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Hinterland Connectivity & Multimodal Logistics in a World of Slowing Globalisation (v2)

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Session II: Hinterland Connectivity & Multimodal Logistics – Part 2

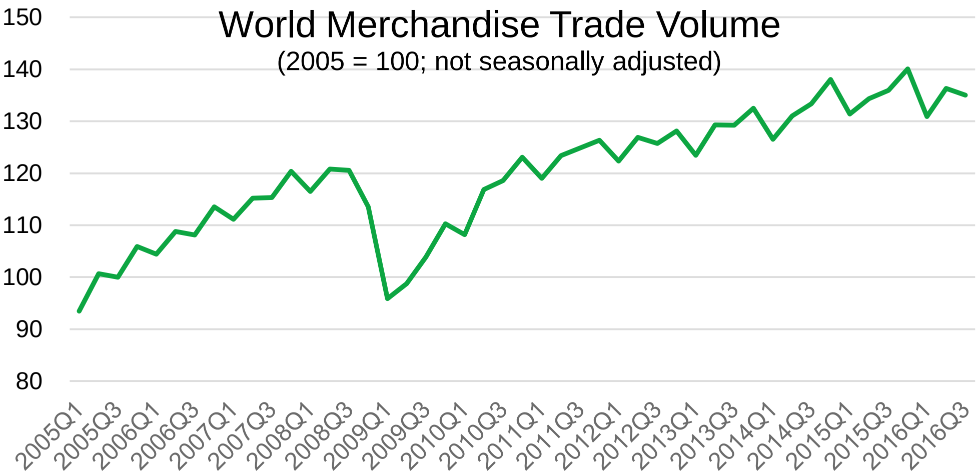
Outline

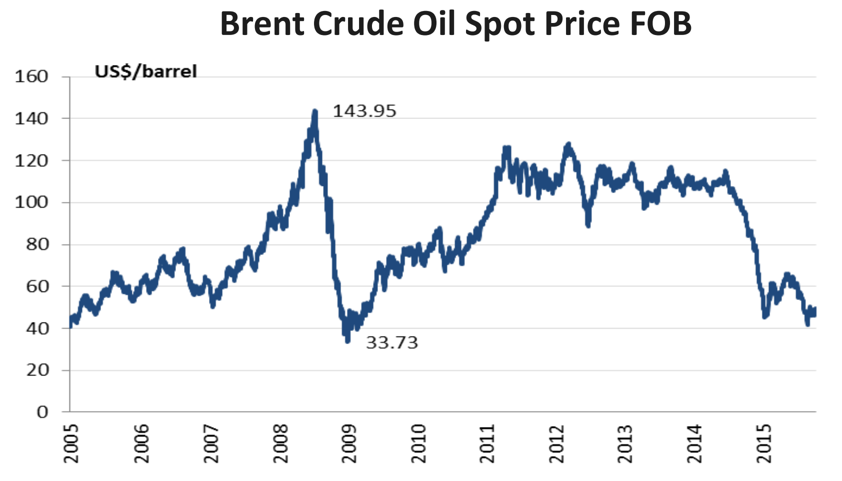
- Global trade remains subdued
- Slower growth = new challenges & opportunities for (previously) high-growth gateway ports
- Hinterland connectivity – secure market share of a slowing hinterland, but who controls what?
- Terminal operators invest outside the gate or focus on core competencies?
- The promise of new technologies?

Global Trade Remains Subdued

Signs of some recovery in Q1, but pre 2008 growth unlikely to return

- World trade volume growth to remain sluggish: 2016 at 2.8% (same as 2015), rising to 3.6% in 2017 (WTO)
- Over medium term world trade growth & “container trade multiplier” has fallen.
  - 1990-99, container volumes grew **3.5x** rate of global GDP growth;
  - 2000-09 only **2.7x** GDP growth;
  - average GDP-to-trade multiplier of ~**1.2** since 2010)..
- ….and despite low fuel prices
- Some buoyant growth Q1 for containers, but pre 2008 world unlikely to return





