



Mega Ships

And the Effects on the Cargo
Industry

MV OOCL Hong Kong



Introduction

The ever increasing amount of global trade has driven both shippers and transportation providers alike to seek areas of efficiency. The manufacturing of container mega-ships has been sought after for the potential cost savings for various parties.

These savings come at an unrealized cost. Supply chain risks and the infrastructure investments needed to support these enormous vessels inversely correlate to the cost savings that cargo owners seek, limiting the benefits, both in efficiency and financially.



Case Study: Sinking of MSC Oscar

- Considered a Total Loss
 - Carrying 12,500 TEU at time of the incident.
 - Average value reported per container: \$50,000
 - Total cargo value: \$625 million (minimum)

Average TEU Value Estimates

Source	Average Value
Matthew O'Sullivan – IUMI 2006	\$80,000 - \$210,000
Munich Re: Estimate	\$80,000 - \$100,000
XL Re Studies	\$35,000 - \$120,000
Hyundai Fortune (Multiple sources)	\$204,000 - \$300,000
MSC Carla (AIMU RI Committee Survey)	\$74,000
APL China (AIMU RI Committee Survey)	\$211,000
Guy Carpenter: Japan – LA	\$90,000
Guy Carpenter: LA – Japan	\$30,000
AIMU Reinsurance Committee	\$95,000

Shipping 101

- Dry Cargo Vessels
 - Bulk Carriers
 - Containerships
 - General Cargo
 - Roll-on / Roll-off (Ro-Ro)



Shipping 101

- Liquid Cargo Vessels
 - Chemical / Product Carriers
 - Crude Carriers
 - Liquefied Gas Carriers
 - Liquefied Natural Gas (LNG)
 - Liquefied Petroleum Gas (LPG)
 - Floating Liquefied Natural Gas (FLNG)



Shipping 101

- Specialized Vessels
 - Heavy Lift / Project Cargo Vessels
 - Ice Breakers
 - Livestock Vessels
 - Passenger Vessels / Cruise Ships
 - Research Vessels



Shipping 101

- Tugs & Assist Vessels
 - Tugboat
 - Offshore Supply Vessel (OSV)
 - Integrated Tug-Barge (ITB)
 - Articulated Tug-Barge (ATB)



Considerations of Carriage

- Motion and Dynamics
 - Acceleration Forces
 - Cargo Properties
 - Weather Factors
- Conveyances
 - Break-bulk Stowage
 - Container Types
 - Project Cargo(es)
 - Temperature Sensitivity



