AAPA Commissioners Seminar

Global & Hemispheric Trends: Container Shipping

Norbridge

June 2015

AAPA American Association of Port Authorities

Objective: Celebrate Last Night's Victory

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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

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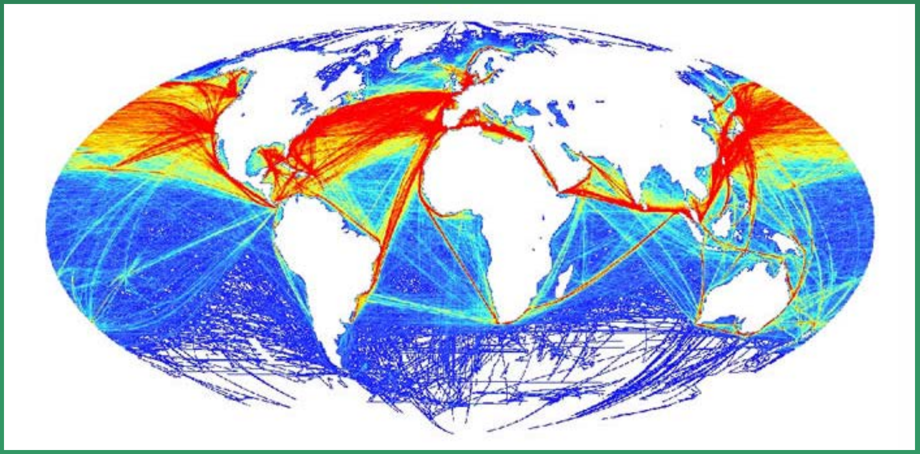
The Container Shipping Industry Today

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!



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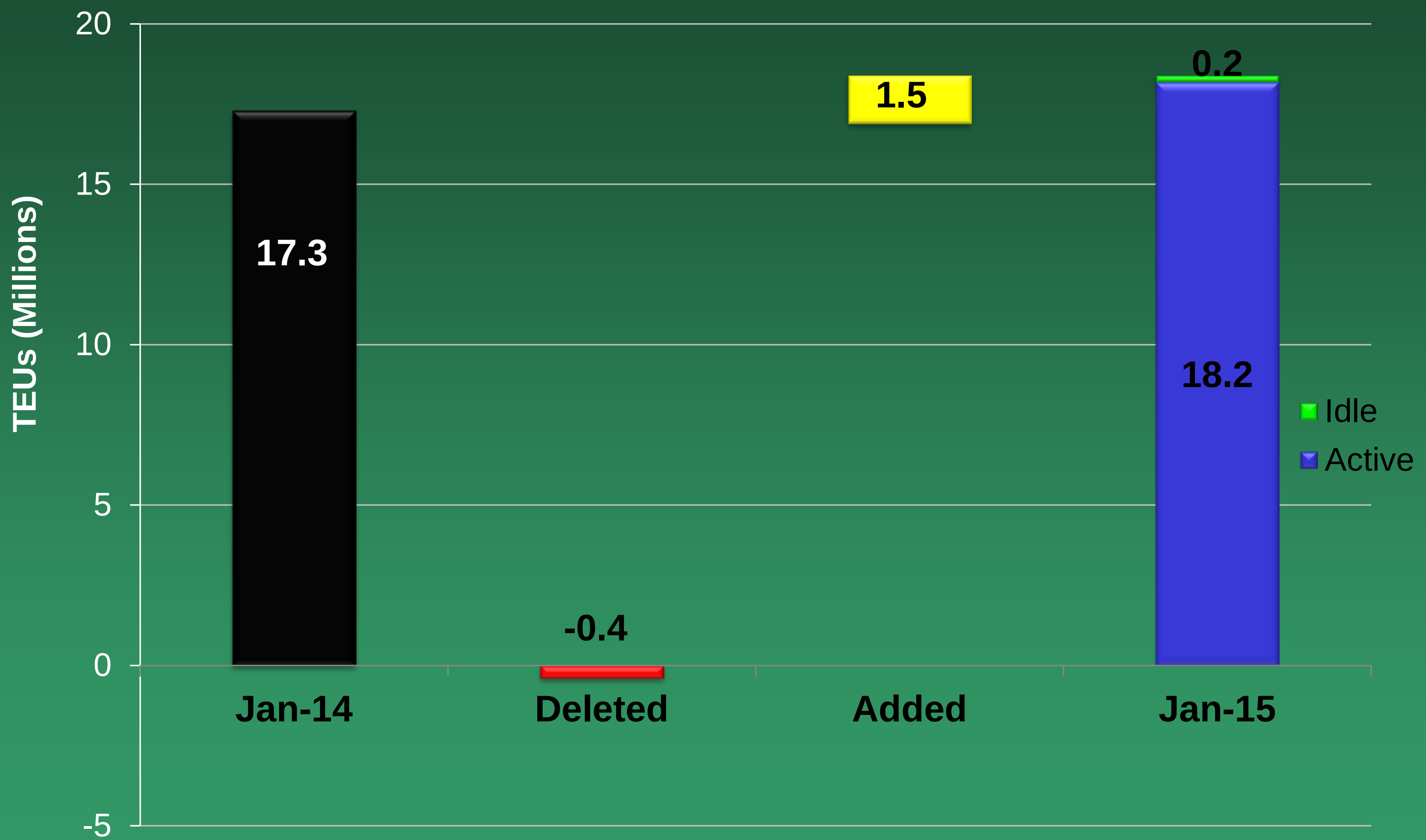
How did we get here?



