AAPA American Association of Port Authorities

Alliance of the Ports of Canada, the Caribbean, Latin America and the United States

XIX Latin American Congress of Ports
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The Possible Effects of the Panama Canal Expansion on Ports in the Western Hemisphere

By Larry Lam
Chairman
Portek International Ltd

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Portek is both

- *a provider* of equipment, services and solutions to ports worldwide, &
- *an operator* of ports in emerging countries.
- unique combination of skill sets, full spectrum of equipment engineering and port operating expertise

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As a *provider to ports,* we undertake"

- Modernization and Modification of Container Cranes – upgrading Cranes from PX to PPX dimensions, reliability, safety and performance improvement
- Sale and Lease of Port Equipment on quick deployment basis
- Mobilisation and Relocation of Cranes
- Maintenance contracts
- Crane accidents & emergencies recovery & repairs
- Consultancy in Traffic studies, port marketing program to attract traffic, port planning and simulations
- Port IT & Automation modules

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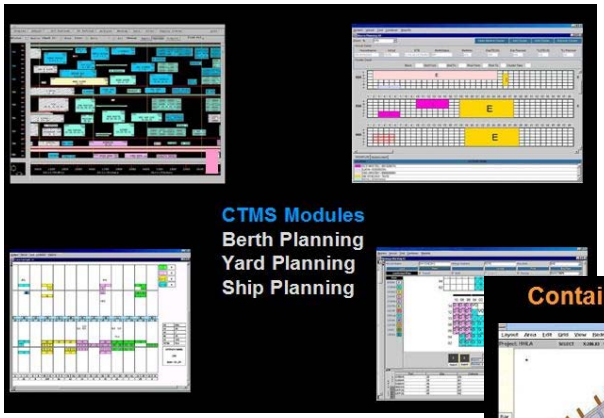
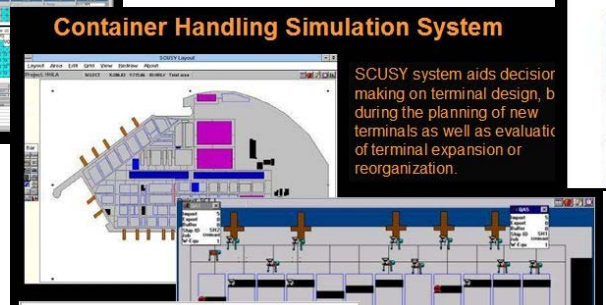
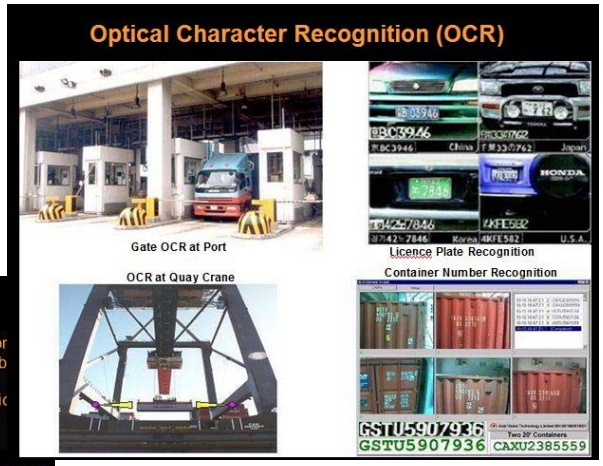
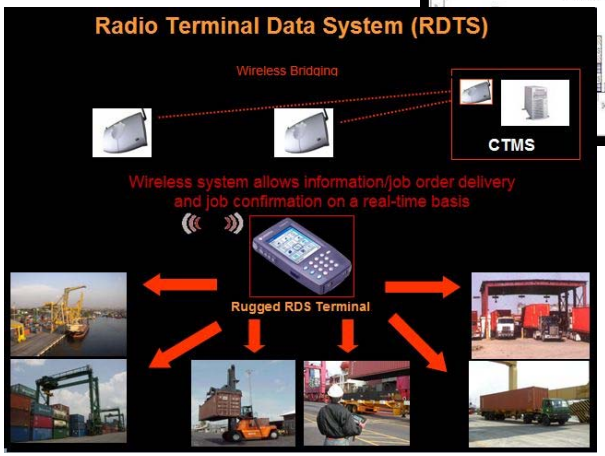
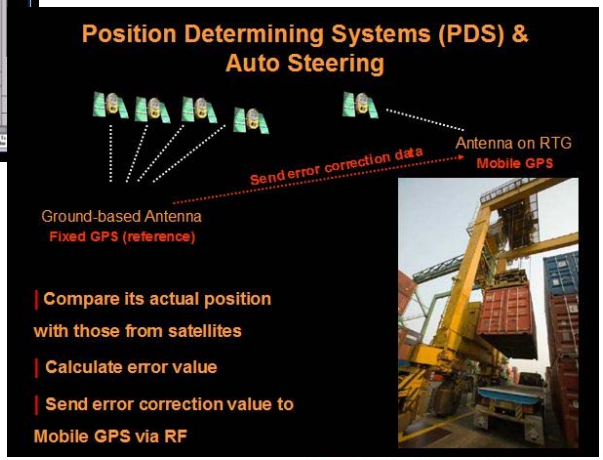
Port IT & Automation











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As a *port operator,* we operate 7 terminals:

- Bejaia Mediterranean Terminal (Algeria)
- Valetta Gateway Terminal (Malta)
- Port Owendou in Libreville & Port Gentil (Gabon)
- Terminals T9 and T300 in Jakarta, Indonesia
- Banten Port, West Java, Indonesia

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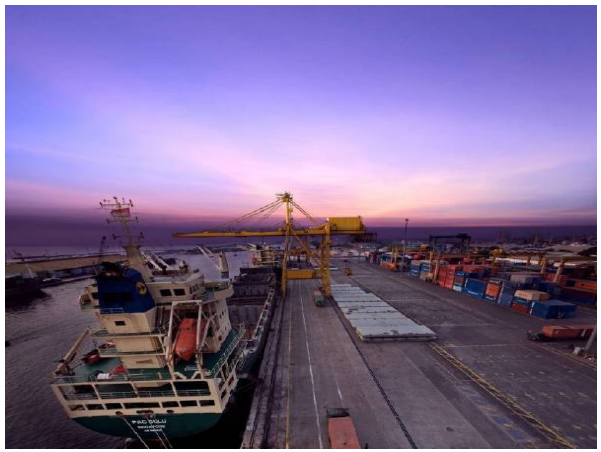
Portek Port Operation



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How will Panama Canal expansion affect ports in the Western Hemisphere ?