Source: Institute for Shipping Economic and Logistics; CPB Netherlands Bureau for Economic Policy Analysis; US Energy Information Administration

Cyclical and Structural Factors at Play

- Economic uncertainty in Europe, although US recovery relatively strong
- China (fastest growing & 2nd largest economy) slowing down (~6.5%)...
- …and restructuring away from dependence on export growth…
- ...possible "hard landing": massive increase in debt, especially local government off-budget burrowing (LGFV liabilities still rising: 22% 2014, 25% 2015)
- China producing more semi-manufactured products – share of imported components in exports 60% 1990s vs 35% 2010s
- India liberalization would help, but cannot "fill the gap"
- Slowing pace of trade liberalization – globalization under attack?

Source: WTO; National Bureau of Statistics China; ADB; ICF

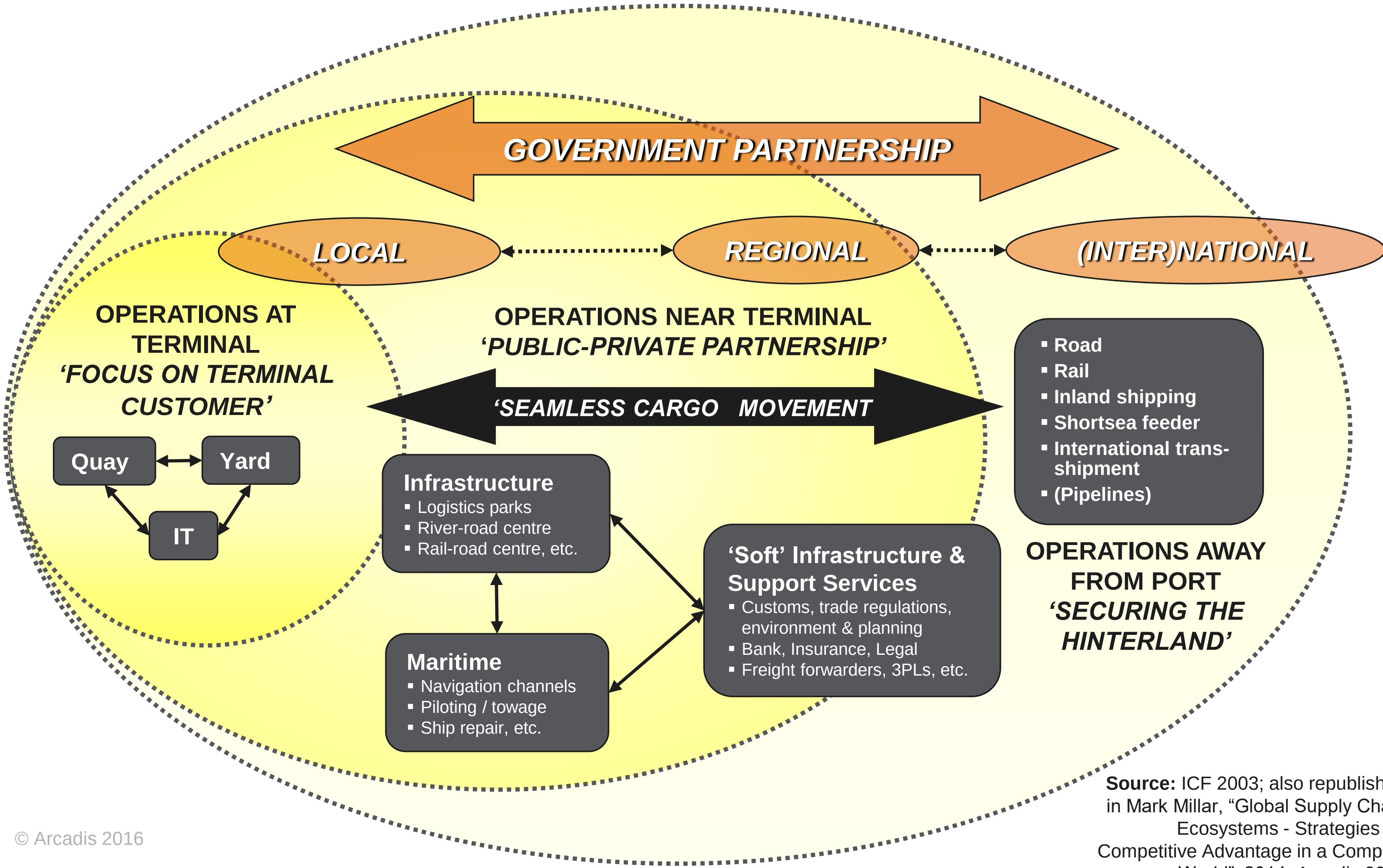
Connectivity for Lower Growth Hinterlands