Concentration: 16 of the top 20 lines participate in consortia

2 M

- MÆRSK (1)
- MSC Mediterranean Shipping Company (2)

Ocean 3c

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

CKYH+E

- COSCO (6)
- HANJIN (9)
- YANG MING (15)
- "K" LINE Kawasaki Kisen Kaisha, Ltd. (18)
- Evergreen (4)

G6

- Hapag-Lloyd, CSAV (5)
- MOL (9)
- APL (10)
- OOCL (12)
- NYK Line Nippon Yusen Kaisha (13)
- HMM Hyundai Merchant Marine Co., Ltd. (15)

The Container Shipping Industry: A look back at 2014

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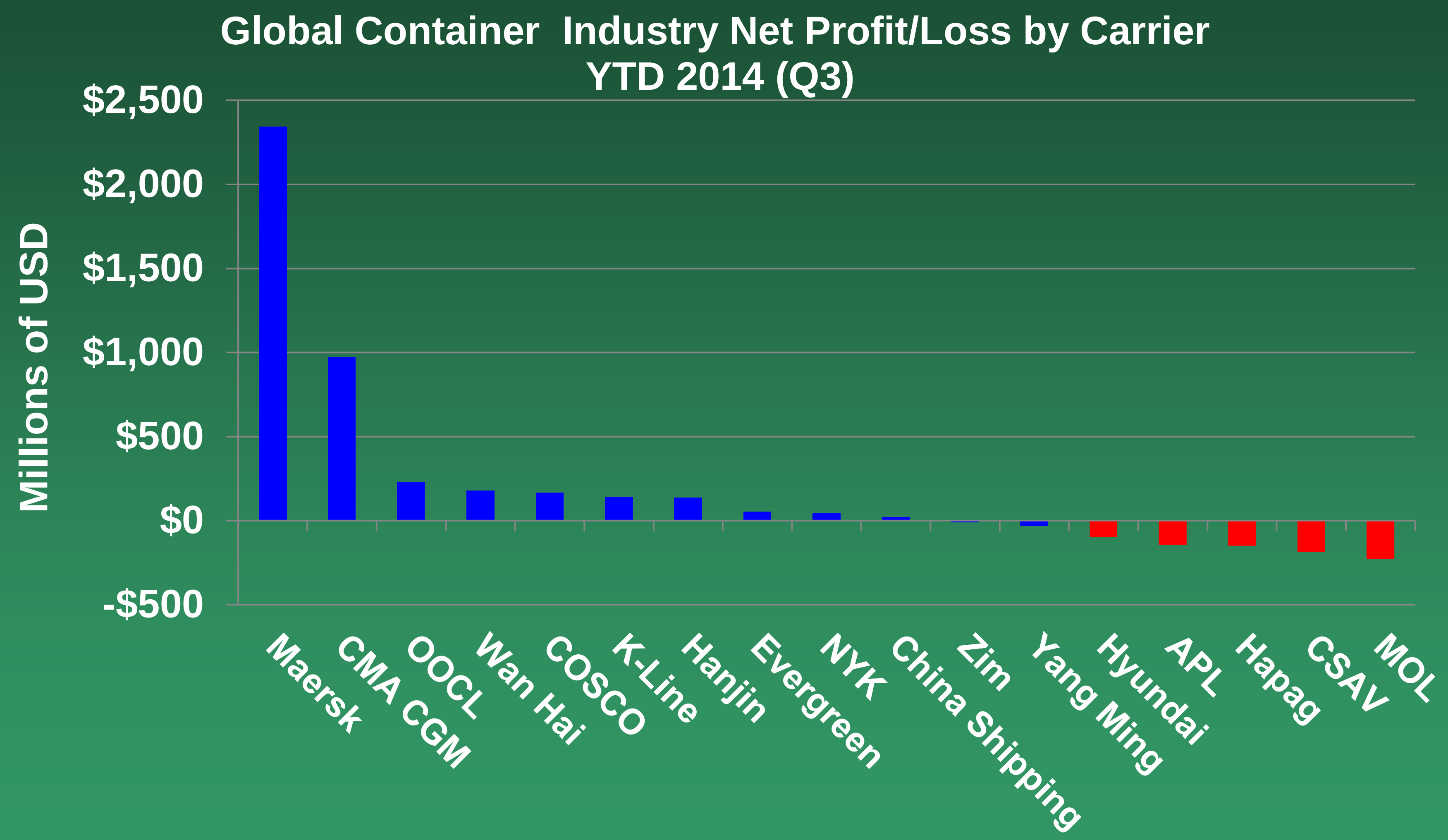
2014 was a very good or bad year depending on the company



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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

The Gray Ship

- Concept similar to the 1960s-1970s Latin American pooling agreements
- P3 significantly improved upon it by focusing on capacity
- Third party operator and mandated cost recovery addressed the industry's chronic challenge