In this presentation, we will look at:

- Trade routes – Pre and Post Canal Expansion
- Cascade Effect & Canal Expansion on Size of Container Ships deployed
- Impacts on ports, winners and losers
- Bulk trades

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Western Hemisphere refers basically to the Americas:

- North America,
- Central America & the Carribean
- South America.

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Canal Expansion affects all shipping

- Container shipping – presently 30% of Panama traffic
- Bulk shipping
- Liquid
- Cruise, general cargo, Project cargo and Others.

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Trade routes generally fall into 2 categories:

East – West trade routes:

- Far East – US West Coast (USWC) – Transpacific
- Far East – US East Coast (USEC) via Panama
- Far East – US East Coast via Suez
- Far East – S America West Coast (WCSA)
- Far East – S America East Coast. (ECSA) via Cape
- Europe – USEC (Transatlantic)

North South trade routes:

- Europe – S America
- North America – Central and S America
- Intra-Latin America

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Cascade Effect

Cascade Effect:

Large ships displacing small ships in all trade routes due to emergence and large scale deployment of large post panamax ships

For Cascade effect to take place, we must have:

- increased volume, hence justifying larger ships or
- same volume, but reduced sailing requencies,
- or both of above happening

To analyse the full impact on ports, we will therefore consider Combined action of:

Canal expansion + Cascade Effect.

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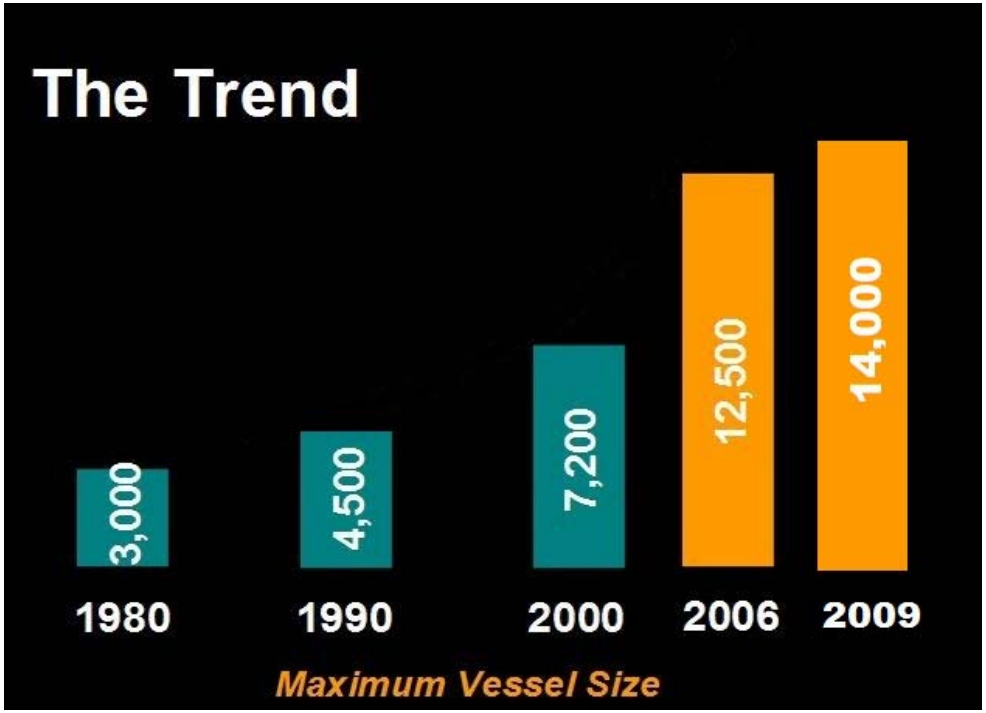
Cascade Effect



- By end of 2007, there were 188 Vessels of greater than 10,000 Teus on order, though some may have been postponed or cancelled.

- By 2011, Post Panamax Vessels will contribute about 45% of all container slots, after adjusting for some order cancellations

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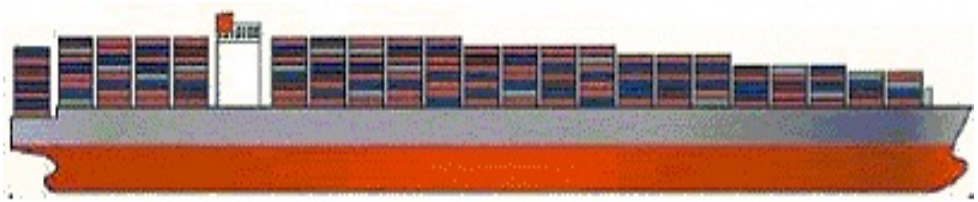
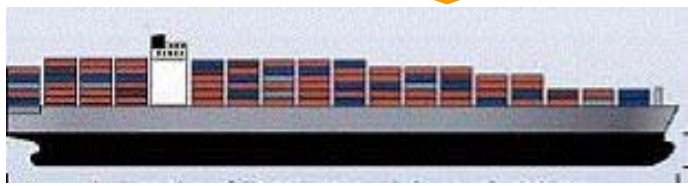


