Container Ships, Transport Trends & Their Impact on Port Infrastructure

22 May 2012 Jerusalem

Ben Hackett

The International Association of Ports & Harbors
www.iaphworldports.org

The Agenda

- The Fundamentals of the Fleet
- The Fundamentals of the Ports
- The Consequences

The Containership Fleet:

Who Owns and Operates It?

- Europeans own nearly 50% of the Container Fleet
- European carriers operate 44% of the container fleet
- Far East carriers operate nearly one third of the container fleet

Fundamentals:
Container Demand

- Demand: Global volume of full TEUs estimated at 125 million in 2011 (CTS & WTS)

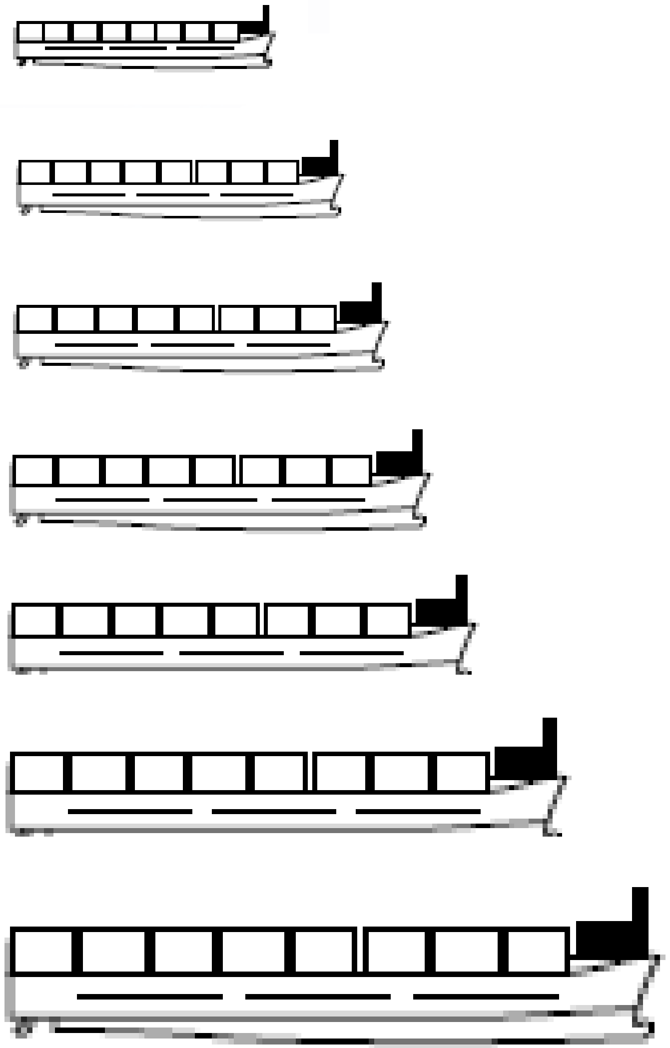
Asia	Exports: 44 million	Imports: 21 million
Europe	Exports: 16 million	Imports 22 million
N. America	Exports 14 million	Imports 20 million