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 ……

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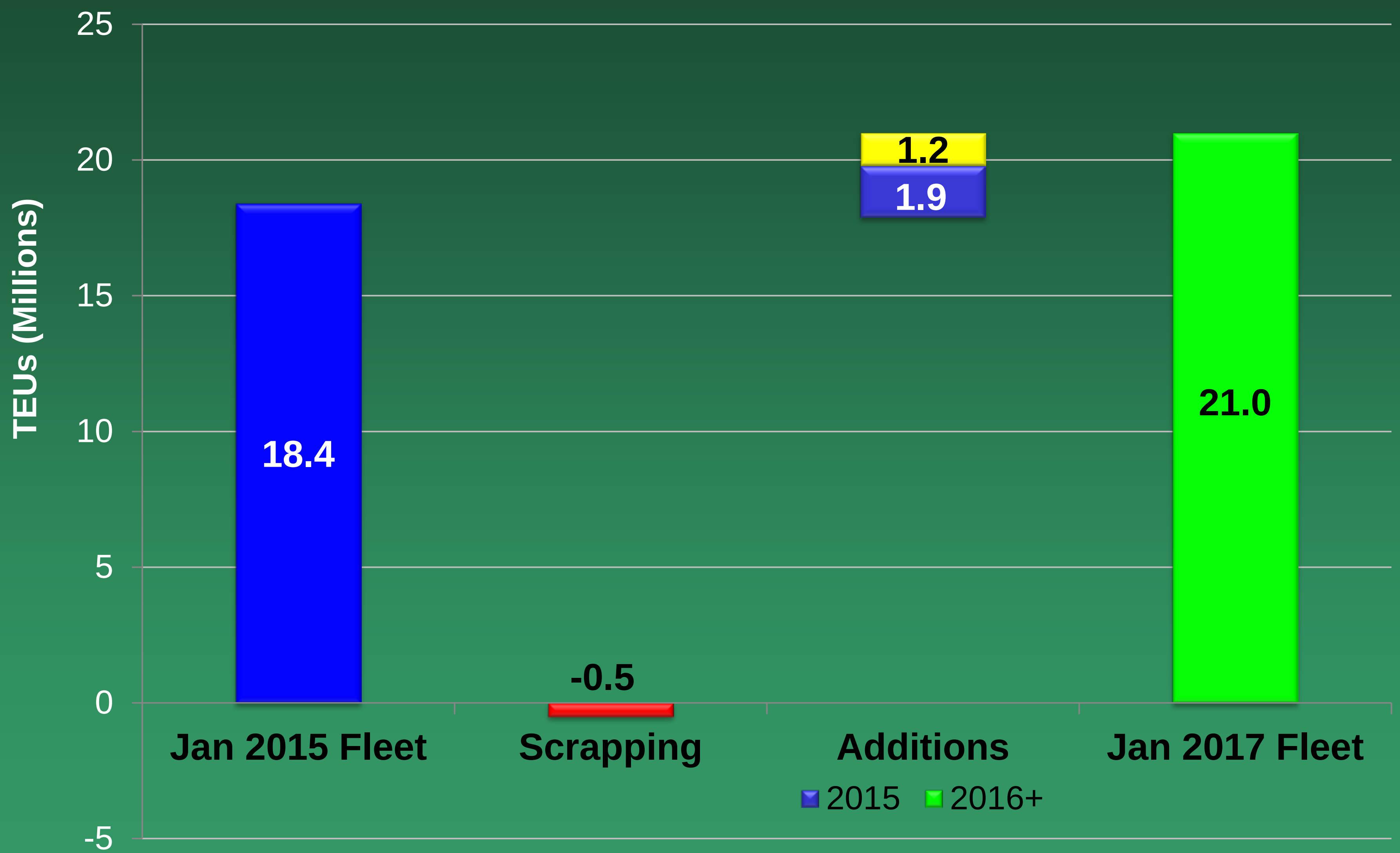
Never make predictions, especially about the future" [Casey Stengel]

- ✓The Fleet
- ✓Networks
- ✓Operations
- ✓Regulation
- ✓M&A

The Future Container Fleet



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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

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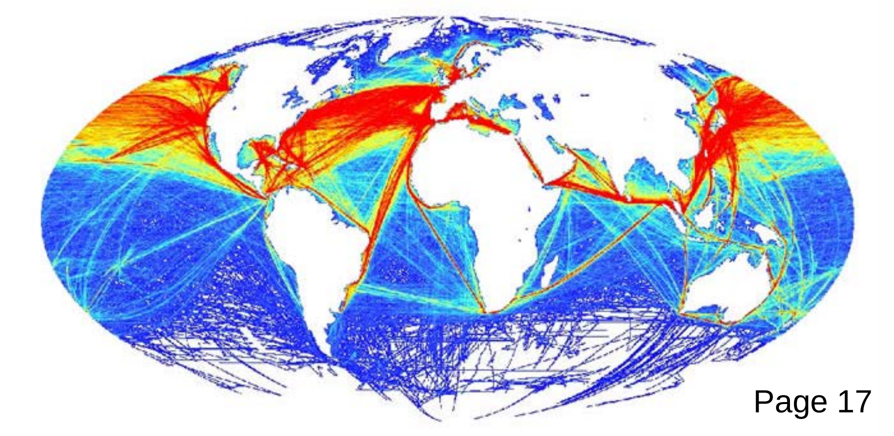
Operations

- 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?