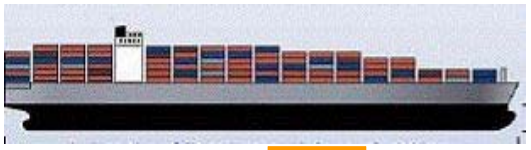
LPPX/ SPPX
6,500+ –
12,500TEUs

Displacing



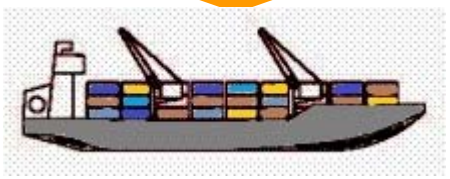
LPX/ PPX
4,000 – 6,500TEUs

Displacing



MPX
2,000 – 4,000TEUs

Displacing



SPX/Feeders
800 – 2,000TEUs

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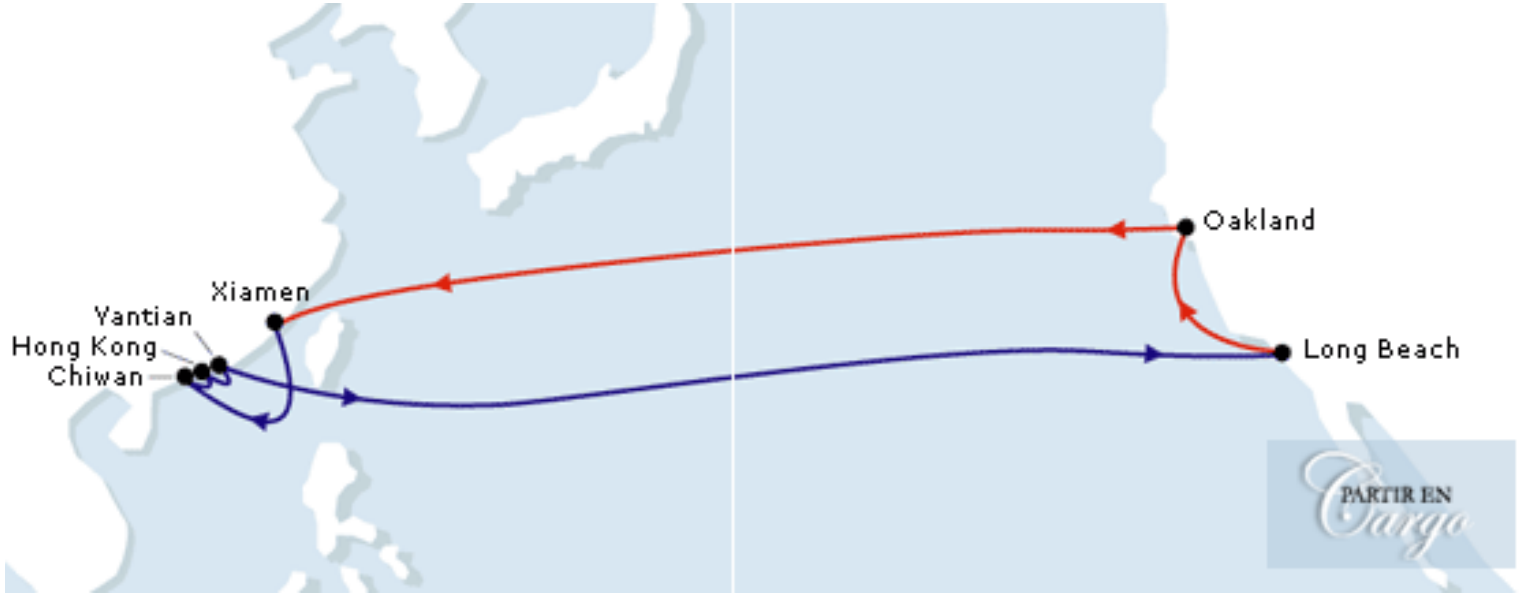
Trade Route: Asia – US West Coast (Transpacific)

CMA-CGM: South China / USWC Vessels >8000 teus



Source CMA-CGM

- Presently, high volume shuttle services using Large PPX vessels 8,000 to 10,000 TEUs
- Pacific SW = LA + Long Beach + Oakland > 16m TEUs in 2008
- Pacific NW = Vancouver, Prince Rupert, Seattle, Tacoma > 6.3 m TEUs

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Effects on USWC Ports

Post Canal Expansion 2014 – effects on USWC ports:

Vancouver, P Rupert, Seattle, Tacoma, Portland, San Franscisco, LA /Long Beach

- Continue as gateway ports, handling own traffic; based on shuttle service from Asia
- Transshipment traffic unlikely, due to location, capacity and productivity.
- Will lose significant intermodal traffic to all water Panama route. US$2,000 to rail a container from USWC to USEC. Presently only 30% of Asian cargo go through USEC ports by all water route (via Panama or Suez)
- However, both railroads and ports are preparing to fight back to retain traffic.

