Objective: Celebrate Last Night’s Victory
Today’s Agenda

✓ Review the present

✓ Take a look back at proved to be a pretty good year by..... container shipping standards

✓ Speculate on where the Hemisphere may be headed
The Global Container Shipping Industry Today

- Roughly 400 companies
- Operating 5,000+ ships (fully cellular) & 18+M TEUs of capacity
- Concentration: 16 of the top 20 lines belong to a consortia
- Profitably investing in capacity and delivering reliable service remains a daunting challenge
- The 20,000 TEU barrier has been cracked—reportedly!
How did we get here?

- Jan-14: 17.3 TEUs (Millions)
- Added: 1.5 TEUs
- Deleted: -0.4 TEUs
- Jan-15: 18.2 TEUs

Idle: 0.2 TEUs
Active: 18.2 TEUs

Norbridge
American Association of Port Authorities
Concentration: 16 of the top 20 lines participate in consortia.

2 M
- Maersk (1)
- MSC (2)

Ocean 3c
- CMA CGM (3)
- China Shipping (8)
- UASC (19)

CKYH+E
- Cosco (6)
- HANJIN (9)
- Yang Ming (15)
- K Line (18)

G6
- Hapag-Lloyd (5)
- CSAV (9)
- MOL (10)
- APL (12)
- NYK Line (13)
- Hyundai Merchant Marine (15)
The Container Shipping Industry: A look back at 2014
2014 was a very good or bad year depending on the company

Global Container Industry Net Profit/Loss by Carrier
YTD 2014 (Q3)
2014 was a year of significant developments

- Cheap fuel
- The gray ship
- A new regulatory voice
- Noteworthy transactions
- Déjà vu or the US West Coast meltdown
The gray ship was an innovative concept that could have transformed the industry.

<table>
<thead>
<tr>
<th>The Gray Ship</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Concept similar to the 1960s-1970s Latin American pooling agreements</td>
</tr>
<tr>
<td>• P3 significantly improved upon it by focusing on capacity</td>
</tr>
<tr>
<td>• Third party operator and mandated cost recovery addressed the industry’s chronic challenge</td>
</tr>
</tbody>
</table>
A new regulatory voice derailed the gray ship concept

P3 Regulatory Math

US FMC + EU Competition Directorate - China Ministry of Commerce = 2M
2014 Transactions: is it a trend?
The Hemispheric Container Shipping Industry
A look ahead to 2016 and ……
Never make predictions, especially about the future” [Casey Stengel]

- The Fleet
- Networks
- Operations
- Regulation
- M&A
The Future Container Fleet

- Jan 2015 Fleet: 18.4
- Scrapping: -0.5
- Additions: 1.2 (2015), 1.9 (2016+)
- Jan 2017 Fleet: 21.0

TEUs (Millions)
The 20,000 TEU ship has already arrived

- Adding a tier in the hold and/or on deck increases a 19,000 TEU ship to 20,000+ TEUs
- Increasing the beam one row can increase capacity to 21,000+ TEUs
- CMA/CGM, Evergreen MOL, MSC and Maersk have all ordered ships with 20,000 TEU capability

Evergreen ships would have a nominal capacity of almost 20,500 TEUs through such design adjustments while keeping the basic dimensions unchanged from an 18,000 TEU vessel.
Operations

• Slow steaming is likely to (should, must) continue
• Direct port calls by big ship strings will likely become more concentrated
• Hemispheric feeder operations are therefore likely to increase
  – Caribbean Basin, Central America, NCSA, WCSA (Ecuador/Colombia), intra-Brazil, US Gulf
• Terminal automation will be critical to realizing big ship scale economies
Regulation: a wild card

• The simple math says: As concentration tightens supply, regulatory scrutiny will increase

• The political wild card is the unknown

• What if:
  – COSCO/CSCL merge?
  – CKHYE/Ocean Three become the W8-9?
  – The Japanese Lines consolidate under a government supported initiative?

FMC Chairman Lidinsky has called for and both the China Ministry of Transport and the EU Competition Directorate have enthusiastically supported a second global summit on the impact of super alliances and the challenges they pose to regulators
M&A: valuations, ROIs and regulators are the barriers

- Will the big continue to swallow the niche & regional?
- Independents (non-aligned): merge or are acquired?
- Consortia increasingly cooperate
- Japanese & or Korean lines consolidate
- A major (two top 10s) transaction

**PROBABILITY**

- Plausible
- Unlikely
Thank You
Breakbulk & Dry Bulk Shipping Industry Overviews
Today’s Objectives

 ✓ Profile the current breakbulk and dry bulk shipping industry structures

 ✓ Discuss some key demand drivers

 ✓ Assess the hemispheric implications
International waterborne trade is comprised of four major segments:

<table>
<thead>
<tr>
<th>Container</th>
<th>Breakbulk</th>
<th>Dry Bulk</th>
<th>Liquid Bulk</th>
</tr>
</thead>
</table>
| • Commodities  
  • Consumer goods  
  • Manufactured  
  • Industries  
  • Retail  
  • Manufacturing  
  • Economic drivers  
  • GDP  
  • Population  
  • Consumption  
  • Income | • Commodities  
  • Forest products  
  • Iron & steel  
  • Vehicles  
  • Industries  
  • Construction  
  • Manufacturing  
  • Economic drivers  
  • GDP  
  • Population  
  • Consumption  
  • Income  
  • Trade policies | • Commodities  
  • Iron Ore  
  • Coal  
  • Grains  
  • Stone  
  • Cement  
  • Industries  
  • Steel  
  • Energy  
  • Construction  
  • Food  
  • Economic drivers  
  • GDP  
  • Construction  
  • Manufacturing  
  • Exchange rates | • Commodities  
  • Crude oil  
  • Petroleum products  
  • Residual fuel oil  
  • LNG  
  • Industries  
  • Transportation  
  • Energy  
  • Economic drivers  
  • GDP  
  • Transport demand  
  • Exchange rates  
  • Politics |
Breakbulk & Dry Bulk Shipping Industries

**Breakbulk Shipping**
- Fleet ~ 20,000 ships
- Wide range of capabilities and capacities
- Ownership: highly fragmented except for PCC/PCTC, Reefer and Heavy Lift
- Panama Canal not a “game changer"
- Low growth: demand, supply, ship size
- Niches and oligopolies are key success factors

**Dry Bulk Shipping**
- Fleet ~ ships
- Ownership: highly fragmented
- Segmentation primarily on design and size; little specialization
- Consequently, “size matters”
- Panama Canal expansion will have a material (not dramatic) effect
An Overview of the Breakbulk Shipping Sector
The global breakbulk fleet* totals 3,400+ vessels

Total number of vessels: 3,408

*10,000+ DWT vessels

Source: Clarkson’s World Fleet Register, June 2015
PCTC/PCC fleet renewal & expansion are driving growth

Source: Clarkson’s World Fleet Register, June 2015
## Breakbulk Markets: Major Segments

<table>
<thead>
<tr>
<th>Core</th>
<th>Vehicles</th>
<th>Reefer</th>
<th>Project</th>
<th>Heavy Lift</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forest products</td>
<td>Passenger-new</td>
<td>Bananas</td>
<td>Oil &amp; gas</td>
<td>Container handling equipment</td>
</tr>
<tr>
<td>Iron &amp; steel</td>
<td>Passenger-used</td>
<td>Fruits</td>
<td>Factories</td>
<td>Machinery</td>
</tr>
<tr>
<td>AG products</td>
<td>Trucks</td>
<td>Meat</td>
<td>Machinery</td>
<td>Yachts</td>
</tr>
<tr>
<td>Household goods</td>
<td>Buses</td>
<td></td>
<td>Wind turbines</td>
<td>Factories</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Turbines &amp; generators</td>
</tr>
</tbody>
</table>

*Breakbulk Markets: Major Segments*

*Norbridge*

*American Association of Port Authorities*
## Breakbulk Markets: Demand Overview

<table>
<thead>
<tr>
<th>Demand Drivers</th>
<th>Steel Drivers</th>
<th>Forest Products</th>
<th>Vehicles Suppliers</th>
<th>Reefer Suppliers</th>
<th>Specialty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shippers</td>
<td>Global producers;</td>
<td>Europe, Canada, US</td>
<td>Global producers</td>
<td>Chiquita, Dole,</td>
<td>Manufacturing</td>
</tr>
<tr>
<td></td>
<td>traders</td>
<td>producers</td>
<td></td>
<td>exporters</td>
<td></td>
</tr>
<tr>
<td>Carriers</td>
<td>Toko, Tokai,</td>
<td>Gearbulk, Saga, Star,</td>
<td>WWL, Japan 3, NOSAC</td>
<td>Chiquita, Dole, Star</td>
<td>Intermarine,</td>
</tr>
<tr>
<td></td>
<td>chartered</td>
<td>chartered</td>
<td></td>
<td></td>
<td>Dockships,</td>
</tr>
<tr>
<td>Economic</td>
<td>Commercial</td>
<td>Residential construction, economy</td>
<td>Consumer demand</td>
<td>Consumer demand</td>
<td>General economy, projects</td>
</tr>
<tr>
<td>Container</td>
<td>construction</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Competition</td>
<td>Low</td>
<td>Moderate to high</td>
<td>Moderate</td>
<td>High</td>
<td>Negligible</td>
</tr>
<tr>
<td>Demand</td>
<td>EU: low</td>
<td>EU: low</td>
<td>EU: low</td>
<td>Strong, but container</td>
<td>Third world</td>
</tr>
<tr>
<td>Outlook</td>
<td>US: modest</td>
<td>US: modest</td>
<td>US: Mixed</td>
<td>offsetting</td>
<td>strong; developed</td>
</tr>
<tr>
<td></td>
<td>Asia: mod-strong</td>
<td>Asia: strong</td>
<td>Asia: country specific</td>
<td></td>
<td>world weak</td>
</tr>
</tbody>
</table>