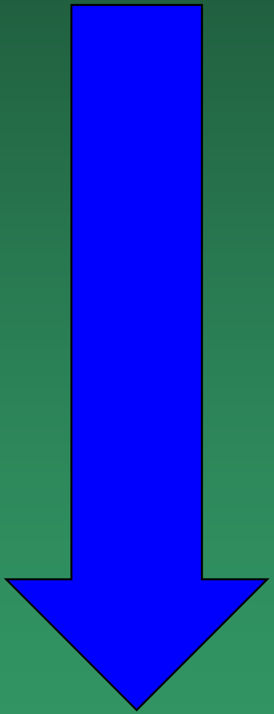
FMC Chairman Lidinsky has called for and both the China Ministry of Transport and the EU Competition Directorate have enthusiastically supported a second global summit on the impact of super alliances and the challenges they pose to regulators

M&A: valuations, ROIs and regulators are the barriers

PROBABILITY

- ✓ 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

Plausible



Unlikely

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Thank You

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Breakbulk & Dry Bulk Shipping Industry Overviews

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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

Container

- Commodities
  - Consumer goods
  - Manufactured
- Industries
  - Retail
  - Manufacturing
- Economic drivers
  - GDP
  - Population
  - Consumption
  - Income

Breakbulk

- Commodities
  - Forest products
  - Iron & steel
  - Vehicles
- Industries
  - Construction
  - Manufacturing
- Economic drivers
  - GDP
  - Population
  - Consumption
  - Income
  - Trade policies

Dry Bulk

- Commodities
  - Iron Ore
  - Coal
  - Grains
  - Stone
  - Cement
- Industries
  - Steel
  - Energy
  - Construction
  - Food
- Economic drivers
  - GDP
  - Construction
  - Manufacturing
  - Exchange rates

Liquid Bulk

- 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

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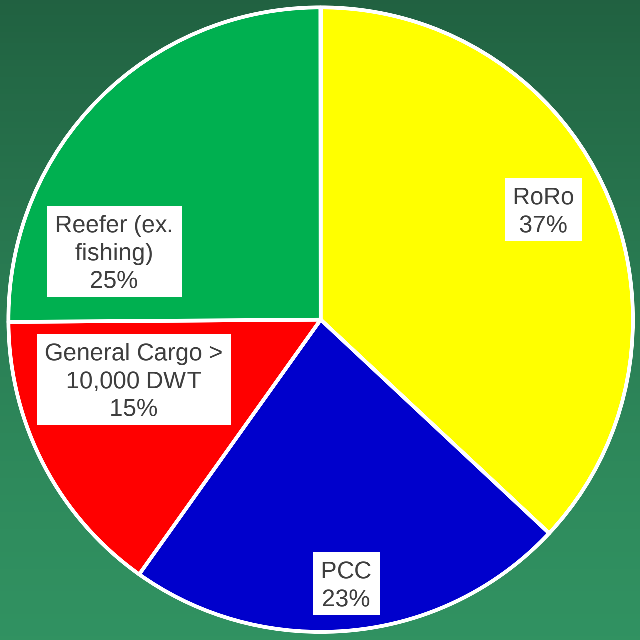
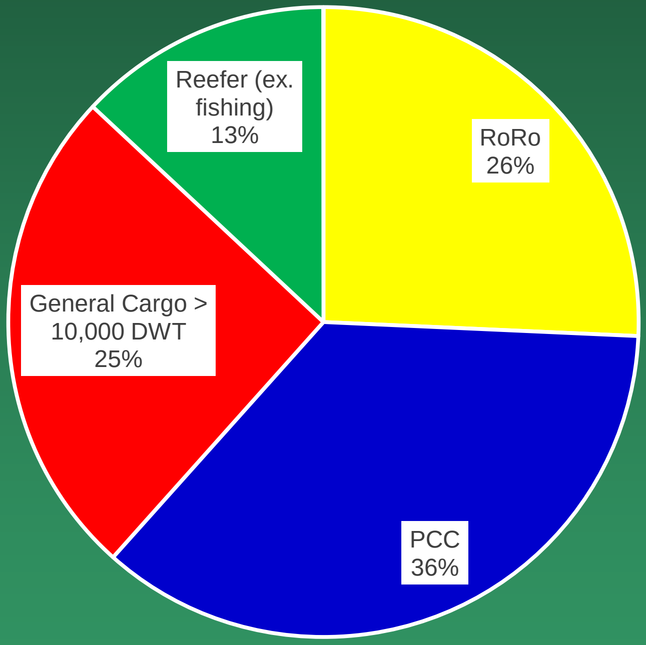
The global breakbulk fleet* totals 3,400+ vessels

Vessels



Total number of vessels: 3,408

DWT Capacity



Total DWT Capacity: 34.1 M

*10,000+ DWT vessels

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Source: Clarkson's World Fleet Register, June 2015