Fundamentals:
Containership Supply

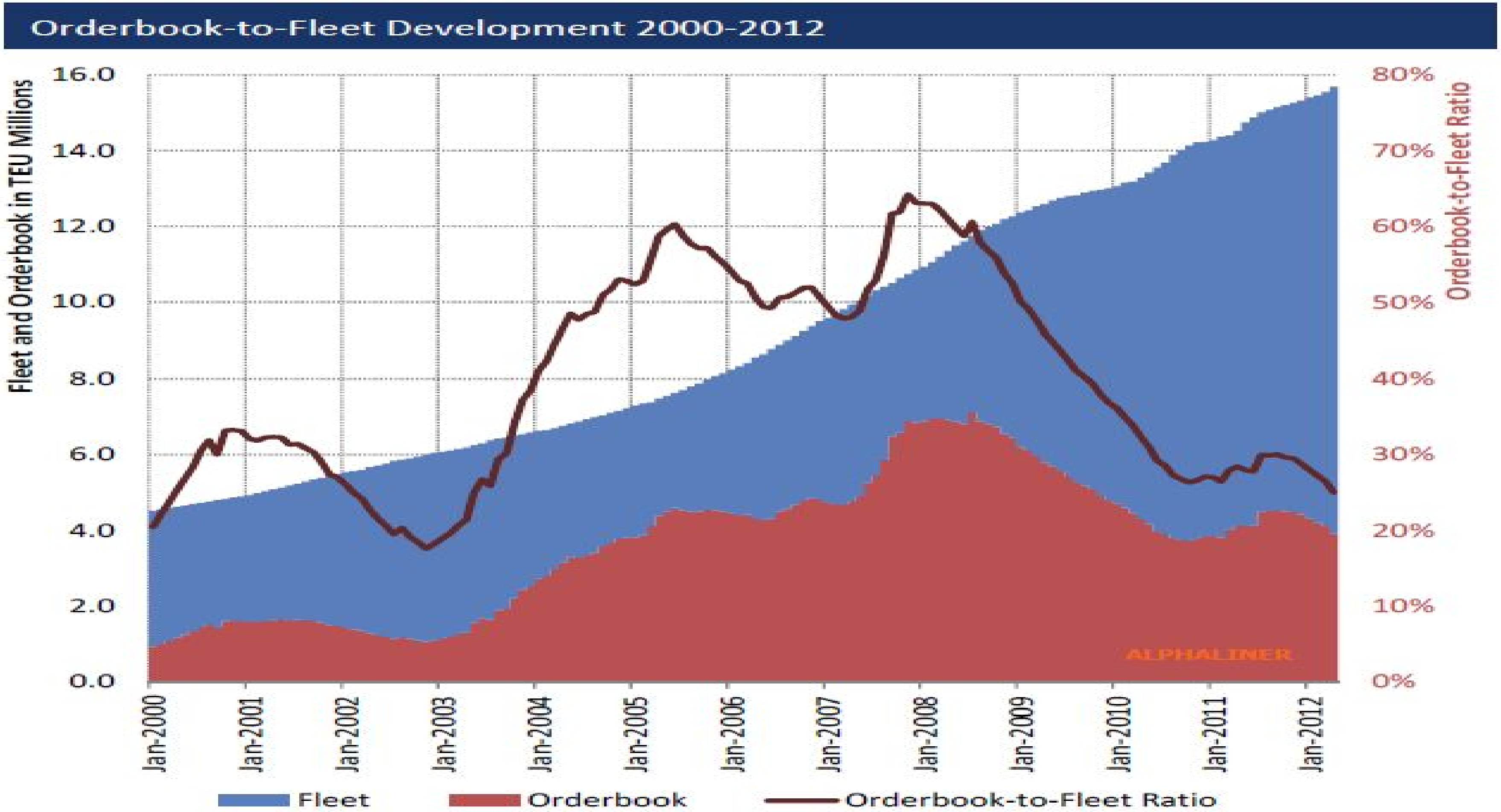
- Cellular Fleet April 2012
  - Nearly 6,000 ships
  - 16.2 million TEU capacity
  - Current fleet: 11% over 10,000 TEU capacity
  - Orderbook: 47% over 10,000 TEU capacity
  - 83% of the fleet is under 15 years of age
    - 67% under 10 years
  - End 2015 total capacity projection is 19.2 million, excl new orders, up by nearly 19% on current fleet
  - Average ship size will have doubled 2000-2014

Changing Vessel Sizes

- 1996 4,000 TEU
- 2001 6,000 TEU
- 2006 8-10,000 TEU
- 2008 11-15,000 TEU
- 2011 16,000 TEU
- 2014 18,000 TEU
- 2020 20,000+ ??