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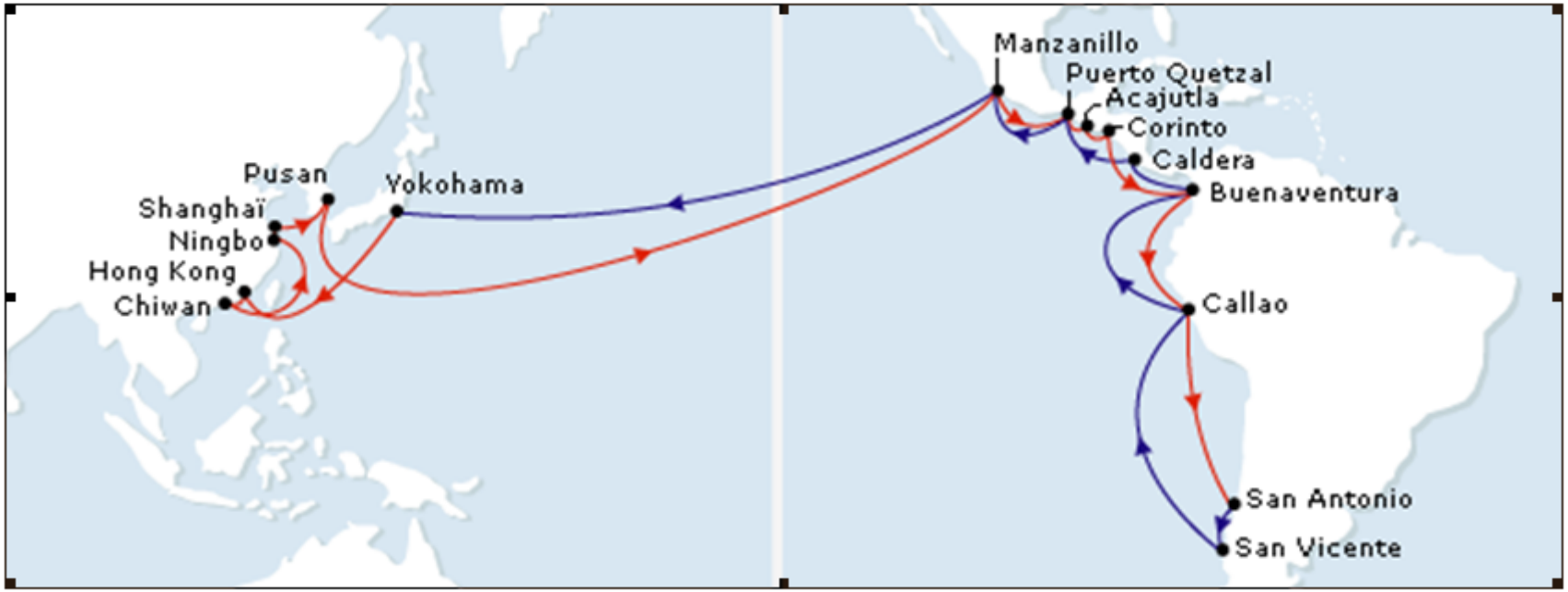
Trade Route: Asia –West Coast South America (WCSA)



Source: CMA-CGM

Presently, Asia-WCSA :

- Mainly direct long haul from Asia, using Panamax vessels
- Multi port calls. Long transit time 84 days
- Mostly Panamax vessels, though MSC now using 6,000 teu ship.
- Beside direct calls, there are also transshipment services via Balboa

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Trade Route: Asia – West Coast South America (WCSA)

Post Canal Expansion

- Direct long haul multi port service may decrease in favour of transshipment via Balboa
- Transshipment to WCSA ports may come in two forms:
  - Piggy back on USEC traffic, on 8,000 to 10,000 TEU ships and transshipped via Balboa on feeders
  - Shuttle services from Far East to Lazaro Cadenas and Balboa, plus one other port, then transshipped via these to WCSA ports
- More capacity being created at Balboa - PPC & PSA Panama. A natural transshipment hub for Central America /WCSA traffic.
- Panama -The Singapore of Western Hemisphere.

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Effects on WCSA ports

- Balboa will be clear winner, transshipment hub for Central America and WCSA
- Manzanillo (Mexico), Lazaro Cadenas – Transshipment for Central America
- Will a transshipment hub emerge in WCSA?
- Present Load distribution still not in favour. Chilean ports presently contributes 3.0 m out of 5.8 m TEUs of WCSA total traffic.
- But Peruvian traffic fastest growing. Can Callao be a sub-regional transshipment hub? Feedering to Guayaquil, Paita, Arica, Iqueque, Antofagasta.
- Manta has ambitions: good depth and location, but lack of hinterland cargo is a disadvantage. It could be complimentary to Balboa, as a spill over port

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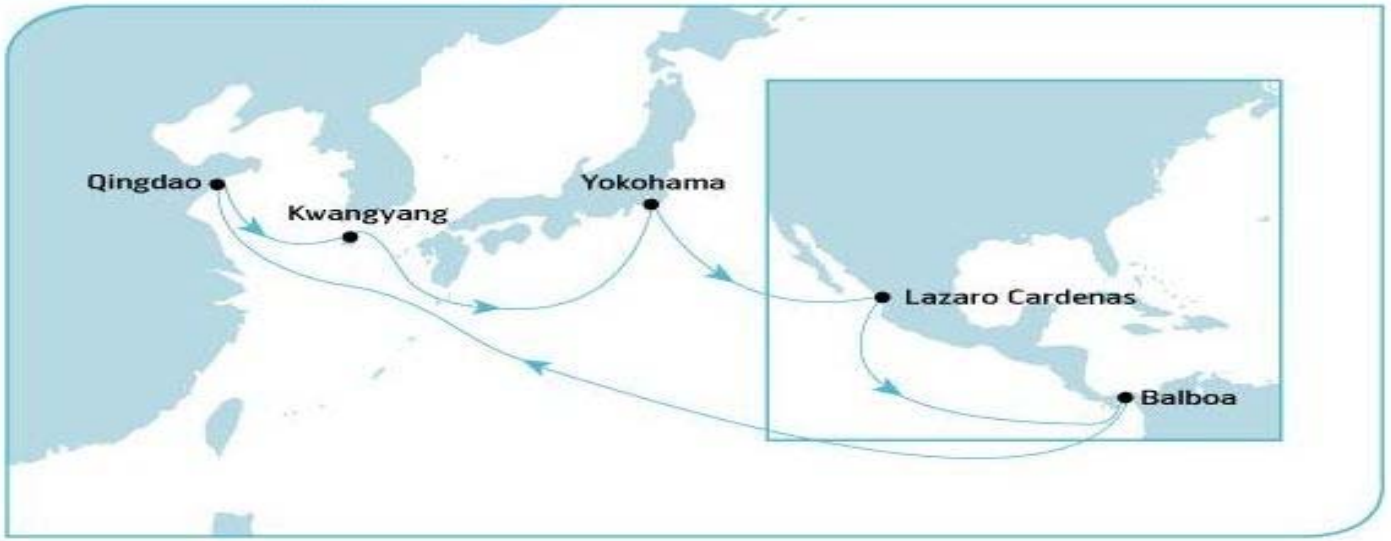
Case for Manta Port ?