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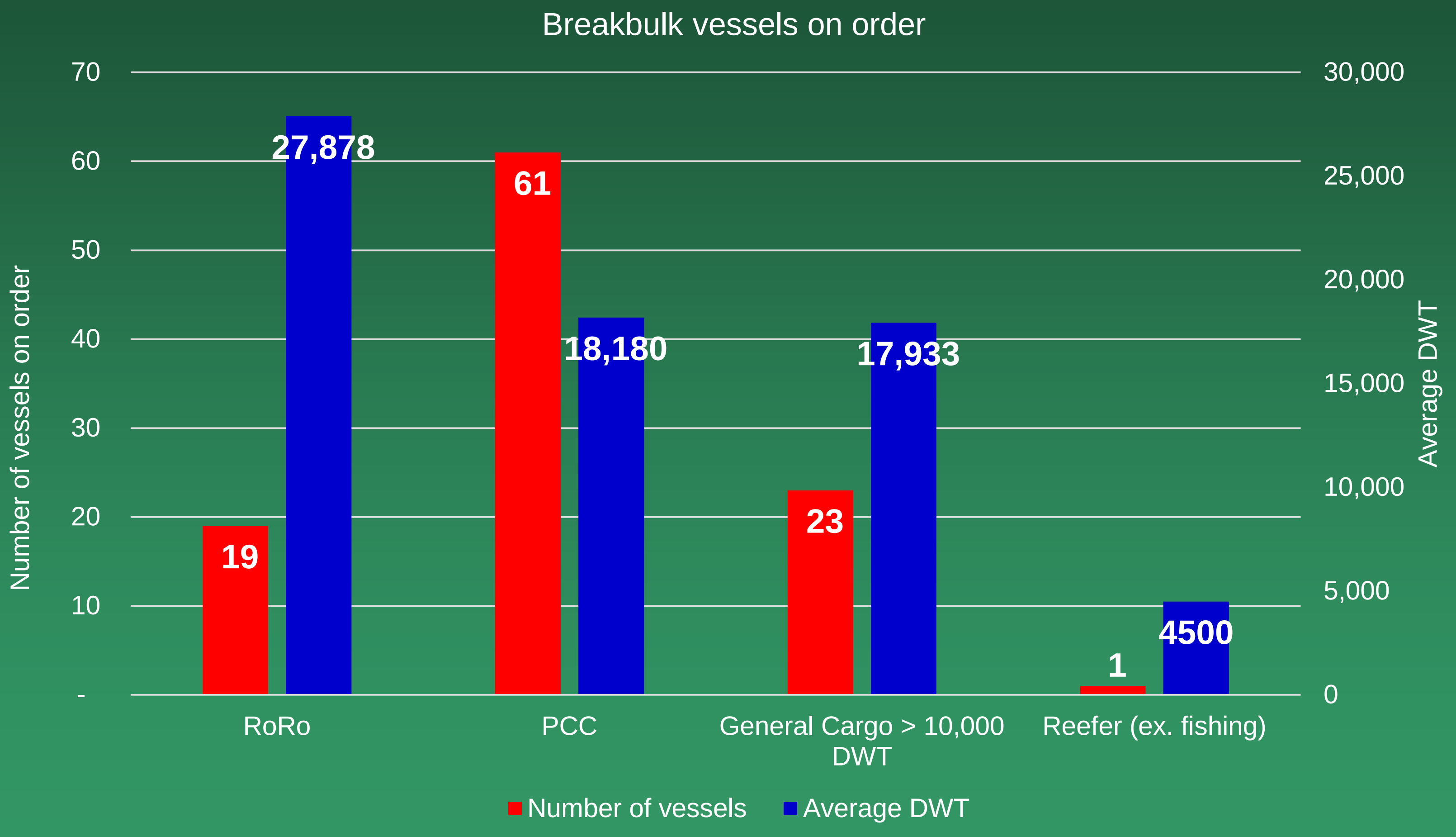
PCTC/PCC fleet renewal & expansion are driving growth



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Source: Clarkson's World Fleet Register, June 2015

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Breakbulk Markets: Major Segments

Core

- Forest products
- Iron & steel
- AG products
- Household goods

Vehicles

- Passenger-new
- Passenger-used
- Trucks
- Buses

Reefer

- Bananas
- Fruits
- Meat

Project

- Oil & gas
- Factories
- Machinery
- Wind turbines

Heavy Lift

- Container handling equipment
- Machinery
- Yachts
- Factories
- Turbines & generators