The Reality



Source: Alphaliner April 2012

The Industry Has Changed

- By end 2014 the industry will truly be in a new phase:
  - 250 vessels > 10.000 TEU. Average size: 13.000 TEU
  - Vs. 130 now

  - 400 vessels 7500-10.000 TEU. Average size: 8,700 TEU
  - Vs. 300 now
- These two segments will have a fleet size equal to the global fleet in 2002
- With back hauls outgrowing head haul and average trading distances reducing, the market's capability to absorb new capacity is limited

Source: Seaintel

The Ports

- Centre of Gravity has shifted – Top 25 Ports
  - 17 in the Far East
    - 8 in China
  - 4 in Europe
  - 2 in the U.S.

- Over half of Top 10 Terminal Operators from Asia

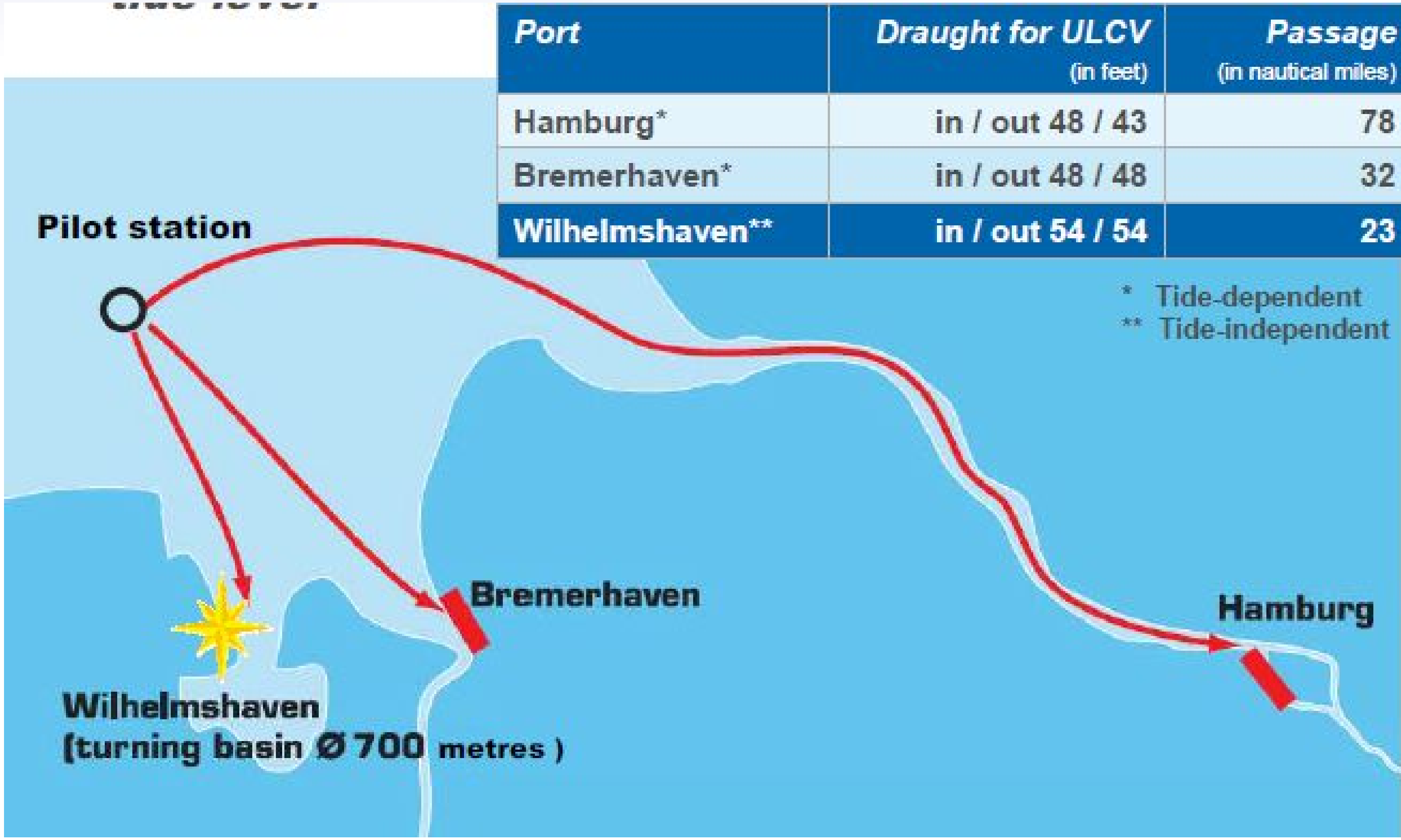
- Massive expansion of port facilities in Asia