Reduced pressure to accommodate high growth, but increased competition in contested hinterlands

- Slow growth is a relatively new experience for major Asian gateways (as compared with N America, EU)
- Pressure to accommodate high (and substantial absolute) growth whilst protecting service levels has eased
- But in contested hinterlands, increased pressure to secure market share (not a new experience for more mature markets, e.g. N America, EU)
- Green agenda brings challenges, but increased efficiency solutions are a win-win
- "Mega-alliances" have brought additional challenges to managing demand peaks, regardless of overall growth

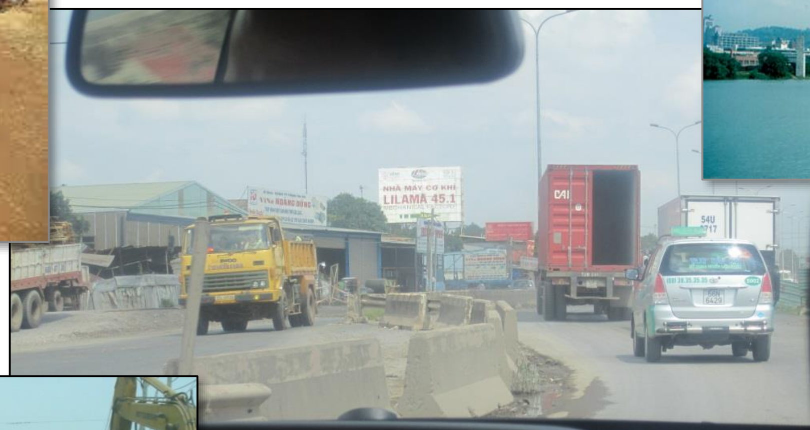
As Always, You're Only as Good as the Weakest Link

…and outside the gate, terminal operators have little control over the links in the supply chain



Source: ICF 2003; also republished in Mark Millar, "Global Supply Chain Ecosystems - Strategies for Competitive Advantage in a Complex World", 2014; Arcadis 2017

Regardless of concession model, *Public Sector is critical* for supporting hinterland connectivity

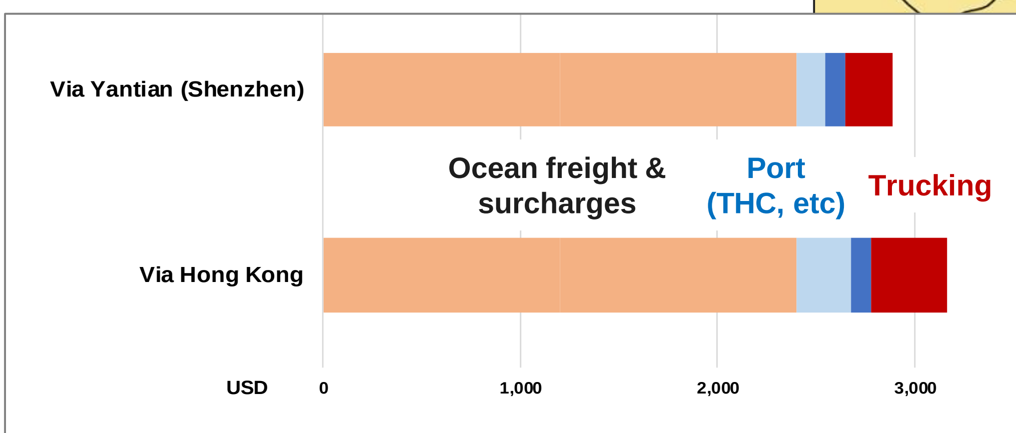


Hinterland Connectivity - I

Who controls what? How does it vary by market?

