



The development of container shipping sector: alliances, mergers and how they may impact ports and terminal operators of all sizes over the next five to ten years

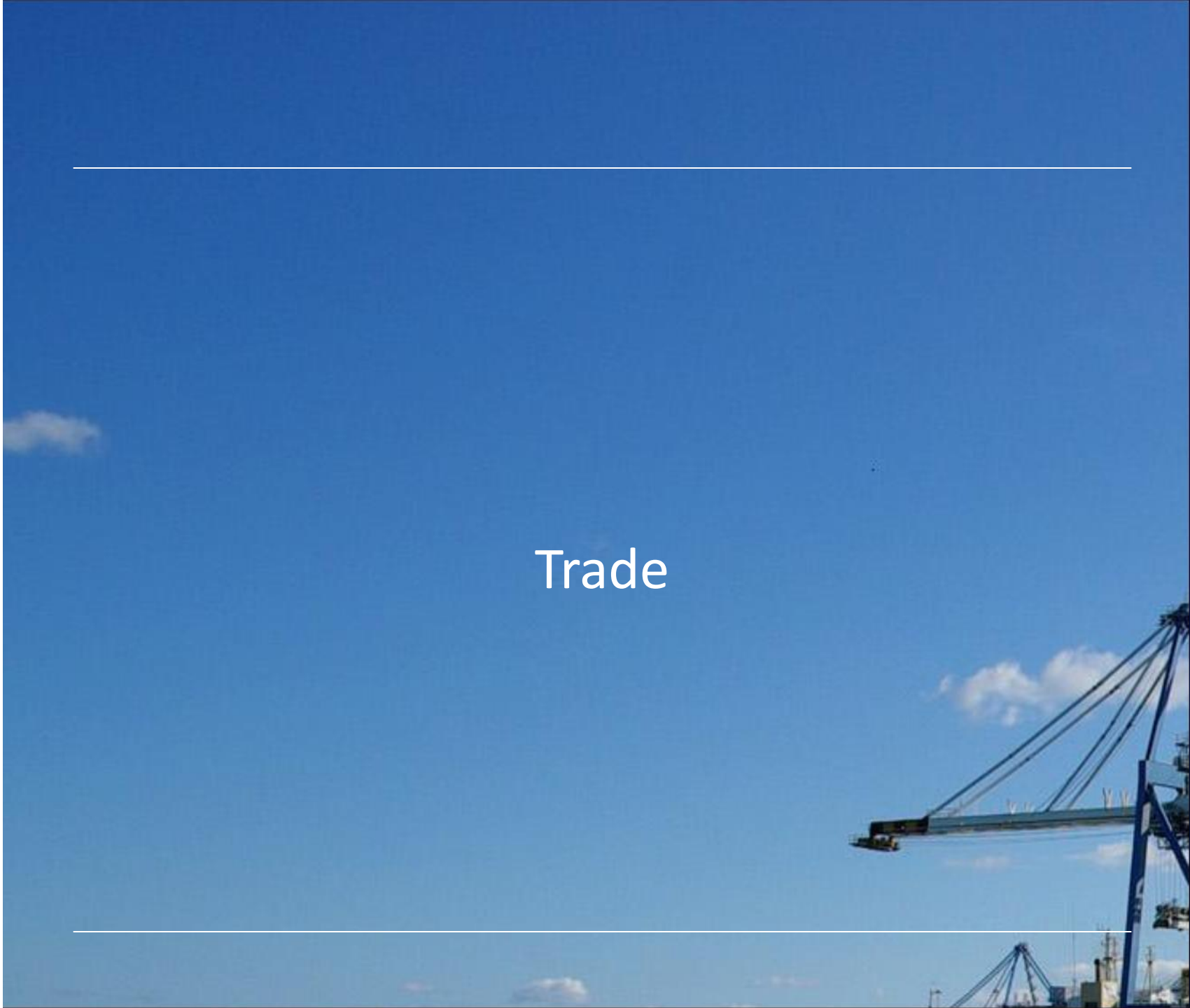
Presented By:
David Wignall
David Wignall Associates
December 2016

What are we going to talk about?

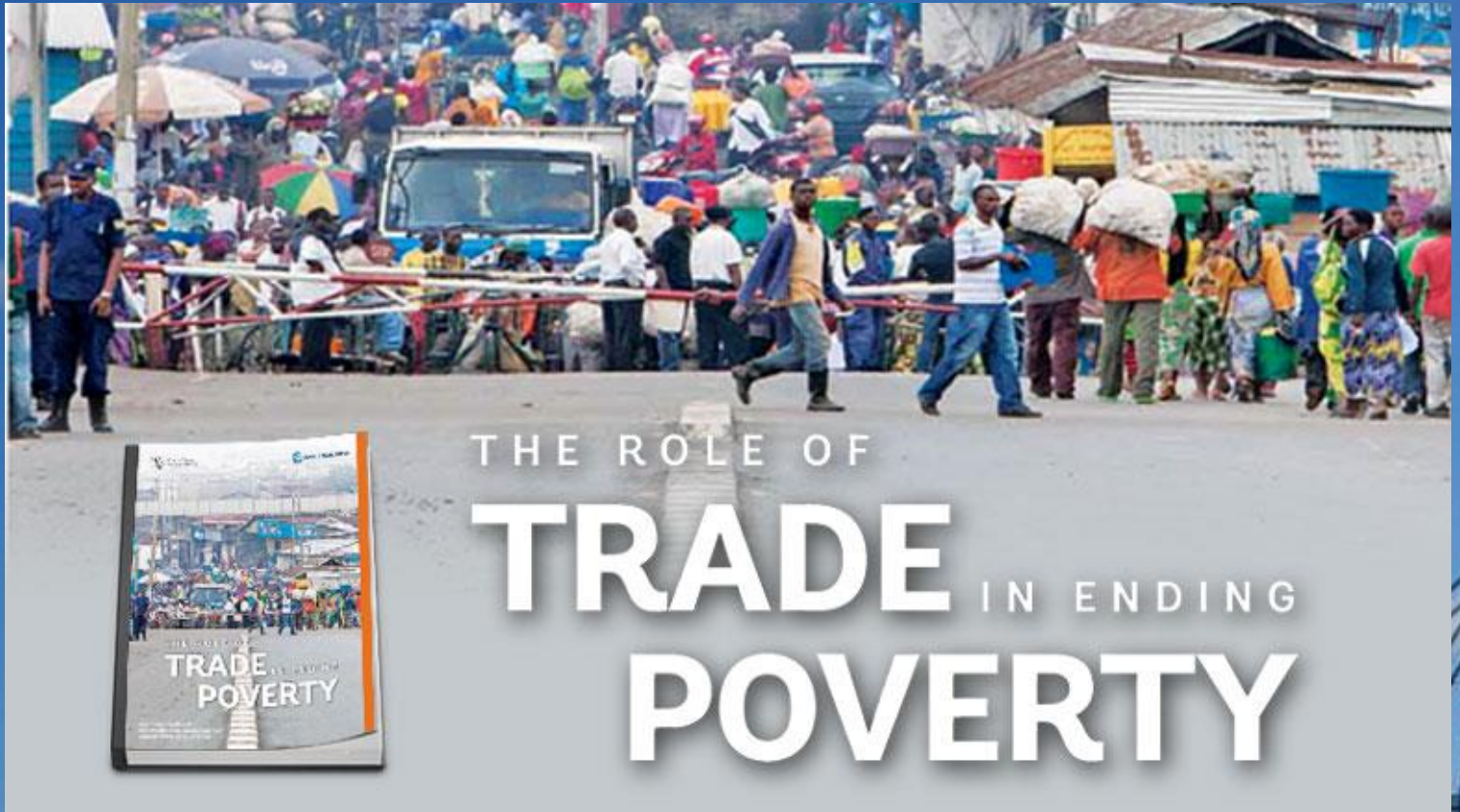
- The three **T**'s of Trade
 - Trump
 - Technology
 - Transshipment
- The three **C**'s of Container Shipping
 - Cash
 - Capacity
 - Collapse
- The three **P**'s of Ports
 - Peaks
 - Pressure
 - Profitability