Source: Maersk Shipping

- Presently, Maersk's Asia–Central America AC2 & AC3 services show dedicated shuttle service has sufficient volume

- Manta is one day sailing from Balboa, hence possible for shipping lines to extend one more port call to Manta within the shuttle service.

- Provided capacity is available, productivity is good.

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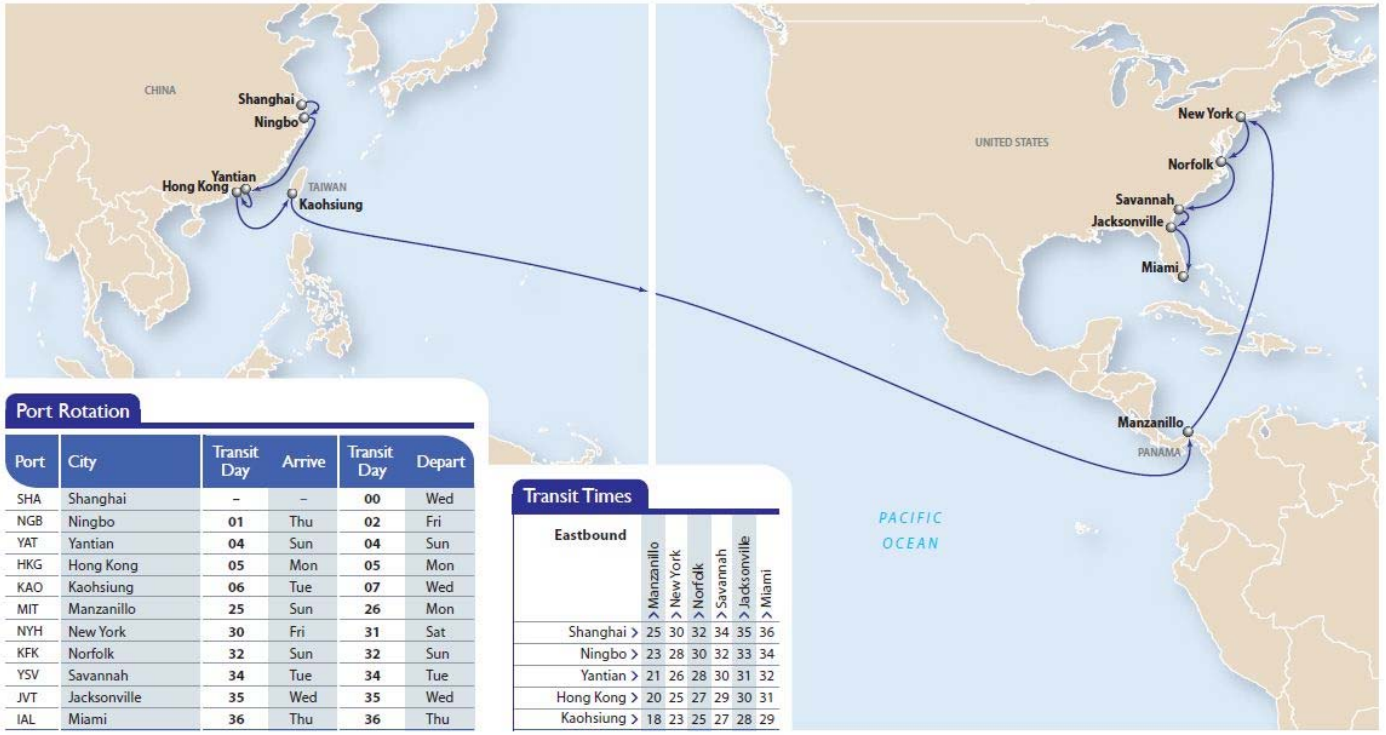
Trade Route: Asia – US East Coast (USEC) - Panama



Port Rotation

Port	City	Transit Day	Arrive	Transit Day	Depart
SHA	Shanghai	–	–	00	Wed
NGB	Ningbo	01	Thu	02	Fri
YAT	Yantian	04	Sun	04	Sun
HKG	Hong Kong	05	Mon	05	Mon
KAO	Kaohsiung	06	Tue	07	Wed
MIT	Manzanillo	25	Sun	26	Mon
NYH	New York	30	Fri	31	Sat
KFK	Norfolk	32	Sun	32	Sun
YSV	Savannah	34	Tue	34	Tue
JVT	Jacksonville	35	Wed	35	Wed
IAL	Miami	36	Thu	36	Thu

Transit Times

Eastbound	> Manzanillo	> New York	> Norfolk	> Savannah	> Jacksonville	> Miami
Shanghai >	25	30	32	34	35	36
Ningbo >	23	28	30	32	33	34
Yantian >	21	26	28	30	31	32
Hong Kong >	20	25	27	29	30	31
Kaohsiung >	18	23	25	27	28	29

Source APL Trans-Pacific-443

Presently, this trade is characterized by

- Panamax ships less than 5100 teu, transiting through Panama Canal
- Only about 30% of Asian imports are shipped through USEC ports
- Transit time about 21 days.
- 16 weekly services of average capacity of4,000 teu

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Trade Route: Asia – US East Coast (USEC)

Post Canal expansion,

- Quantum jump in ship size - Post Panamax ships of probably up to 10,000 teu
- Intermodal traffic through USWC will substantially migrate to all water USEC.
- Cost savings per slot of 30% to 40% between 10,000 and 4,000 TEU ships
- Bayonne Bridge in New York –New Jersey limit ship size to about 7,000 TEUs
- New York-New Jersey represent 1/3 of USEC port throughput (15.5 m TEUs).
- Deployment of >10,000 TEU ships to USEC not justified due to insufficient load, if they cannot call New York/New Jersey.
- Bridge of the Americas in Panama can also be a limitation for vessels > 14,000 teus.