E.g. South China Export to N America

- Total through cost; and
- Service quality are critical
- If latter are similar, routing decision is very cost sensitive
- Port / terminal operators control relatively little

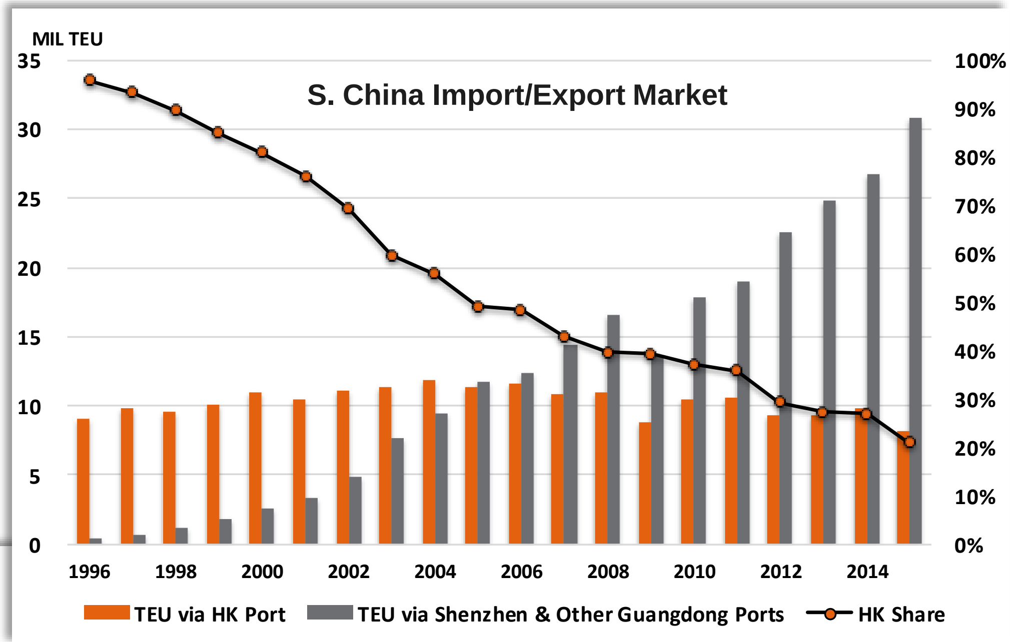


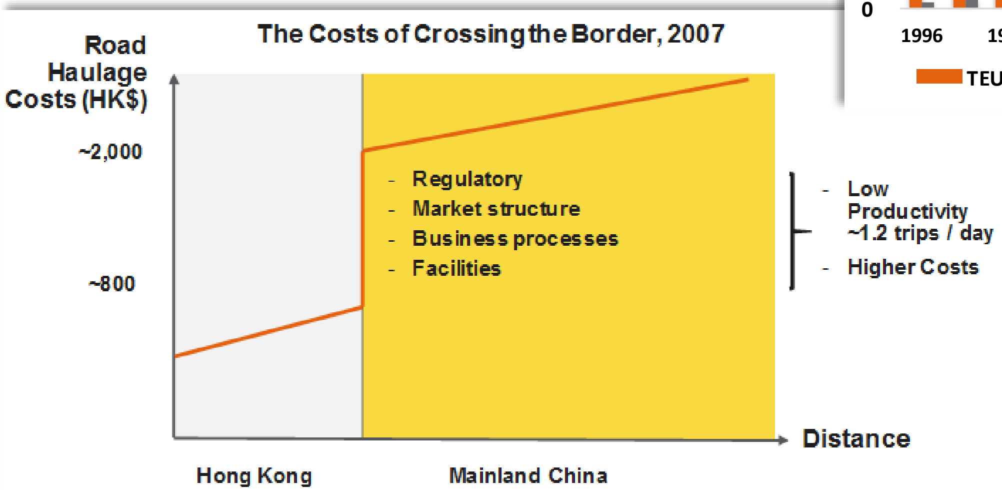
Source: ICF; Arcadis

Hinterland Connectivity

High cost of cross-boundary trucking severely damaged HK Port competitiveness

- Higher terminal and THC costs for HK, but higher trucking costs were critical
- Once Mainland competitors narrowed the service gap, loss of HK market share was sharp
- Higher trucking costs were / are primarily regulatory, NOT geographical
- Barging did not face such regulatory costs, hence HKP has been more competitive for this modal segment