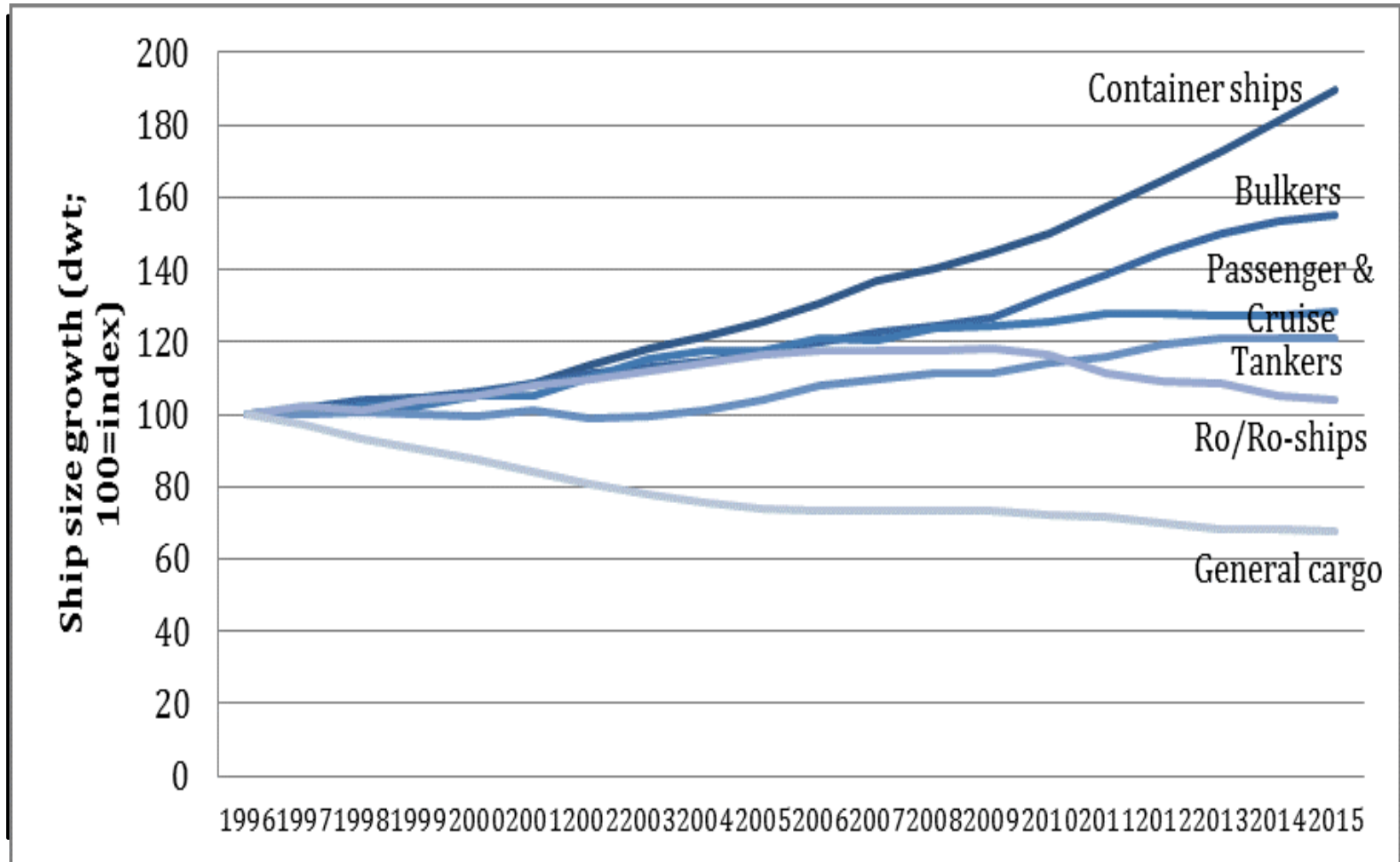
Early Beginnings

- **1955:** Malcolm McLean, a local NC trucking company owner uses \$7M loan in to purchase Pan-Atlantic Steamship Company, which was later renamed to SeaLand Industries.
- **1956:** The first container ship was a converted World War II era T-2 tanker named the SS Ideal-X
 - Capacity: **58** newly designed containers
 - Maiden Voyage on the 26th of April 1956 from Port Newark, New Jersey, heading for Houston.
- **1957:** SS Gateway City, the first vessel designed and rebuilt specifically to carry containers, sets sail from Port Newark
 - Capacity: **226** containers carried both above and below deck
- **1966:** SS Fairland becomes the first containership to complete an international voyage, sailing from the US to the Netherlands with **236** containers on-board.
- **1968:** Container ship capacity increases to carry around **1,000** TEUs

SS Ideal-X



Bigger and Better??



