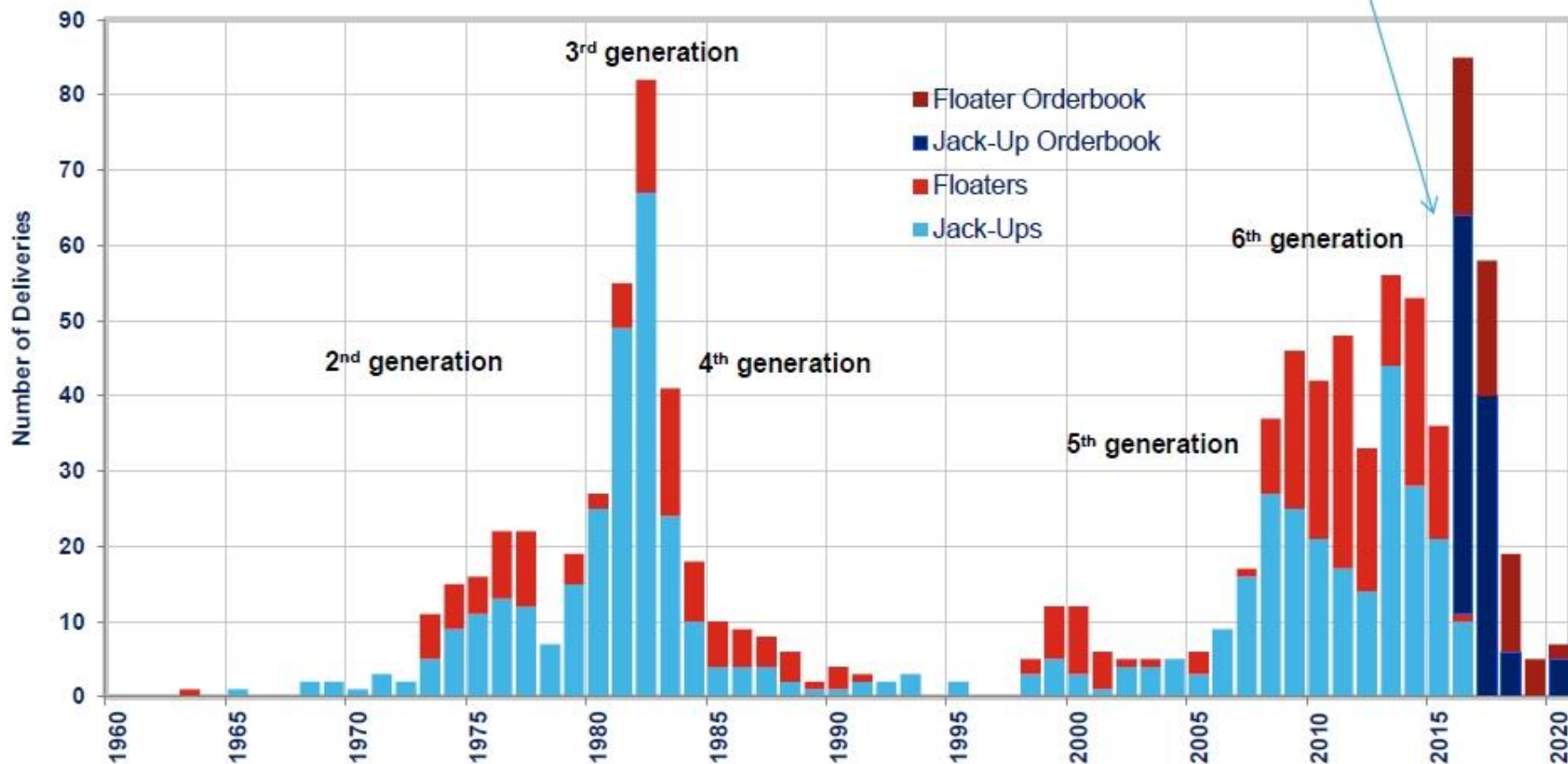


*At the MEPC 66 it was decided that, as of 1st September 2015, Tier III limits within future ECAs will only apply to ships built after the date of adoption of the ECA, or a later date as may be specified in the amendment designating the NOx Tier III ECA.
 ** Subject to review into availability of low sulphur fuel, with option to delay implementation to 2025. Final decision expected at the MEPC 70 in October 2016.