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Impact on USEC Ports

- New York/New Jersey mayl miss the boat, limited to 7,000 TEUs.
- However, studies have been done to raise from 151 ft to 215 ft. Senate recently approved bridge heightening. Also PONYJ is builidng new terminal at Bayonne
- In Panama, Bridge of the Americas has an air draft of 201 ft
- Savannah, Virginia, Charleston will gain market share, expand their hinterlands, become gateways for intermodal traffic. More likely 8,000 to 10,000 teu ships.
- However, most other ports will also need upgrade for greater ship sizes due combined Canal Expansion & Cascade Effect

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Trade Route: Asia – USEC via Suez

Port Rotation

Port	City	Transit Day	Arrive	Transit Day	Depart
SIN	Singapore	–	–	00	Fri
CMB	Colombo	04	Tue	04	Tue
PSD	Port Said	12	Wed	13	Thu
NYH	New York	24	Mon	25	Tue
KCS	Charleston	27	Thu	27	Thu
YSV	Savannah	28	Fri	28	Fri
KFK	Norfolk	30	Sun	–	–

Transit Times

Eastbound to U.S.	Singapore	Colombo	Port Said	Chennai	Karachi	PortKlang	Chittagong	Ho Chi Minh City	Jakarta	Laem Chabang	Surabaya	Yantian	Chiwan
Norfolk	30	26	17	29	35	35	34	35	35	35	35	37	38
Savannah	28	24	15	29	33	33	32	33	33	33	33	35	36
Charleston	27	23	14	28	32	32	31	32	32	32	32	34	35
New York	24	20	11	25	29	29	28	29	29	29	29	31	32

APL Trans-Pacific-412 | For sailing schedules, shipment booking, and tracing, visit www.apl.com. | sxxab.pdf ©APL 17-Mar-10

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Trade Route: Asia – USEC via Suez

Presently,

- 5 weekly services with vessels ranging from 5,000 teu to 8,500 teu
- These arise exactly because of constraints at Panama Canal.
- Transit time 31 days from Yantian to New York – long
- More suited for SE Asia / Indian Continent cargo

Post Canal expansion

- Will see reduced services, only catering to Indian sub-continent
- Panama Canal route transit 21 days – 10 days shorter than Suez routes.

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Trade Route: Asia – East Coast South America (ECSA) via Cape of Good Hope

Source CSAV

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Trade Route: Asia – East Coast South America (ECSA)

Presently

- Direct long haul from Far East –ECSA via Cape of Good Hope.
- Mainly Panamax ships
- Multiport calls covering Bueno Aires, Montevideo, and all major Brazilian ports

Post Canal expansion,

- Ship size will continue to increase due to increased load and Cascade factor.
- Multiport calls, with Santos as the dominant port
- Some cargo may shift to piggyback on Asia-USEC trade, and transship via Coco Solo, Panama to Brazilian ports.

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Impact on ECSA ports of Brazil, Uruguay and Argentina

- Direct, Multiport services from Asia and Europe still dominant
- Some minor impact from Canal expansion
- Brazilian ports are high cost (USD 300 vs USD 100), lack of capacity
- Santos an obvious load centre, substantial investments being made, however, need to look at port tariffs.
- Argentina (La Plata), Uruguay (Montivideo) expanding port capacity.
- All major ports will see higher volume, larger ships, due to GDP expansion

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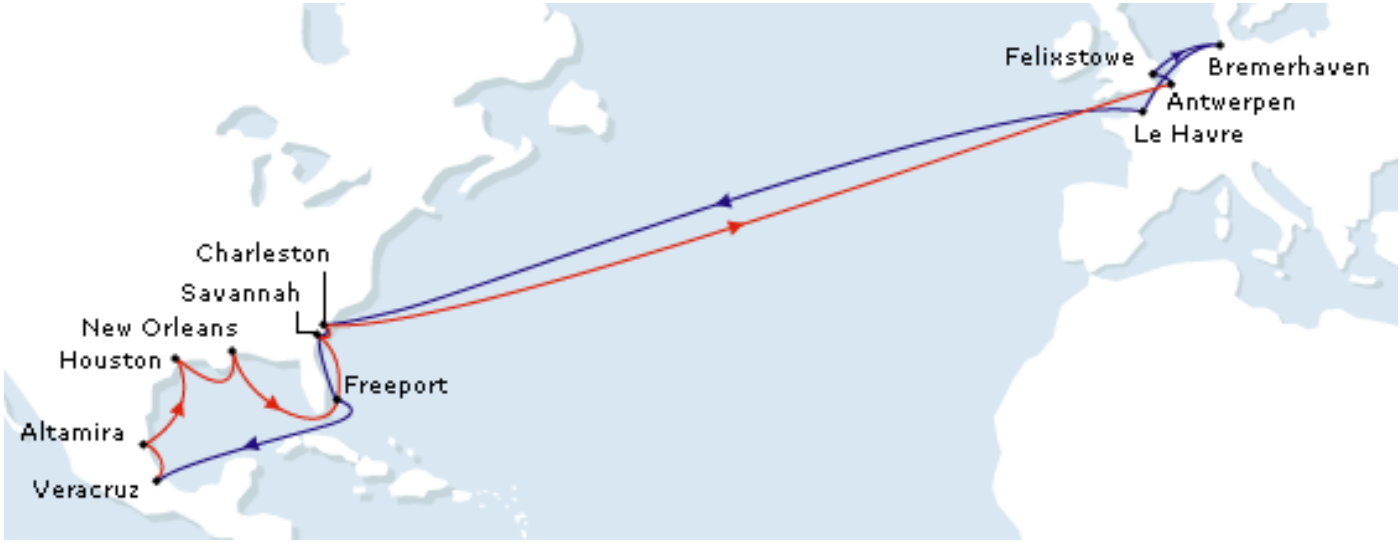
Trade routes: Carribean / Central American /Gulf