- Massvlakte II and Wilhelmshaven in Europe

Growing Terminal Capacity in Europe

Port	Draught for ULCV (in feet)	Passage (in nautical miles)	Passage (in hours)
Hamburg*	in / out 48 / 43	78	8.0
Bremerhaven*	in / out 48 / 48	32	2.0
Wilhelmshaven**	**in / out 54 / 54**	**23**	**1.5**

* Tide-dependent
** Tide-independent

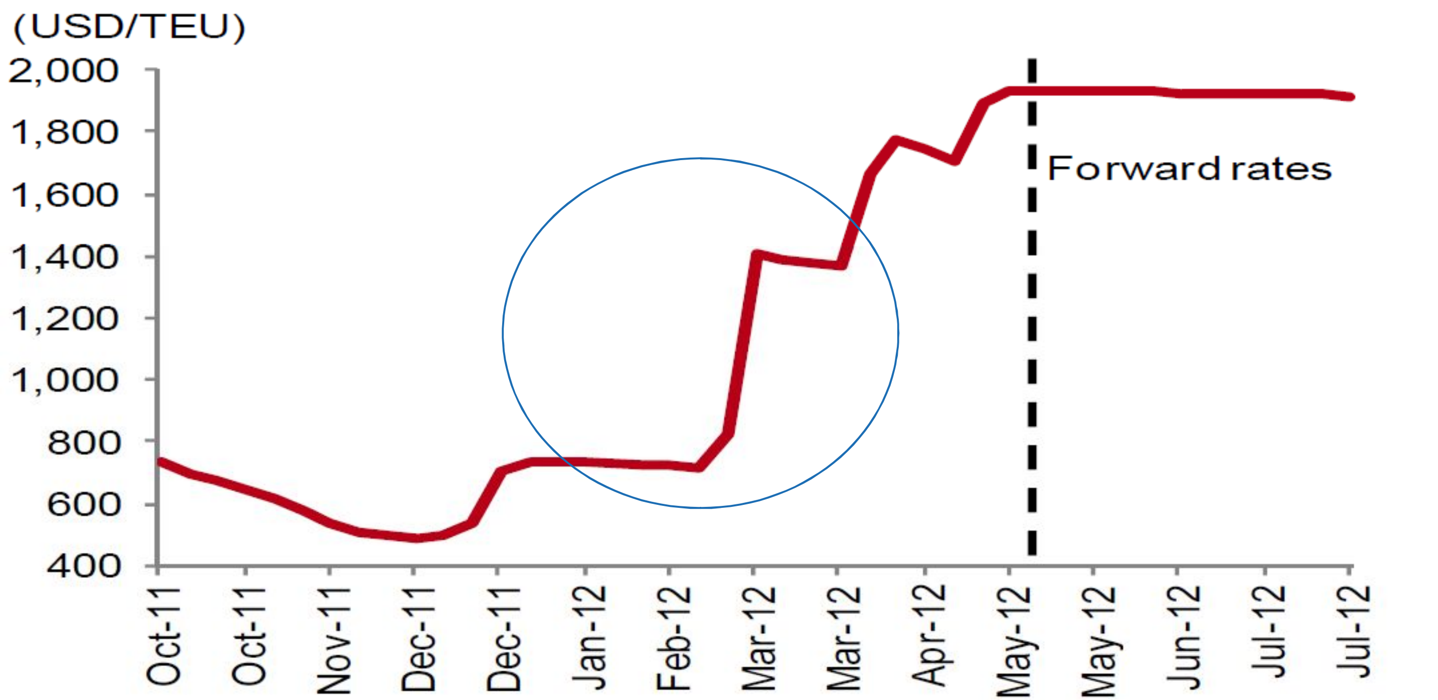


Courtesy: Eurogate

Consequences and Market Madness

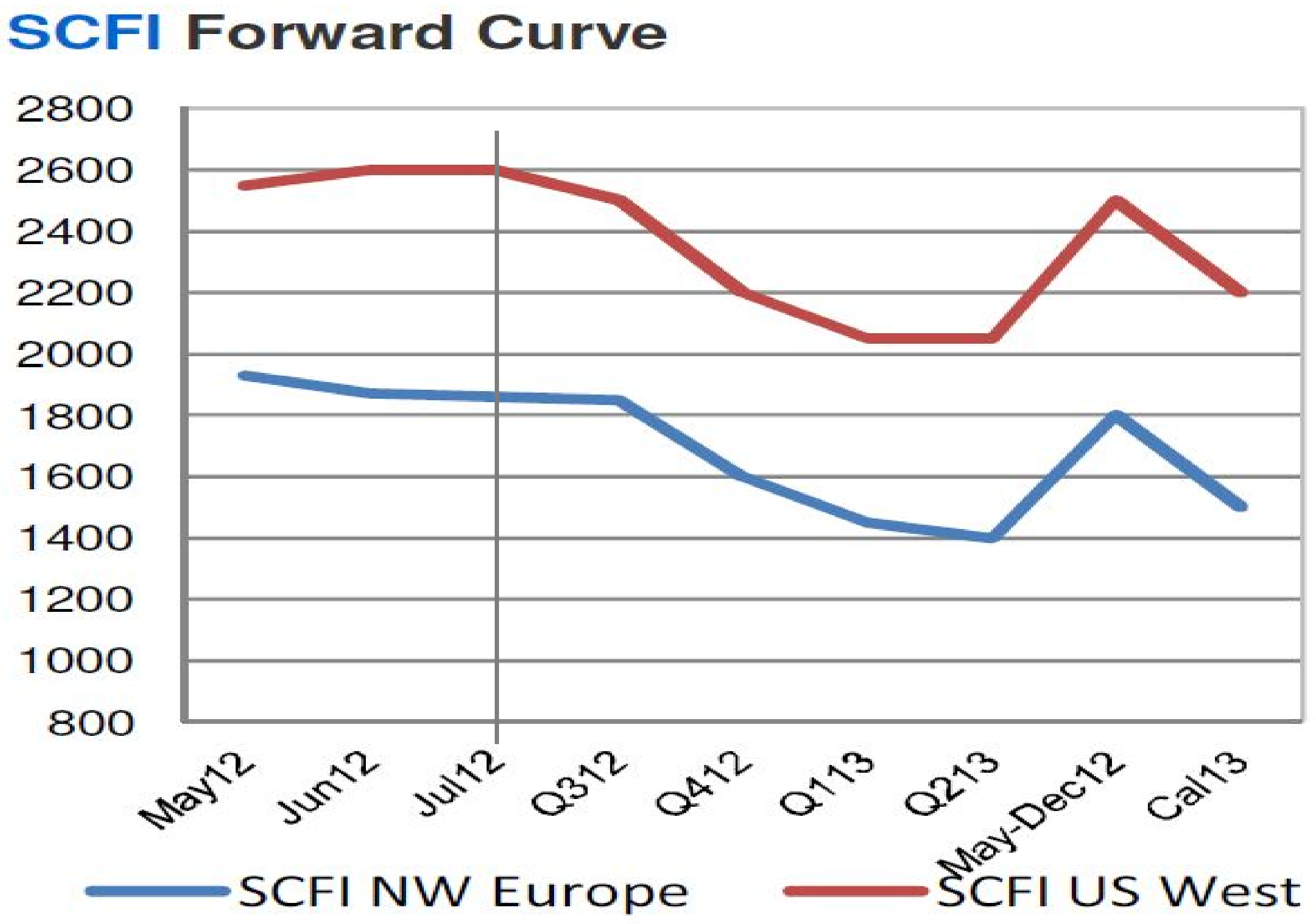
- Fundamentally the market is seeing too much capacity being injected, particularly in the large segments.   The results:
- - Market instability and volatility- Excess supply
- - Increased consolidation in intra-regional feeder services using larger vessels being cascaded down
- - Larger Alliances => using larger ships and creating more commoditization
- - Slow steaming can result in the release of significant amounts of capacity but limits have been reached. Est. 30% of capacity has been sucked up.