Trade

A photograph of a clear blue sky with a few wispy white clouds. In the bottom right corner, the blue metal structure of a crane is visible, extending upwards and outwards. The crane has several cables or ropes attached to its top. The overall scene is bright and clear, suggesting a sunny day.

Trade



Trump



The image is a screenshot of a BBC News article. At the top, the BBC logo is on the left, followed by a 'Sign in' button and navigation links for News, Sport, Weather, Shop, Earth, and Travel. Below this is a red banner with the word 'NEWS' in white. Underneath the banner is another navigation bar with links for Home, Video, World, Asia, UK, Business, Tech, Science, Magazine, and Entertainment. The main headline reads 'US to quit TPP trade deal, says Trump'. The sub-headline states: 'President-elect Donald Trump says the US will quit the Trans-Pacific Partnership trade deal on his first day in office.' Below the sub-headline, it says '1 hour ago | US & Canada'. There are three sub-headers: 'Disbelief and sadness in Asia', '▶ Trump reveals new pledges', 'What is the TPP?', and '▶ 'Please don't ditch TPP''. At the bottom, it says 'Trump takes office - full report'. To the right of the text is a photograph of a protest. A large white banner with a red circle and a diagonal slash over the letters 'TPP' is being held up. Above it, another banner says 'WE WON!' in red. To the right, a person is holding a smaller sign that says 'FAIR TRADE NOT FREE TRADE' in blue and black text.

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NEWS

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US to quit TPP trade deal, says Trump

President-elect Donald Trump says the US will quit the Trans-Pacific Partnership trade deal on his first day in office.

🕒 1 hour ago | [US & Canada](#)

Disbelief and sadness in Asia

▶ Trump reveals new pledges

What is the TPP?

▶ 'Please don't ditch TPP'

Trump takes office - full report



And others...



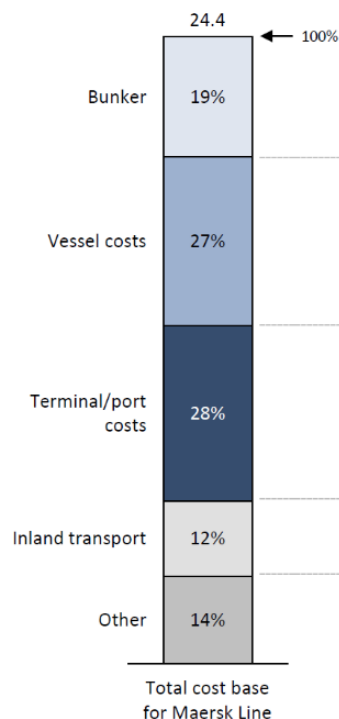
Technology and reshoring



	Top 10 Re-shoring Reasons	Mentions
1	Delivery time improvement	34%
2	Total Cost of ownership	29%
3	Quality improvement	28%
4	Freight Cost improvement	27%
5	Wage Cost improvement	25%
6	Customer Responsiveness improvement	25%
7	Image / Brand (prefer US)	17%
8	Higher productivity	13%
9	Innovation/ Differentiation/ Improvement	12%
10	Inventory improvement	12%

Network implications of transshipment

2014 Cost Breakdown for Maersk Line
US\$ billions



Network-based measures to reduce cost by cost category

- Minimize sailing distance
 - Minimize sailing speed
 - Reduce port time through port-side productivity improvements
-
- Right-size asset deployment
 - Reduce idle/waiting time
 - Minimize port calls
 - Balance and complement long-haul network with feeder spokes
-
- Select lowest-cost ports and terminals
 - Reduce transshipment handling volumes
-
- Only relevant for gateway ports and in those instances where carrier haulage is used; in Malaysia, this component is not a major cost consideration for liners