Breakbulk Markets: Demand Overview

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

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Dry Bulk Shipping Markets

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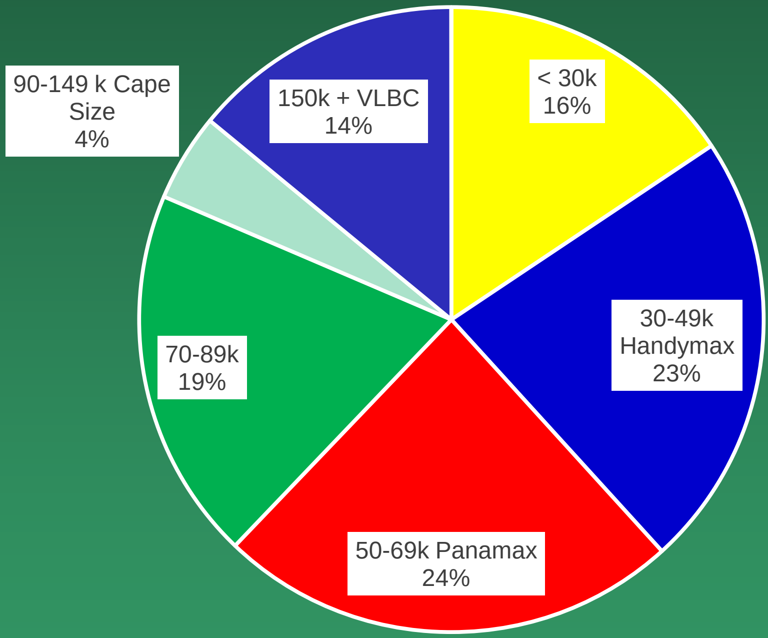
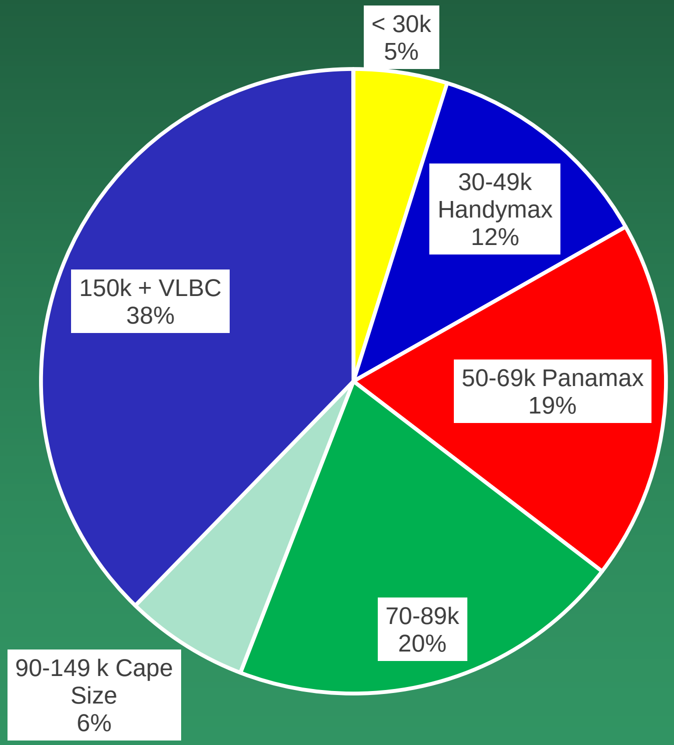
The existing dry bulk fleet exceeds 10,000 vessels

Vessels



Total number of vessels: 10,414

DWT Capacity



Total DWT Capacity: 764.4 M

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Source: Clarkson's World Fleet Register, June 2015

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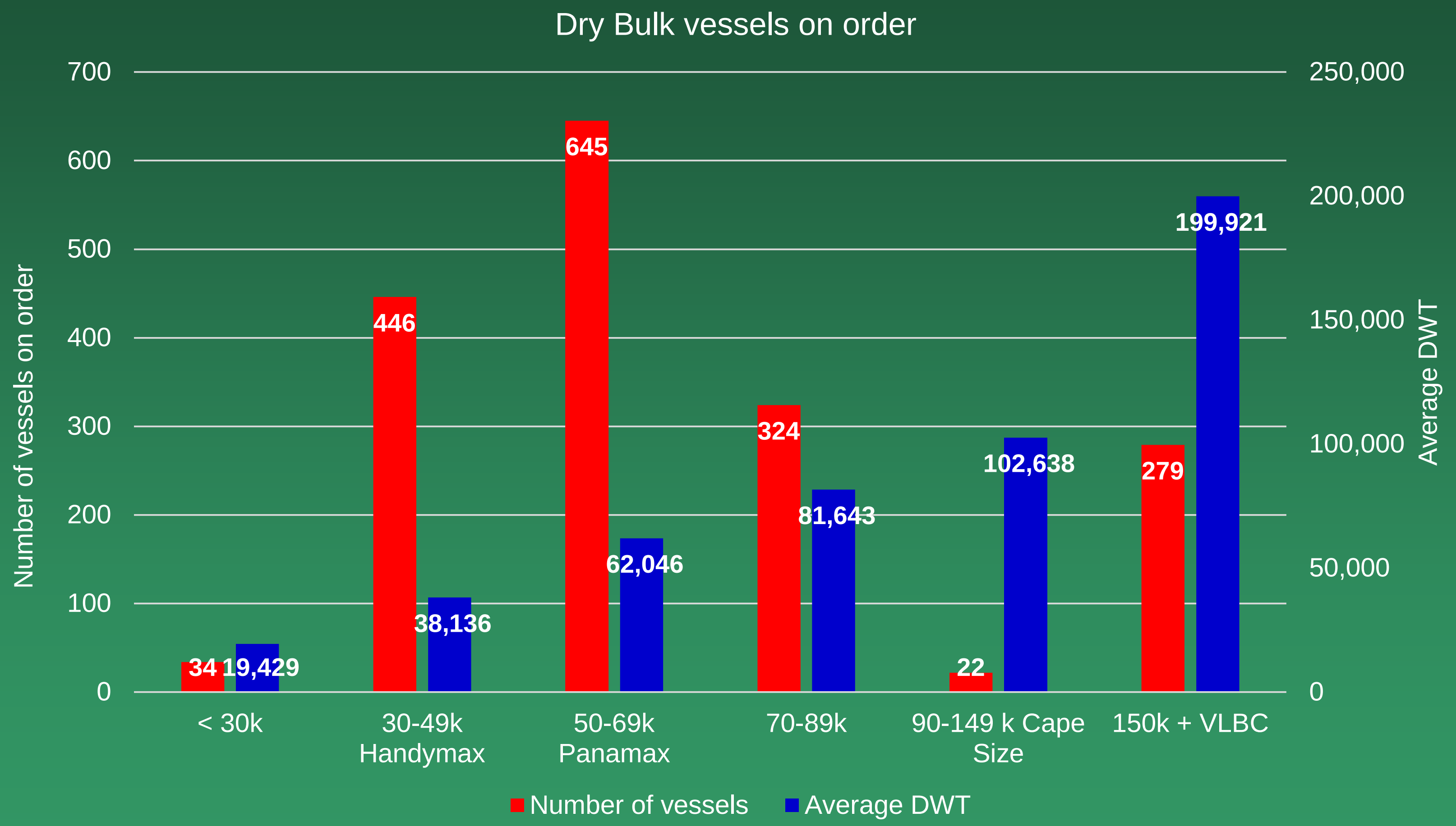
The Panamax and Handymax sectors are driving fleet expansion