Source CMA-CGM

Region is served by direct multiport calls from Europe, as well as Asia

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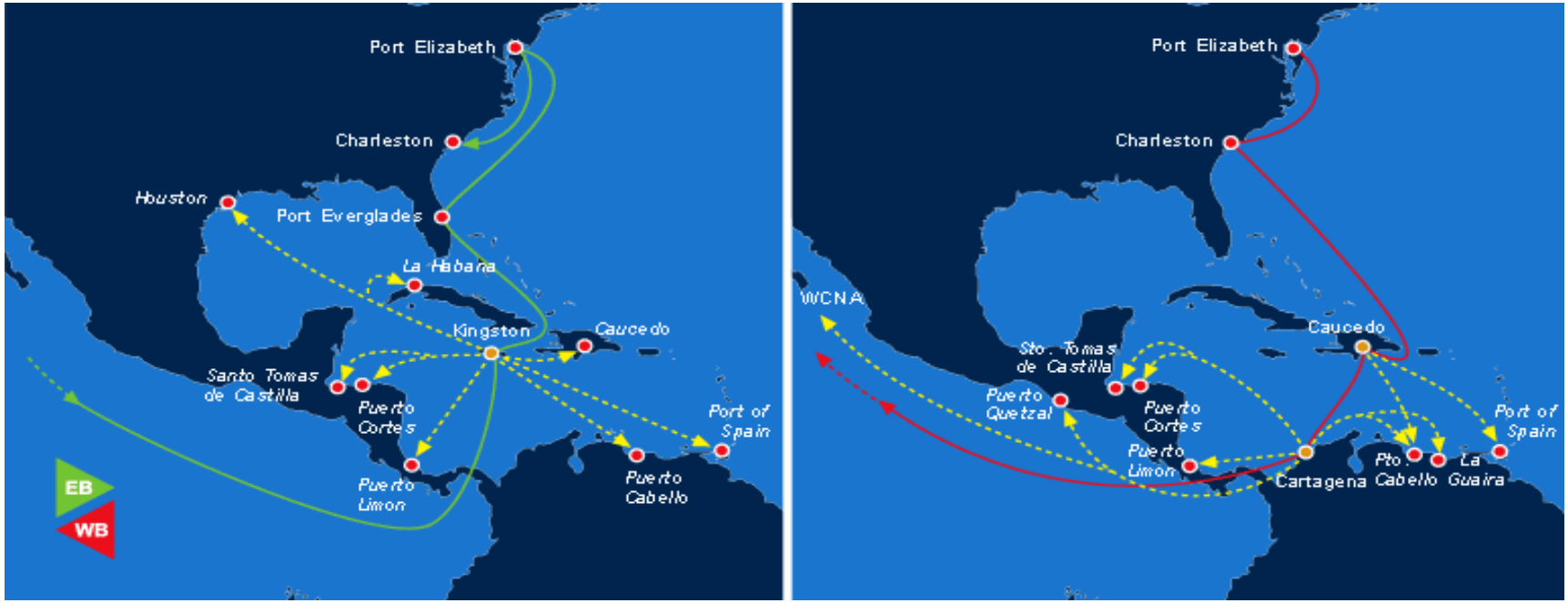
Trade routes: Carribean / Central American /Gulf



Source CSAV

Also by feedering from Carribean hubs such as Kingston, Caucedo

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Trade routes: Carribean / Central American /Gulf

Presently,

- This region is served by direct service from Asia, and Europe & also piggybacking on the Asia- USEC services via transshipment.
- Transshipment hubs: Kingston, Caucedo, Bahamas, Colon & Manzanillo in Panama, Cartagena
- Most of Carribean / Central American / Gulf ports are feeder ports.

Post Canal Expansion

- Same trade pattern but with larger vessels and trending towards higher proportion of transshipment, and reduced direct service

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Impact on Carribean / Central American /US Gulf ports

Post Canal expansion:

- Major ports will see dramtic increase in ship sizes 5,000 to 10,000 teus
- Balboa will be clear winner on Pacific side
- Coco Solo (MIT & CCT), Cristobal (PPC) winners on Atlantic side
- Kingston, Caucedo, Cartagena will also benefit
- US Gulf Ports may lose some direct calls due to location, low load level, and become more of feeder ports.
- Cascade effects will put pressure on all ports to receive larger ships.
- Some ports need to reform labour practices, customs procedures. Central American state run ports.

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Trade Route: Europe – USEC (Transatlantic)

North Europe - US East Coast

- Transatlantic trade will not be much affected by Canal Expansion.
- Cascade effect will push ship sizes.