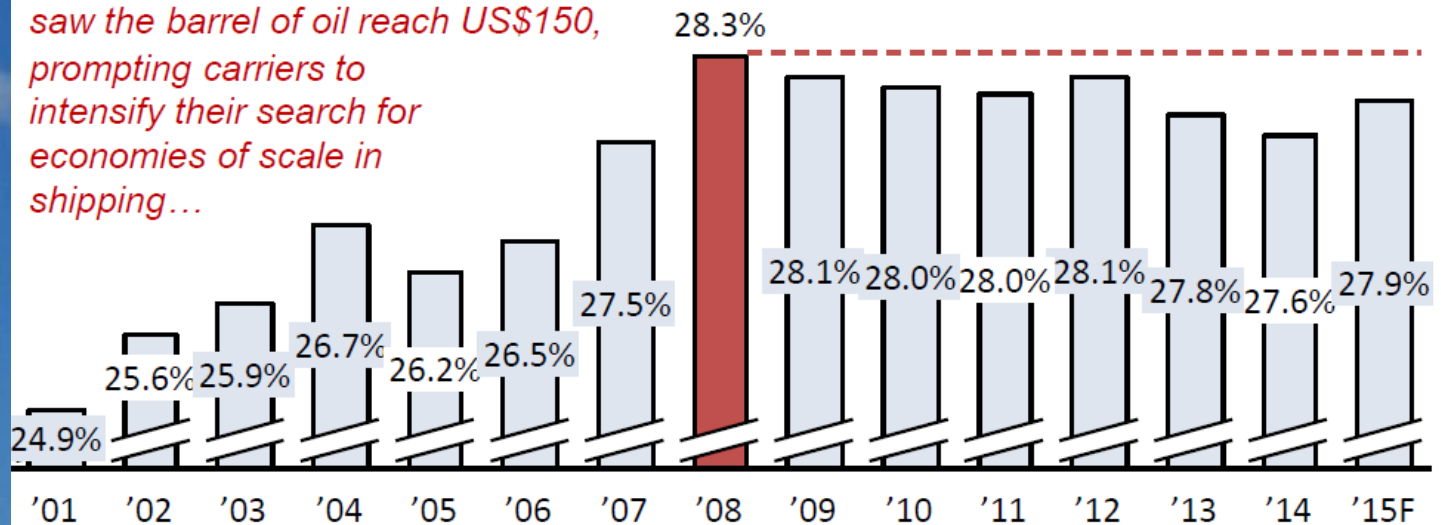
Key points

- Vessel network can influence as much as three-quarters of a typical deep-sea line's annual spend
- In achieving the "optimum" network a number of tradeoffs can be made, including:
 - ✓ Reducing the number of port calls vs. reducing the incidence of transshipment
 - ✓ Direct calls versus hub-and-spoke pattern
 - ✓ Pursuing terminal cost savings vs. attaining terminal productivity enhancements
- In other words, network design ultimately comes down primarily to the option that generates the **lowest overall cost**, with the major cost elements being:
 - ✓ Vessel costs
 - ✓ Bunker costs
 - ✓ **Port and terminal expenses**

Transshipment

Incidence of Transshipment in Global Port Throughput, 2001-2014

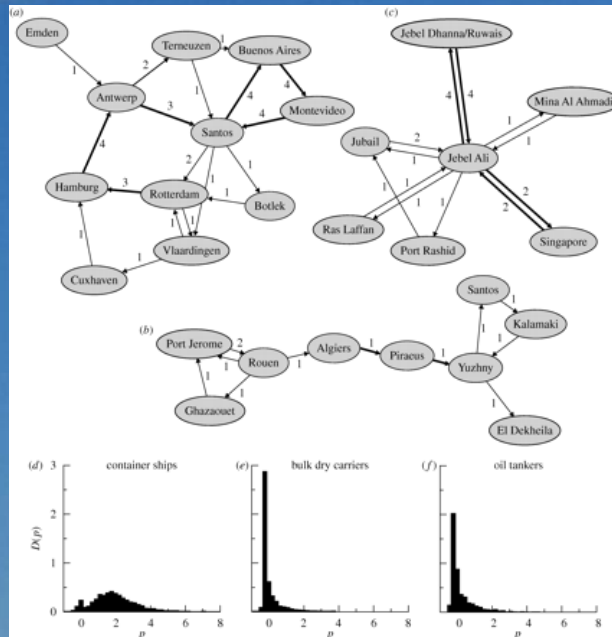
After decades of steadily increasing, T/S incidence peaked in 2008—the year that saw the barrel of oil reach US\$150, prompting carriers to intensify their search for economies of scale in shipping...



More technology...

Network modelling...

- Route optimisation, triangulation, minimising empty contain carriage
- Equipment sharing and transfers

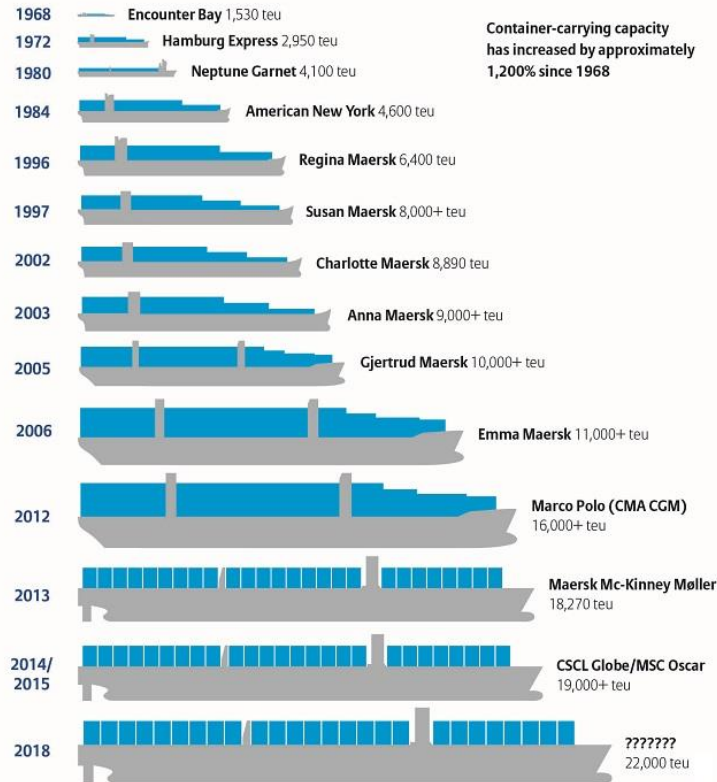


Container Shipping

The background of the slide is a photograph of a port. The sky is a clear, vibrant blue with a few wispy white clouds. In the lower right corner, the blue metal structure of a port crane is visible, with several cables extending upwards. The overall scene is bright and clear, suggesting a sunny day at the port.