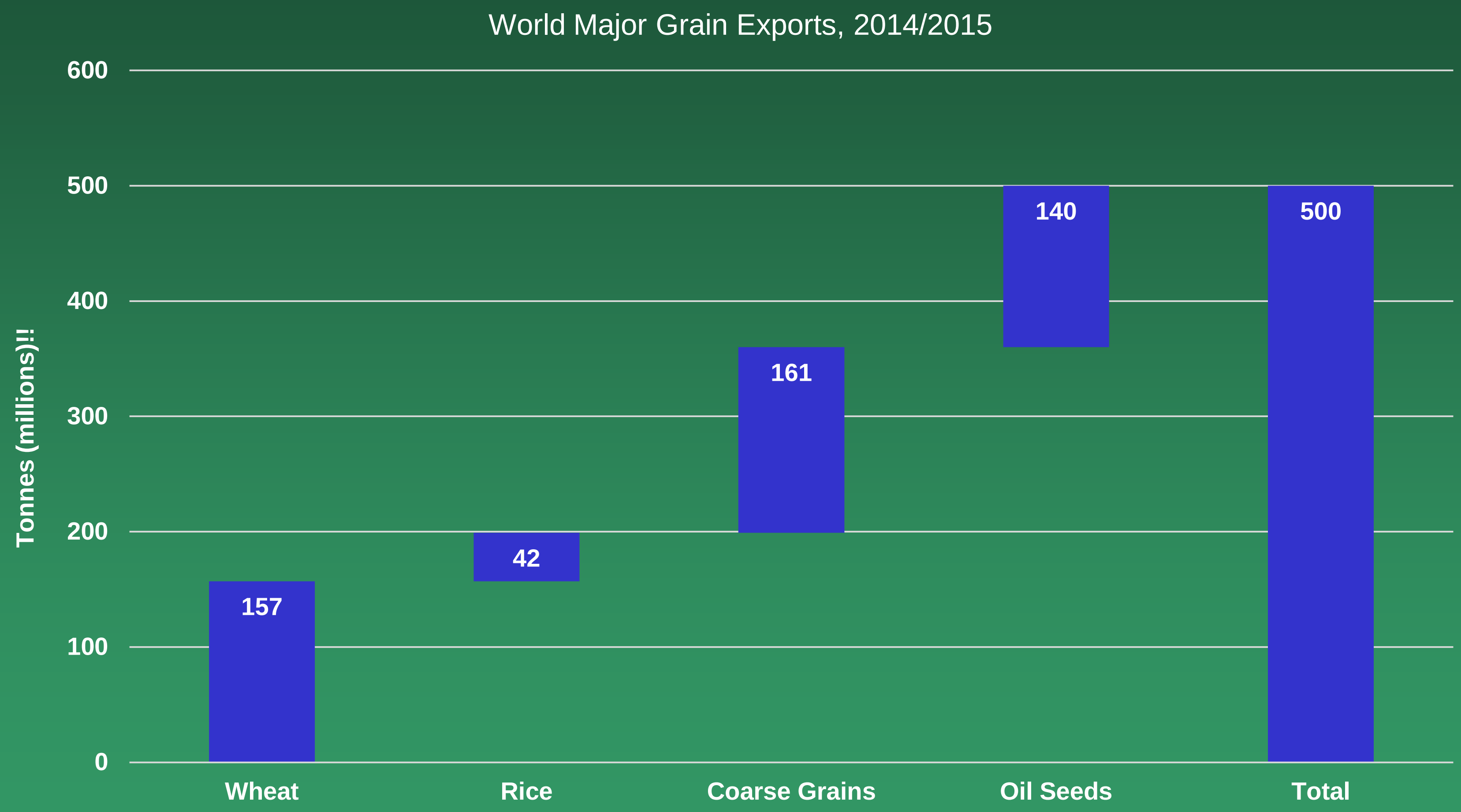
Source: Clarkson's World Fleet Register, June 2015

Dry Bulk Markets: Major Segments & Representative Trades

Iron Ore	Coal	Grains	Bauxite & Alumina	Misc.