Asia – Europe Spot & Forward Freight Rates (Source: Nomura Research)



Source: Shanghai Shipping Exchange, Shanghai Shipping Freight Exchange

Looking Forward Things are Not so Rosy Source: FIS May 8, 2012



Impact on the Ports 1

Who are the customers and what do they want?

- Alliances – who does the negotiations?
- Volatility in carrier income leads to downward pressure on terminal and port pricing
- Will Global accounts between carrier/Alliance replace local contracts?

Impact on the Ports 1

Who are the customers and what do they want?

- Alliances – who does the negotiations?
- Volatility in carrier income leads to downward pressure on terminal and port pricing
- Will Global accounts between carrier/Alliance replace local contracts?

The fleet impacts

- Cascading of "smaller" ships to North-South trades creates pressure on ports and terminals with lack of facilities
- Feeder vessels getting larger, requiring more space and time
- Ultra large ships need more berth space, more equipment, more land, larger turning circles, better interchange between terminal and hinterland
- Ultra large fleet can lead to berth congestion
  - 18,000 TEU ship with 85% effective and 90% utilisation = 13,750 TEU
    - 40% 20ft and 60% 40 ft = 9,625 moves – reduced by multiple box lifts, but assume 25 moves per hour and 5 cranes
    - Time in port 6 days on a full exchange each direction.

Impact on the Ports 2

- Asian trade volumes creating a huge investment boom in ports and terminals potentially leading to over capacity e.g. Vietnam
- European terminal expansion definitely creating excess capacity (Felixstowe/Harwich, London Gateway, Massvlakte II and Wilhelmshaven)
- Major investments needed in the U.S., South America and Africa to deal with larger ships
- Issues with labour relations in a new technology driven world
- Investment and development costs shifted from public to private, now back to PPP as the costs rocket
- Everyone rushing to be a hub and feeder port
- Landbridge concepts far removed from reality

Impact on the Ports 2

- Asian trade volumes creating a huge investment boom in ports and terminals potentially leading to over capacity e.g. Vietnam
- European terminal expansion definitely creating excess capacity (Felixstowe/Harwich, London Gateway, Massvlakte II and Wilhelmshaven)
- Major investments needed in the U.S., South America and Africa to deal with larger ships
- Issues with labour relations in a new technology driven world
- Investment and development costs shifted from public to private, now back to PPP as the costs rocket
- Everyone rushing to be a hub and feeder port
- Landbridge concepts far removed from reality

Thank you for your attention!

Contact details

Ben Hackett

Hackett Associates, LLC

Tel: U.S. +1 202 558 5292

Tel: UK: +44 (0)20 7993 2824

Cell: UK   +44 (0)7881 816 932

www.hackettassociates.com

www.globalporttracker.com