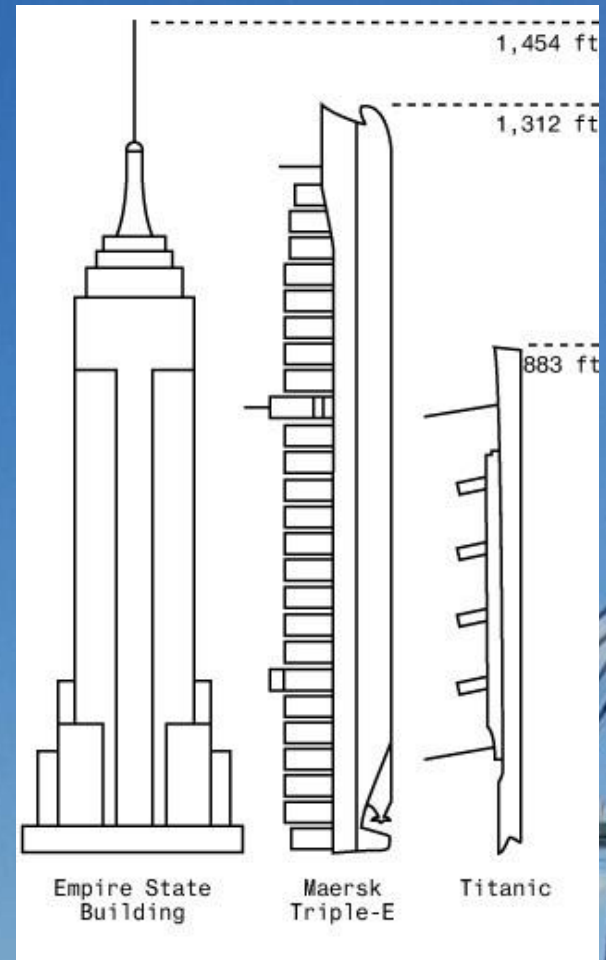
Ever larger ships...

50 years of Container Ship Growth



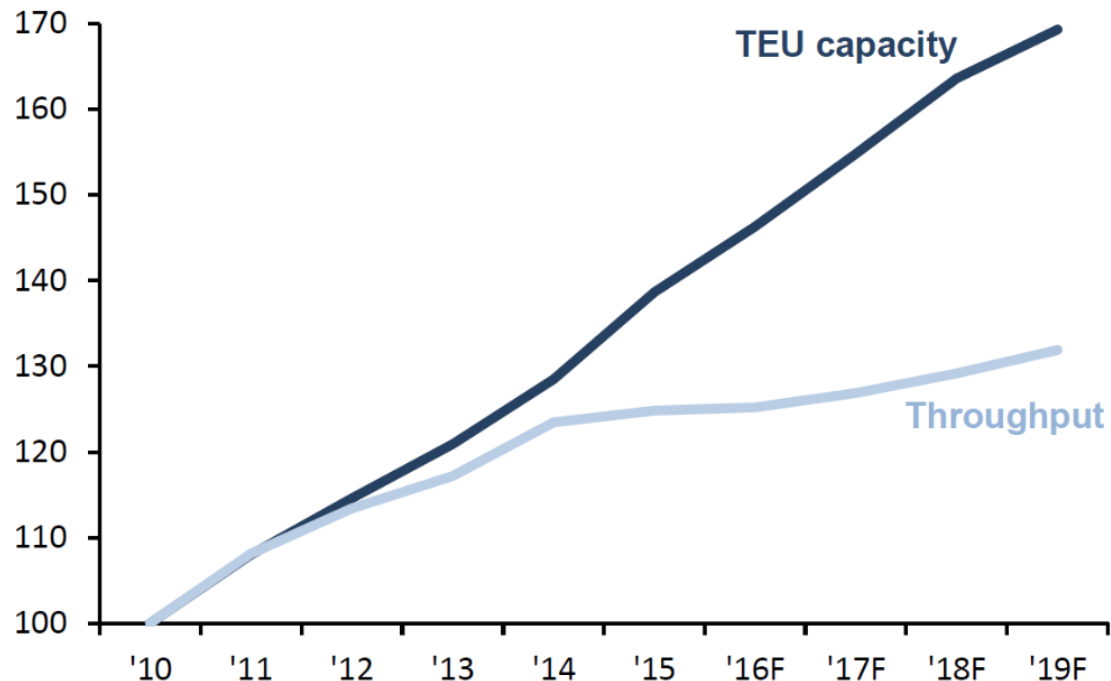
Container-carrying capacity has increased by approximately 1,200% since 1968

Graphic: Allianz Global Corporate & Specialty.
Approximate ship capacity data: Container-transportation.com

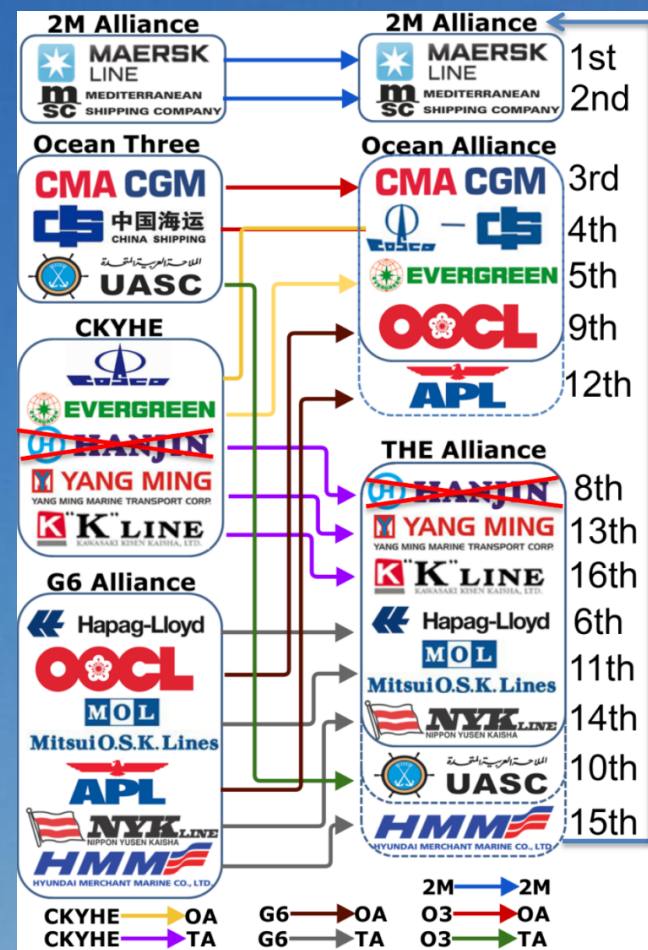
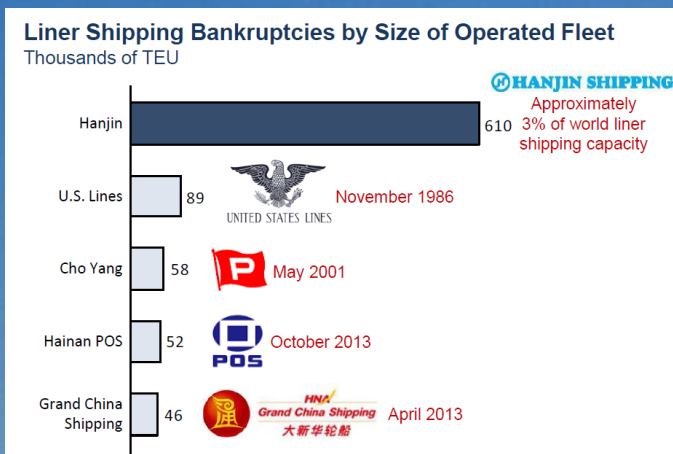
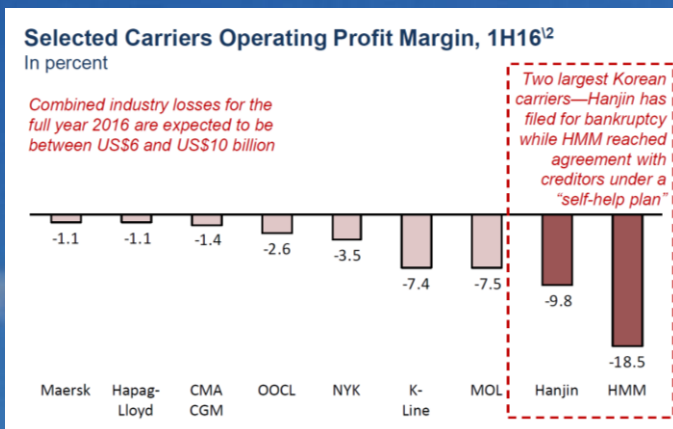