• Brazil to the world
• Australia to Asia
• South Africa to EU and Asia
	• Metallurgical
	• Steam
	• Major exporters
	  • Australia
	  • US
	  • Canada
	  • South Af.
	• Major importers
	  • Asia
	  • EU
	  • India
		• Wheat
		• Corn
		• Soybeans
		• Course grains
		• Major exporters
		  - US
		  - Canada
		  - Brazil
		• Major importers
		  • Asia
		  • ME
		  • Africa
			• Aluminum Industry
			• End uses: construction, packaging, vehicles
			• Major producers
			  • Australia, Brazil, Guinea, China
			• Major consumers
			  • China, North America, EU
				• Fertilizers
				• Cement
				• Aggregates
				• Steel scrap
				• Salt
				• Gypsum
				• Many suppliers and consumers

Wheat, course grains (principally corn) and oil seeds drive world dry bulk grain markets



Source: FAS

Dry Bulk Markets: Demand Overview

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

Breakbulk & Dry Bulk Shipping Industries

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Big ships---potential waterside…..

7,400 ship moves with six cranes @ 35 mph =:

- Minimum 35 working hours
- About 40 berth occupancy hours

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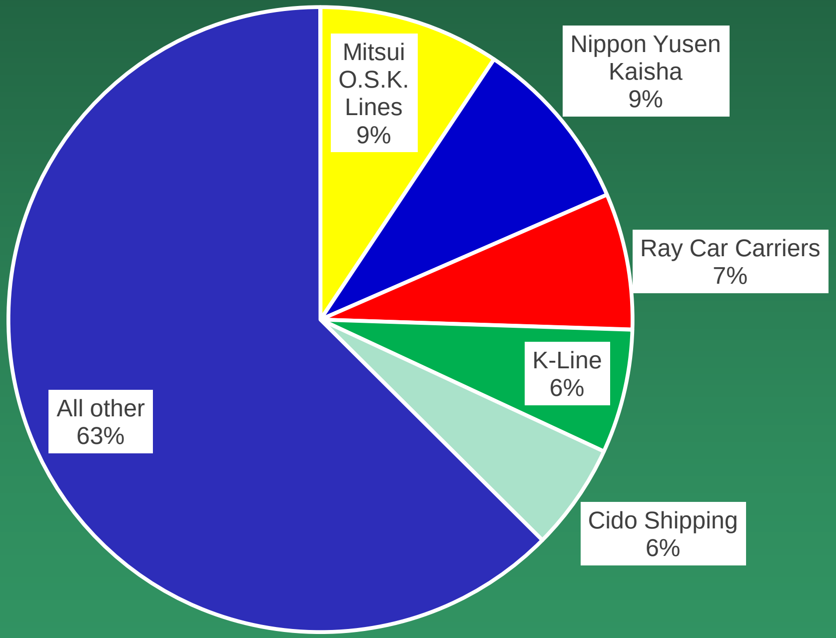
& ….. landside downsides

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

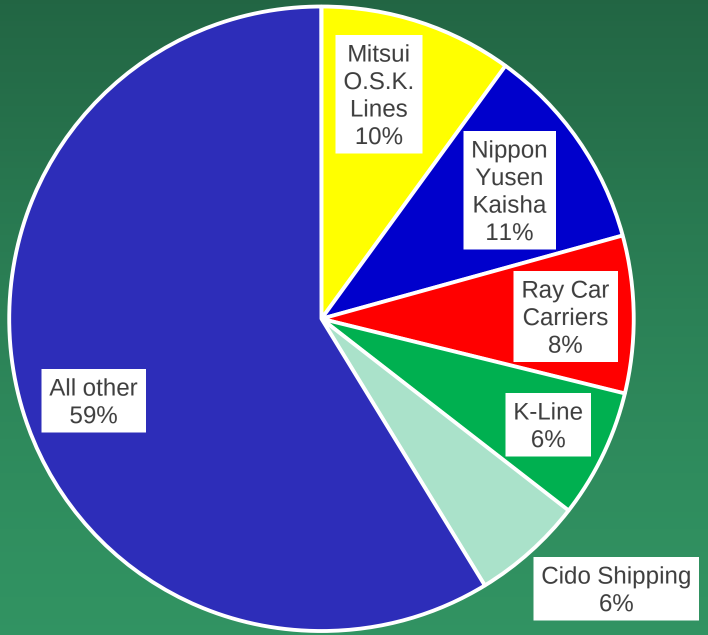
Existing PCC/PCT fleet, by owner

Vessels



Total number of vessels: 780

DWT Capacity



Total DWT Capacity: 12.3 M

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Source: Clarkson's World Fleet Register, June 2015

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