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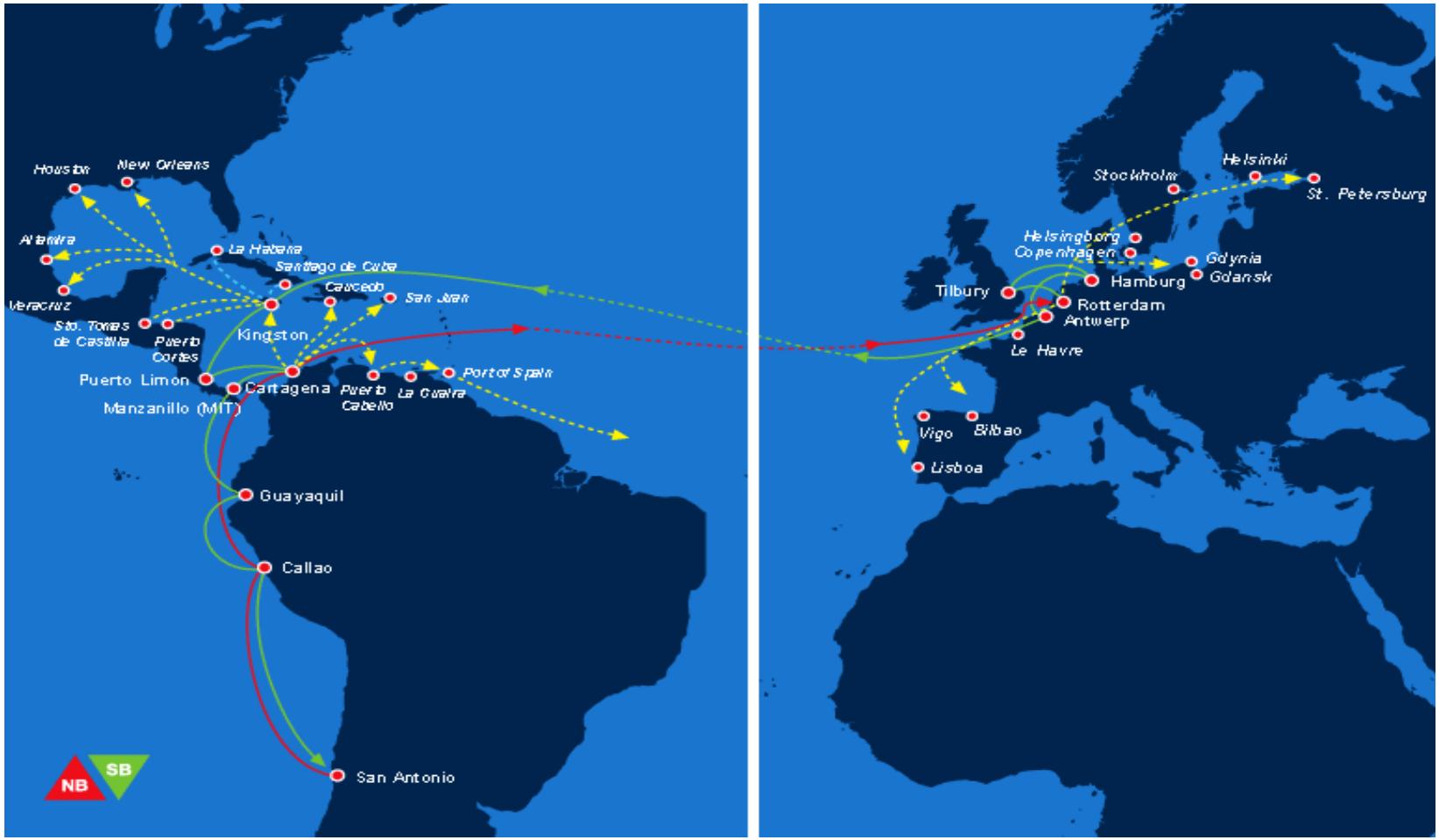
North- South Trade: Europe – South America



Source CSAV

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North- South Trade + others:

Europe – Latin America trade will be predominantly influenced by

- Far lower volume, hence Panamax vessel sufficient.
- Cascade effect – migrating to bigger vessels in step with growing volume.

Similarly for N America – S America trade.

Intra –Latin American trade in terms of bulk commodities and re-distribution of cargo from Logistic and distribution centres established in Panama and elsewhere.

North - South trade does not have same Impact on Ports as East-West Trade.

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Factors influencing types and size of ships calling at ports

- Navigational factors – water draft, air draft, Canal restrictions.
- Load or Volume of cargo - Pull factor
- Cascade Effect – Push factor
- Port factors – turn-around time: productivity, capacity, equipment, labour practices
- Other factors like security, piracy, legislation such as Jones Act, Cabotage laws

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Concentration Effect

Deployment of large SPPX ship leads to concentration effects:

- Cargo will be concentrated in fewer ships, larger ships
- Cargo will be concentrated in a few hub ports, and transshipped to final destinations
- Slot sharing or joint service
- Sailing frequency may reduce – recent example of slow steaming as a response to high fuel costs and excess capacity at expense of shippers.

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Effect of Canal Expansion on Bulk cargo trade

- Presently 85,000 dwt bulk Panamax bulkers transit Canal
- Post expansion will see Cape sized vessel of 120,000 dwt, upto 175,000 dwt. Draft increase from 39.5 ft (12m) to 50 ft (15m)
- Lower freight from better utlisation of Panamax vessels or from use of larger vessels
- Will see increase of following trades:
  - Grain flow from US Gulf, to Asia and WCSA
  - Metallurgical coal from USEC to Asia
  - Iron ore from northern Brazil, thermal coal from Colombia to Asia
  - Minerals from Chile and Peru to USEC and Europe will get a boost.

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General Comments / Questions:

- For Latin America, strong economic growth, commodity cycle, and increased world trade will drive container traffic and port business. A replay of South East Asia in the 90's.
- Canal expansion is only a facilitator, not a cause. Extent of Canal impact will largely depend on the Canal tariff. Alternatives are already available. Shipping lines are flexible, and able to re-route to avoid high costs.
- Increased trade volume, ship size, and canal expansion favour transshipment. However, not a winners take all case. Numerous minor transshipment ports will co-exists with the major hubs to take the spill over, and provide non available berthing windows at the major hubs.
- Port Authorities need to take a business like view of port development. New transshipment centres requires huge investment outlay and competitive pricing. Not every one's game in today's deleveraging world.

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General Comments / Questions:

- Is there a lack of coastal shipping choices to stimulate feeder shipping?
- New impetus for Policy makers to overhaul Cabotage laws to promote freer and competitive short seas shipping, to reduce distortions to economies. Example: it costs more to ship a container from San Antonio to Iquique than San Antonio to Callao
- Development of feeder port vital for economy and industries of the particular province. Example: In Mexico, Mazatlan and Guayamas not well served by feeder shipping.
- Cabotage trade now mainly done by trucking. Long coast lines of S America favour seaborne traffic versus land transport. To be encouraged as a greener alternative.

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Thank you

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