Shipping is in crisis...and will remain there

Supply-Demand Balance in Container Shipping, 2010-2019F
2010 = 100



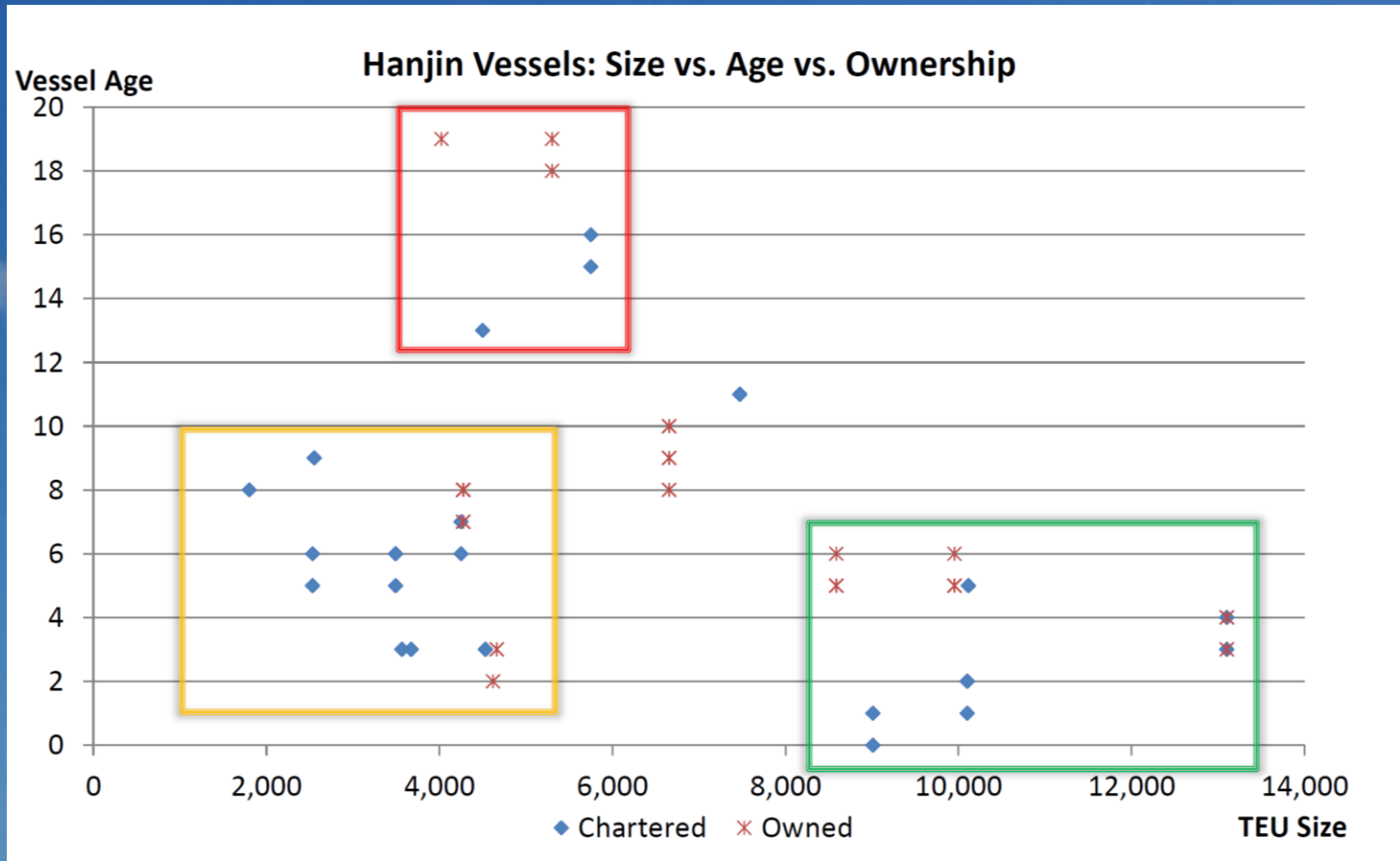
It is a chaotic crisis...