The Good

- Operational Efficiency
 - 90% reduction in Shipping Costs
 - 99% cost reduction in loading cargo
- Staggering Global Development and Expansion
 - There are now more than 6,000 container vessels currently in service
 - 90% of every purchased item has been shipped inside a container

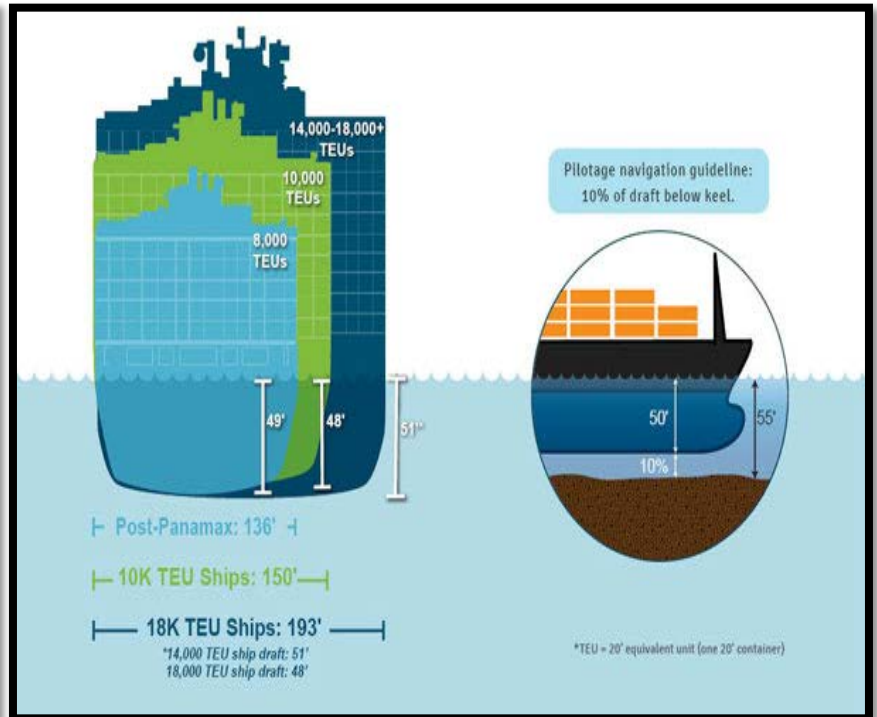
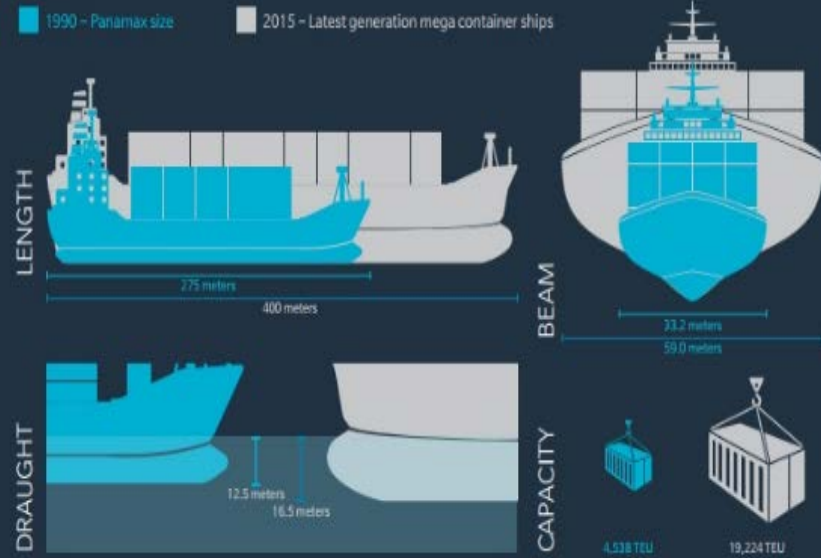
The Not So Good...