- HK S China volume loss obscured by modal shit to barge (double / triple counted) and growth of ocean transshipment (double counted)

Source: Port Authorities; HKSAR Government; ICF; Arcadis

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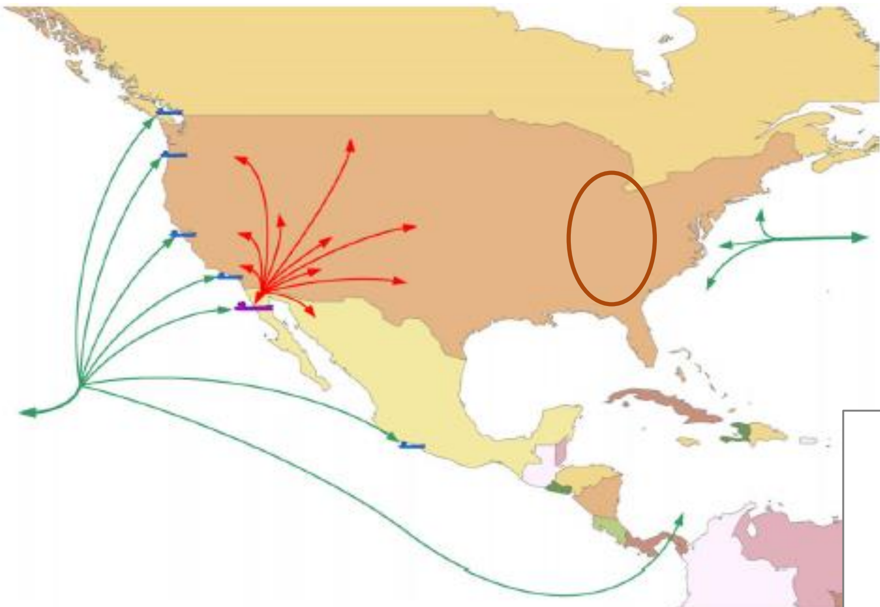
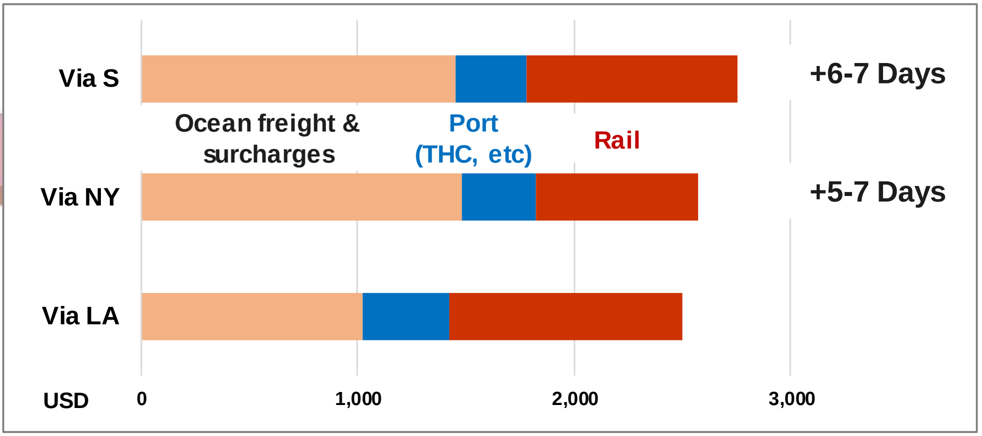
Hinterland Connectivity - II

Who controls what? How does it vary by market?