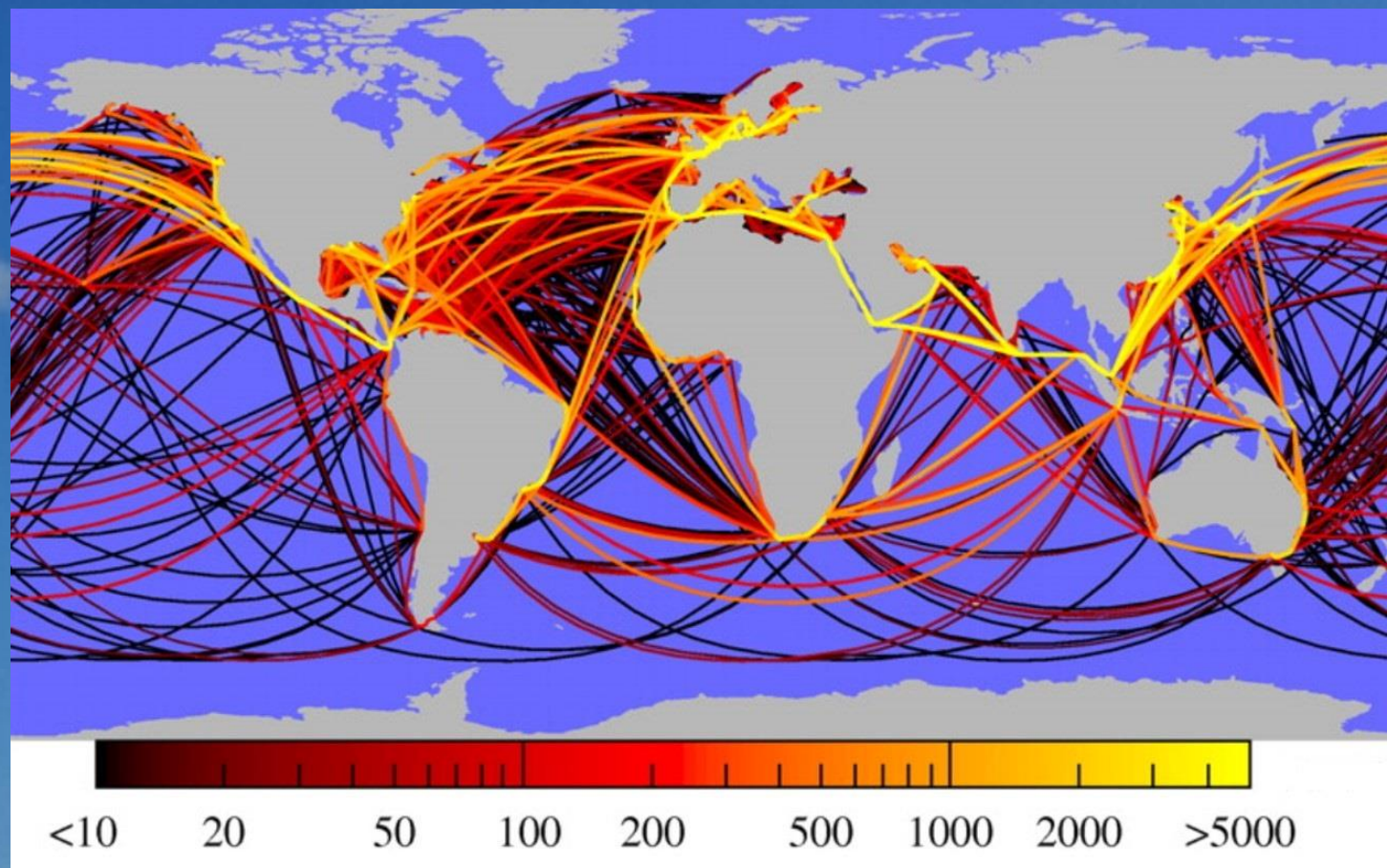
Four weddings and a funeral



Where do the ships go?

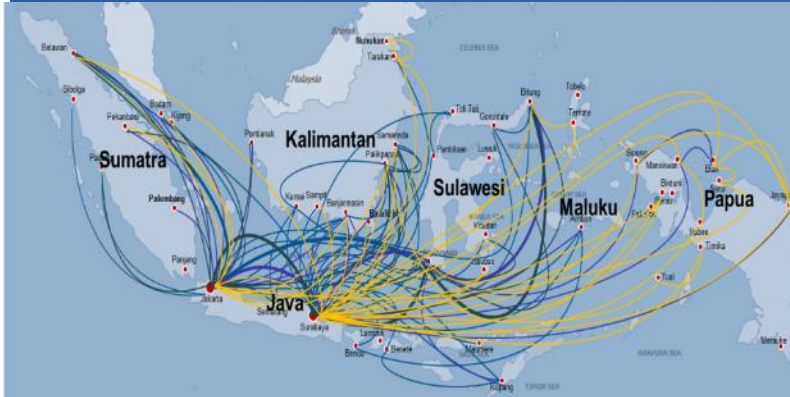


13,500 TEU ships and Australian loops

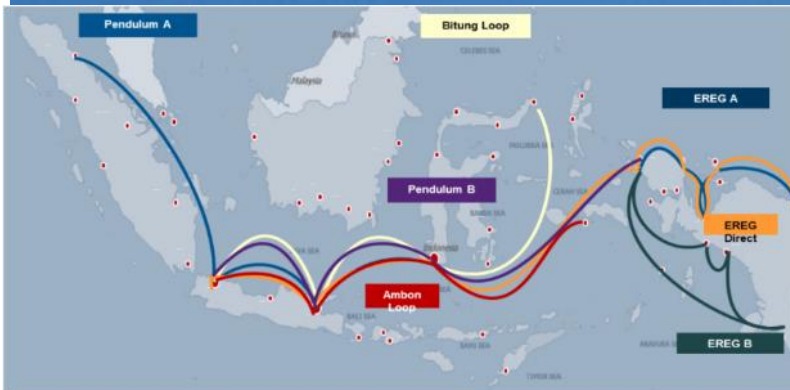


How do shipping lines reduce costs?

Current network (No reduction of logistics cost)



Proposed network (logistics cost reduced)



New and larger ships reduce costs

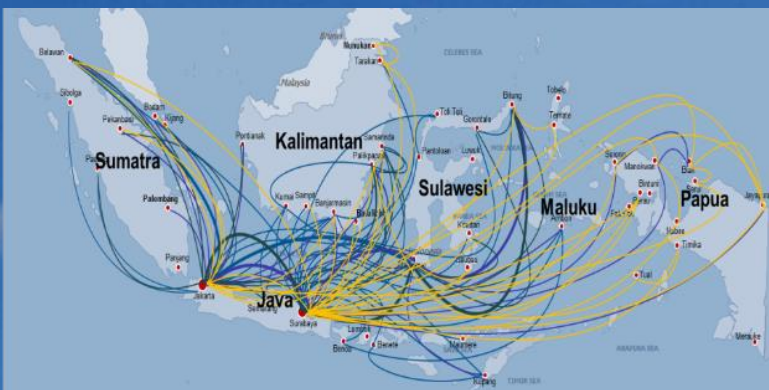


Source: Drewry Maritime Research

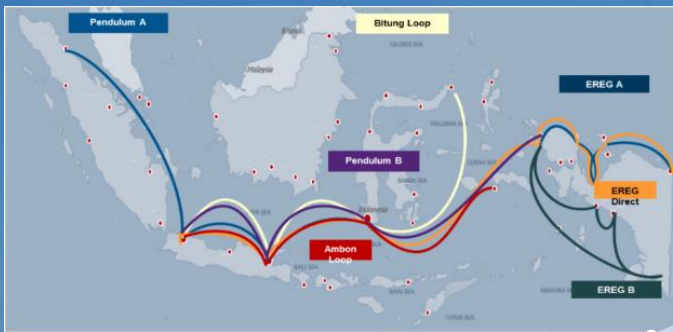
Not forgetting the importance of international connections

How do shipping lines reduce costs?