Norbridge
Dry Bulk Shipping Markets

- 7 holds, the size of a tennis court each.
- 30 meters in height, equivalent to a 10-story building.
- Propeller measuring 10.3m in diameter.
The existing dry bulk fleet exceeds 10,000 vessels

Total number of vessels: 10,414
Total DWT Capacity: 764.4 M

Source: Clarkson’s World Fleet Register, June 2015
The Panamax and Handymax sectors are driving fleet expansion.
### Dry Bulk Markets: Major Segments & Representative Trades

<table>
<thead>
<tr>
<th>Iron Ore</th>
<th>Coal</th>
<th>Grains</th>
<th>Bauxite &amp; Alumina</th>
<th>Misc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Brazil to the world</td>
<td>• Metallurgical</td>
<td>• Wheat</td>
<td>• Aluminum Industry</td>
<td>• Fertilizers</td>
</tr>
<tr>
<td>• Australia to Asia</td>
<td>• Steam</td>
<td>• Corn</td>
<td>• End uses: construction,</td>
<td>• Cement</td>
</tr>
<tr>
<td>• South Africa to EU and Asia</td>
<td>• Major exporters</td>
<td>• Soybeans</td>
<td>packaging, vehicles</td>
<td>• Aggregates</td>
</tr>
<tr>
<td></td>
<td>• Australia</td>
<td>• Course grains</td>
<td>• Major producers</td>
<td>• Steel scrap</td>
</tr>
<tr>
<td></td>
<td>• US</td>
<td>• Major exporters</td>
<td>• Australia, Brazil, Guinea,</td>
<td>• Salt</td>
</tr>
<tr>
<td></td>
<td>• Canada</td>
<td>• US</td>
<td>China</td>
<td>• Gypsum</td>
</tr>
<tr>
<td></td>
<td>• South Af.</td>
<td>• Canada</td>
<td>• Major consumers</td>
<td>• Many suppliers and</td>
</tr>
<tr>
<td></td>
<td>• Major importers</td>
<td>• Brazil</td>
<td>• China, North</td>
<td>consumers</td>
</tr>
<tr>
<td></td>
<td>• Australia</td>
<td>• Major importers</td>
<td>America, EU</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• US</td>
<td>• Asia</td>
<td></td>
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<tr>
<td></td>
<td>• Canada</td>
<td>• EU</td>
<td></td>
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<tr>
<td></td>
<td>• South Af.</td>
<td>• India</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Major importers</td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>• Asia</td>
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<td>• EU</td>
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<tr>
<td></td>
<td>• India</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Bauxite & Alumina:
- Major producers: Australia, Brazil, Guinea, China
- Major consumers: China, North America, EU
Wheat, course grains (principally corn) and oil seeds drive world dry bulk grain markets

### World Major Grain Exports, 2014/2015

<table>
<thead>
<tr>
<th>Grain Type</th>
<th>Tonnage (millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat</td>
<td>157</td>
</tr>
<tr>
<td>Rice</td>
<td>42</td>
</tr>
<tr>
<td>Coarse Grains</td>
<td>161</td>
</tr>
<tr>
<td>Oil Seeds</td>
<td>140</td>
</tr>
<tr>
<td>Total</td>
<td>500</td>
</tr>
</tbody>
</table>

**Source:** FAS
## Dry Bulk Markets: Demand Overview

<table>
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<tr>
<th>Demand Drivers</th>
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<th>Grains-Oilseeds</th>
<th>Bauxite-Alumina</th>
<th>Misc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shippers</td>
<td>Steel Industry</td>
<td>Steel &amp; Power Industries</td>
<td>Global Ag Companies, Governments</td>
<td>Global producers</td>
<td>100s</td>
</tr>
<tr>
<td>Carriers</td>
<td>Vale, COSCO, Rio Tinto</td>
<td>100s</td>
<td>1000s</td>
<td>Many</td>
<td>100s</td>
</tr>
<tr>
<td>Economic</td>
<td>Commercial construction</td>
<td>Residential construction, economy</td>
<td>Population; income</td>
<td>Construction &amp; vehicles</td>
<td>General economy</td>
</tr>
<tr>
<td>Hemispheric Demand Outlook</td>
<td>Low: raw steel production in Asia, East Europe</td>
<td>Exports: moderate; economy+; environment (-)</td>
<td>Volatile as US &amp; Canada swing suppliers</td>
<td>Moderate: domestic markets dominate</td>
<td>Moderate depending on NAFTA economy &amp; exchange rates</td>
</tr>
</tbody>
</table>
Breakbulk & Dry Bulk Shipping Industries

THANK YOU
Big ships---potential waterside.....

7,400 ship moves with six cranes @ 35 mph =:
• Minimum 35 working hours
• About 40 berth occupancy hours
& ..... landside downsides

7,400 ship moves with a 40% intermodal split =:
• About 8-10,000 TEU storage slots (30-37 medium density RTG storage acres)
• 14-15 DSTs (20 cars each)
• 5,700-5,800 gates moves @ 1.3:1.0
Source: Clarkson's World Fleet Register, June 2015