E.g. South China Import to Chicago / Ohio Valley

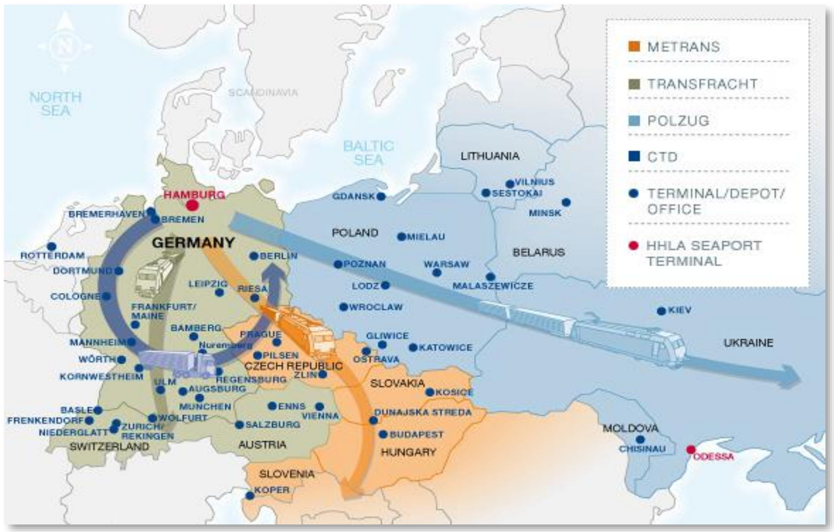
- Total through cost
- Service quality, including total transit time
- If latter are similar, routing decision is v cost sensitive
- Port / terminal operators control relatively little
- **Rail roads are very influential**



Source: ICF; Arcadis 2012 data

Securing the Hinterland

Connectivity = Improved Efficiency = Increased Throughput



Hamburg - HHLA

- direct involvement in rail services to large part of the hinterland
- own trucking services
- network of inland depots

Rotterdam – ECT

- large inland depot network (focus on barges and rail connectivity)
- cargo acceptance at the depots
- direct investments
- operational involvement
- no rail investments (but service agreements)

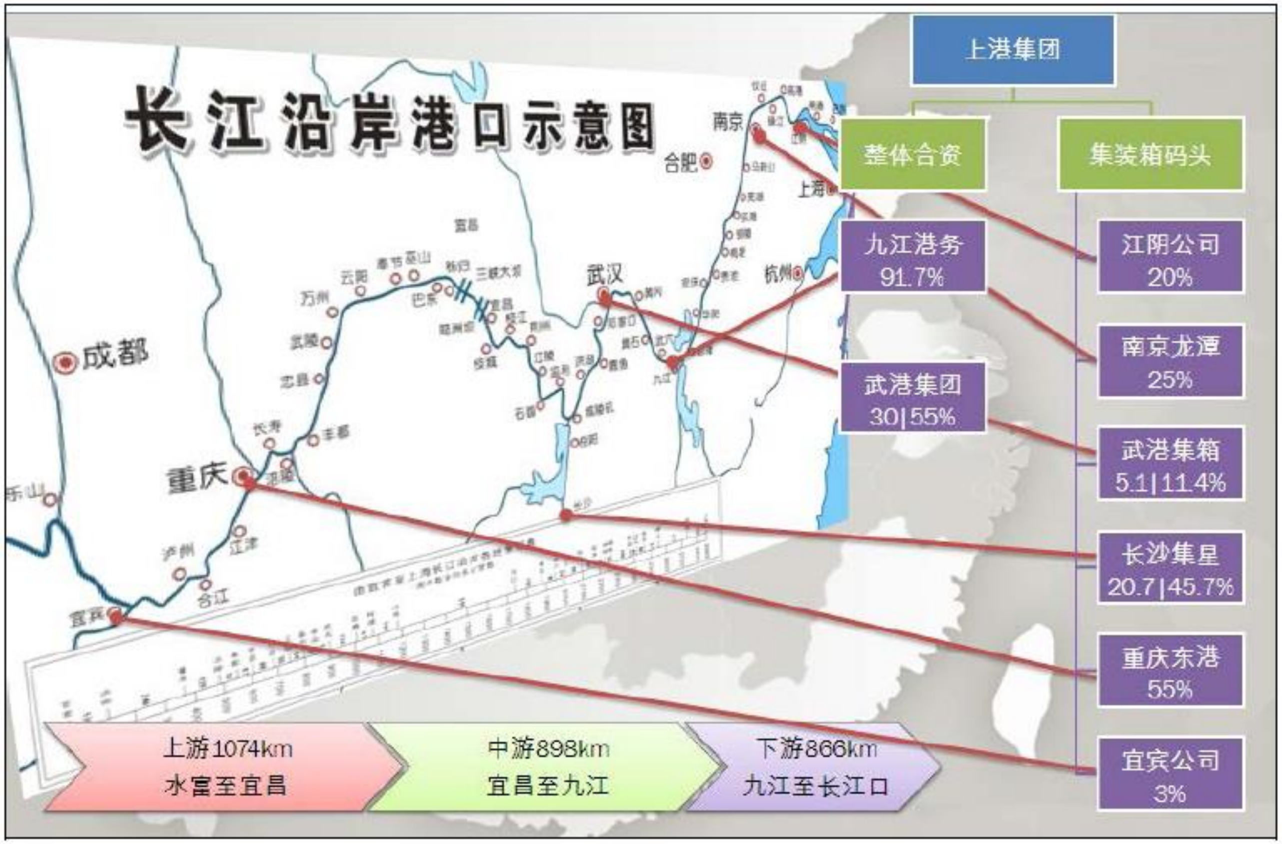
India gateway ports – dedicated freight corridors?