Current network (No reduction of logistics cost)



Proposed network (logistics cost reduced)



New and larger ships reduce costs



Ship Size (TEU)	Unit Voyage Costs (US\$ per Container)		
	750	1,500	2,500
Outbound 20' containers (90% Full)			
Charter Costs	50.6	46.8	42
Fuel	22.4	19.8	12.6
Loading Port Charges	47.4	47.4	47.4
Discharge Port Charges	40	40	40
Total	160.4	154	142
Inbound 20' containers (19% Full)			
Charter Costs	253	234	210
Fuel	112.2	98.8	63
Loading Port Charges	237	237	237
Discharge Port Charges	200	200	200
Total	802	770	710
Outbound 40' containers (90% Full)			
Charter Costs	82.8	68.6	56.6
Fuel	43	37.6	23.4
Loading Port Charges	48.8	48.8	48.6
Discharge Port Charges	40	40	40
Total	215	195.2	168.6
Outbound 40' containers (18% Full)			
Charter Costs	414	343	283
Fuel	215	188.4	116.6
Loading Port Charges	244	244	243
Discharge Port Charges	200	200	200
Total	1,073	976	843

Cost differential
inbound to
outbound for
20' and 40'
container 500%

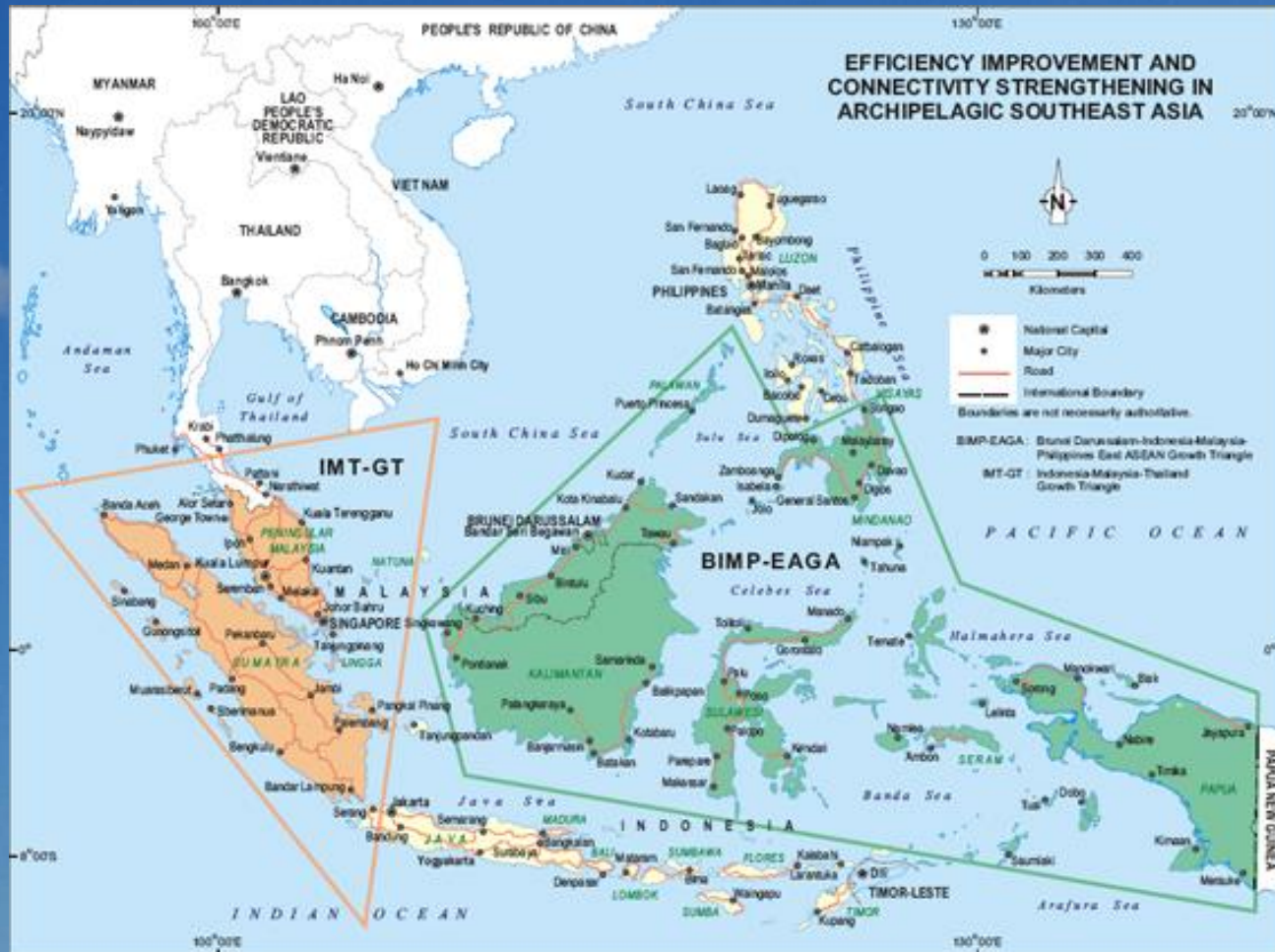
Finding ways to fill those containers



The international connection



Growth triangles...cargo aggregation



What do the shippers want?

Industrial users are the Beneficial Cargo Owners (BCOs) for both shipping lines and ports. BCOs have three main foci for their Key Performance Indicators:

- Reliability and frequency
- Minimum cost
- No damage

Reliability is critical. It changes direct and indirect costs. If a BCO can rely 100% on a delivery every 7 days inventory is half that for 14 days (inc. storage, financing etc.)

Damage matters as it impacts inventory needs and can disrupt operations or retail activity. It is a prerequisite as liner shipping companies have taken strong action.