- Only 20 ports in the world can accommodate 19K TEU vessels !!!
 - Large capital investment by already lagging Ports
 - Port Resource Management
 - Carrier Alliances Dependence
 - Cargo Owner Price pressure
 - Lack Communication and Collaboration amongst Stakeholders

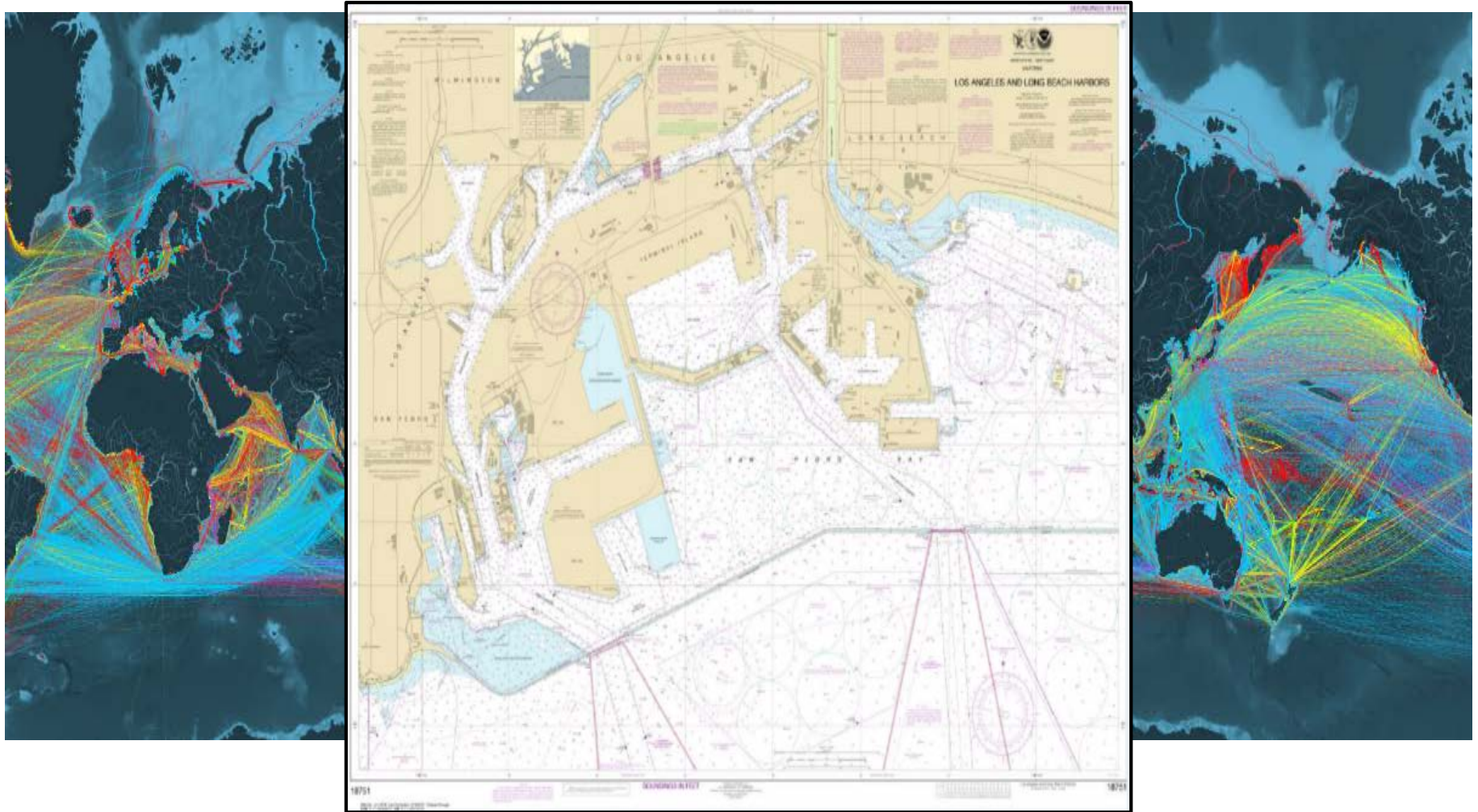
Vessel Draft

FIGURE 1 Comparative Size of Large Container Ships 1990 – 2015

Source: MSC Available at: <https://www.msc.com/getattachment/9b03c189-75b8-45b0-9970-0875fbc3965>
 Hofstra Available at: https://people.hofstra.edu/geotrans/eng/ch3en/conc3en/container_ship_draft_size.html