MODU Build Cycles

Large orderbook
but delays likely

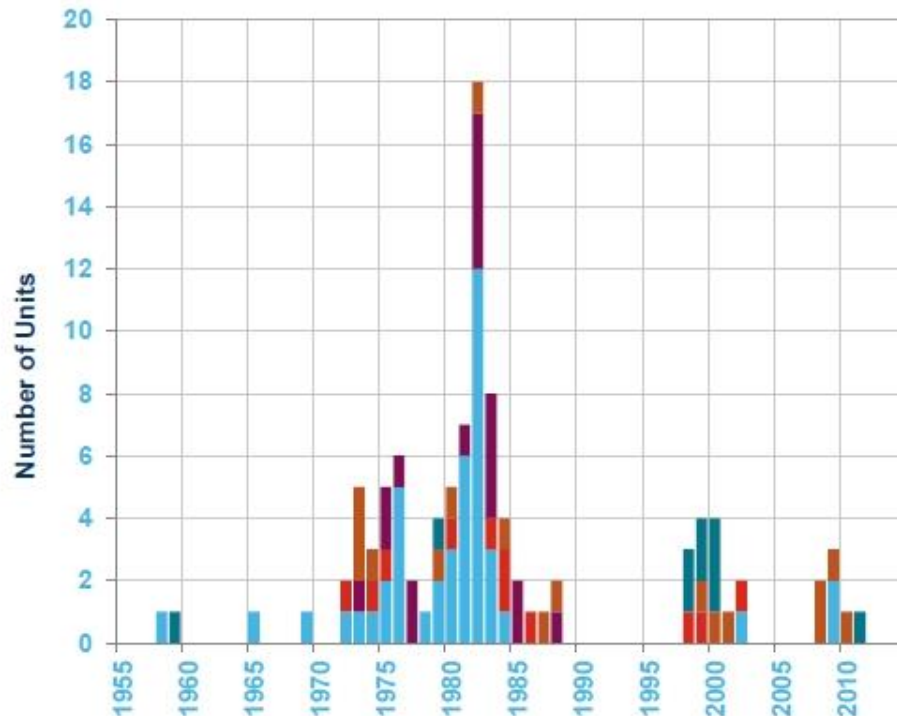


Data Source: Clarkson Research Services



Cold Stacking

Cold Stacked Age Profile



Data Source: Clarkson Research Services



Major Cold Stacked Rig Locations

| Location | Country |
|----------------|-----------------|
| Port Fourchon | USA |
| Sabine Pass | USA |
| Port Iberia | USA |
| Freeport | USA |
| Cromarty Firth | Scotland, UK |
| Dubai | UAE |
| Labuan | Sabah, Malaysia |
| Jurong | Singapore |



Rig Dayrates

Jack-Ups



Floater

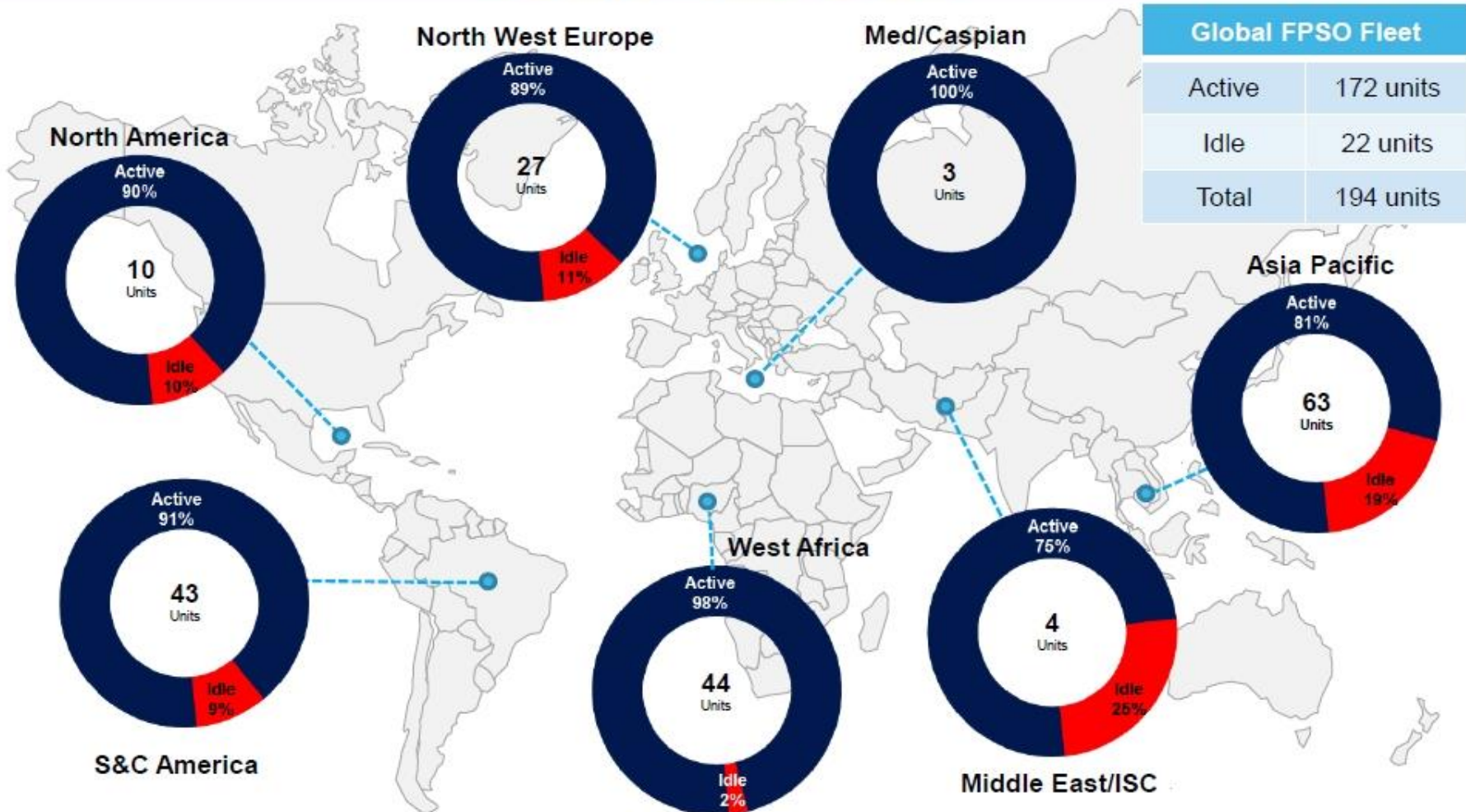


Data Source: Clarksons Research



Global FPSO Deployment

FPSO Fleet by Deployment Region (June 2016)





Production Outages 2016 – Offshore Fields



Note: Includes all fields offline in 2016ytd, including planned maintenance. Single outages can affect multiple fields.



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