2014

1. Reliability of booking
2. Accurate documentation
3. Availability of cargo space
4. Customer service quality
5. Delivery of information
6. Cost of service
7. Stability and transparency of rates
8. Accurate billing
9. Transit time
10. Tracking and tracing

2015

1. Reliability of booking
2. Availability of cargo space
3. Cost of service
4. Accurate documentation
5. Delivery of information
6. Customer service quality
7. Quality of equipment
8. Transit time
9. Contract quality
10. Accurate billing

Relevance to the Pacific islands?

Increasing ship size in container shipping has plunged the industry into crisis but these ultra large ships are not going away for many years and will push growth in ship size on smaller trades

The number of shipping lines is decreasing and niche players may become more important for smaller trades, these players also become more vulnerable

The number of ports that large ships call will reduce not increase

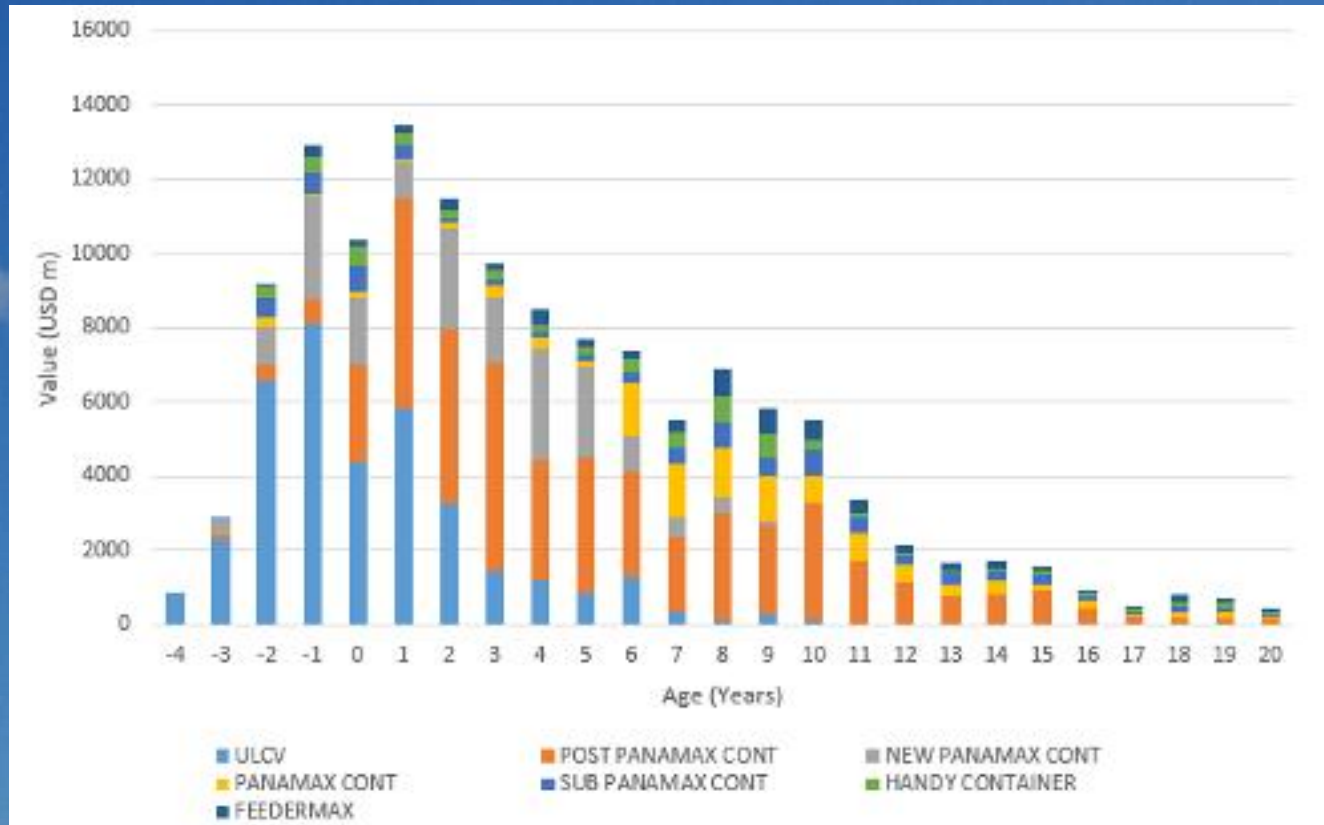
New terminals (particularly small terminals) will find it hard to find sufficient cargo to attract the large ship calls that provide low freight costs. This will accentuate cost problems related to transshipment

Few shipping lines want or can invest in terminals but worse the operators are also very wary of taking decisions so the private sector is less willing to invest

If you think this problem does not apply to smaller ports and the Pacific Islands in particular your are wrong because the cascade effect is already in progress; think of the age profile of the container ship fleet

Are ports and ready for Ultra Large Container Ships or at least two “generational” changes in ship size 3,500 to 6,400 TEU?

Container Ship age profile (May 2016)



Ports

A photograph of a port with a large blue crane against a clear blue sky. The crane is a gantry crane, and its structure is visible in the lower right corner. The sky is a deep, clear blue with a few small, wispy clouds. The overall scene is bright and clear, suggesting a sunny day at the port.

Peaks

Bigger ships means more containers loaded per ship

More container need more storage

No one wishes to deliver too early so more people are trying to arrive about the same time

In numbers:

- Three 4,000 TEU ships may be replaced by a 12,000 TEU ship
- The exchange required should triple
- Meaning three time the number of people want to arrive in the same 2/3 day period that may have covered 5/9 days previously

Shippers are not happy because they have fewer choices, less frequent services and need to hold more inventory to allow for the peaks...

Pressure

To invest:

- Dredging and berth construction
- Bigger and more ship to shore cranes
- Larger yard capacity

To reduce the cost of handling:

- Lower tariffs (to improve shipping line profitability)
- Take higher payment risk

To support growing the cargo base

To permit less competition in the sector



Profitability

Is under threat from users and reductions in trade volumes

Will become more unstable/less easy to predict

The return on money already invested and that on new investment will go down

The cost of capital will increase

The risk of a vicious circle exists making funding ports in the private sector more and more difficult

BUT the investment taps are not turned off yet and there remains a strong case in many ports for the investment required to handle the bigger ships

Profitability is not the same as “economic benefit”, the economic benefit depends on stimulating trade...

Thank You

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