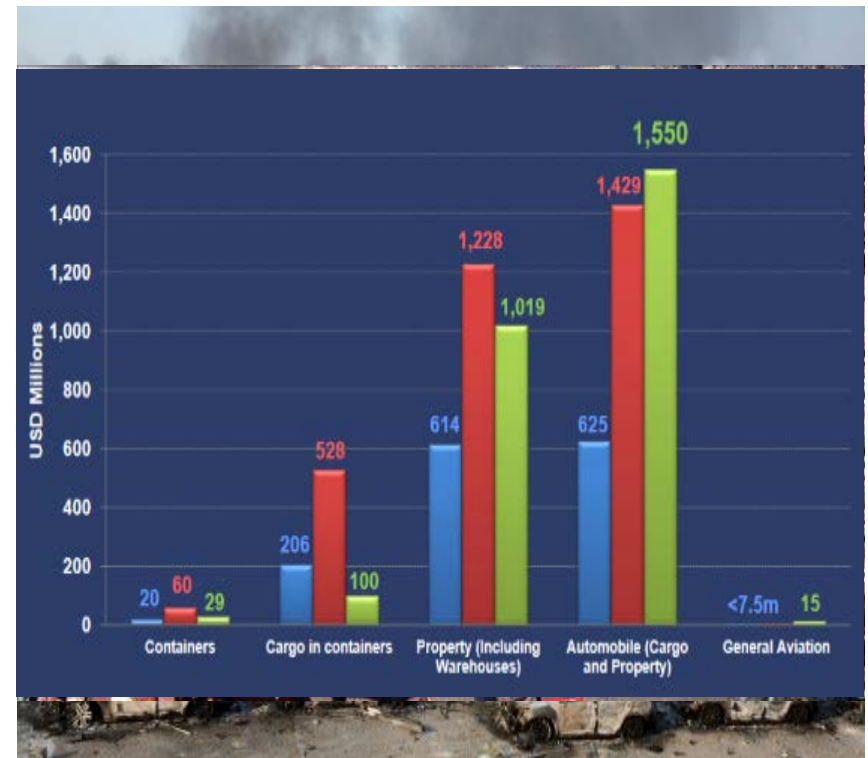


Trade Lanes and Ports



Accumulation Risk

- Tianjin in 2015.
 - Cost the industry \$2.7bn
- Port infrastructure to increase in size and capability in an effort to handle megaships.
- Warehousing & container traffic need to be considered.



Stakeholders



Calculating Risk Factors



Risk Considerations

- Unintended consolidation/accumulation aboard Mega Ships
 - Port Accumulation due increased peak period and steeper volumes
 - Narrowing Trade routes and fewer Port calls
 - Human Error Casualty factor
 - Obstructed Salvage and Recovery
 - Increased touch points at Ports due to off-site storage
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- What is the average value per container?
 - How many containers?
 - How many insureds?
 - Max policy limits?
 - What about multiple vessels?
 - Third Party Logistics?

Challenging Casualties



What's Next – and How??

- Educate Shippers
 - Emphasize Contract Wording with all Carriers and Stakeholders to control accumulation and consolidation
 - Review Motor Carrier selection criteria and standard work processes that reflect increased usage
 - Define processes and standards of care in a Service Level agreement with Penalty Clauses
 - Review Contingency planning for NAT-Cat

Presenters

Presenter, Title	Contact Information
Timothy Kennedy AVP, Loss Control Manager – Eastern Zone	Starr Marine timothy.kennedy@starrcompanies.com
Richard Lawson Senior Marine Risk Consultant	Allianz Risk Consultants (ARC) richard.lawson@agcs.allianz.com
Scott K. Parry Senior Marine Risk Consultant	Allianz Risk Consultants (ARC) scott.parry@agcs.allianz.com

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