DP World Nears Billion Dollar India Investment

"…creation of the Delhi – Mumbai Industrial Corridor, river transportation and cold chain storage, investing in port-led special economic zones, free trade zones, ICDs…. [Terminal Operator, Q1 2017; Port Technology 5th May 2017]

Meeting the Challenge of Hinterland Integration…

…without stifling competition



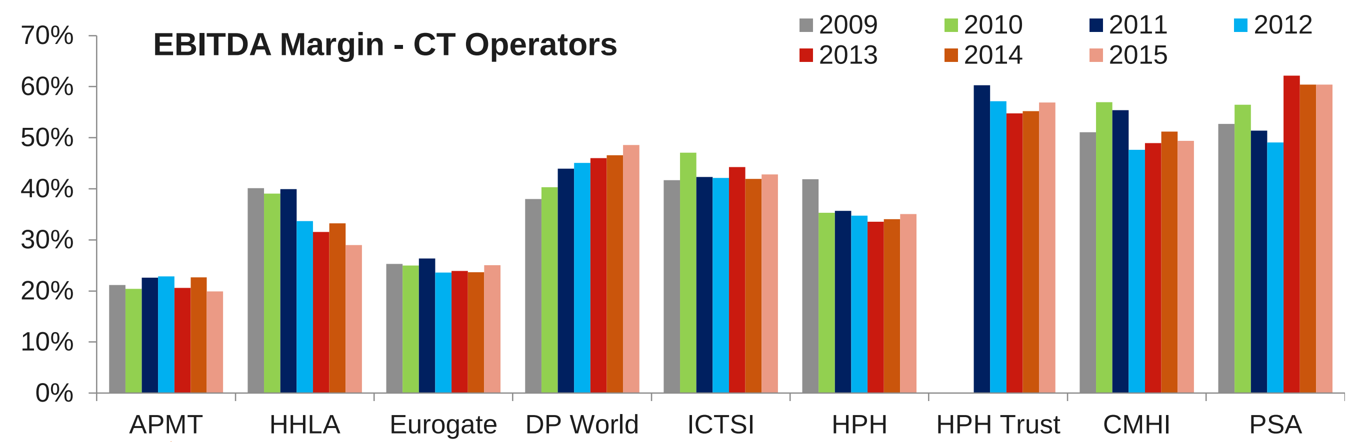
'Shanghai International Port Group's (SIPG's) Yangtze River Delta (YRD) Strategy'

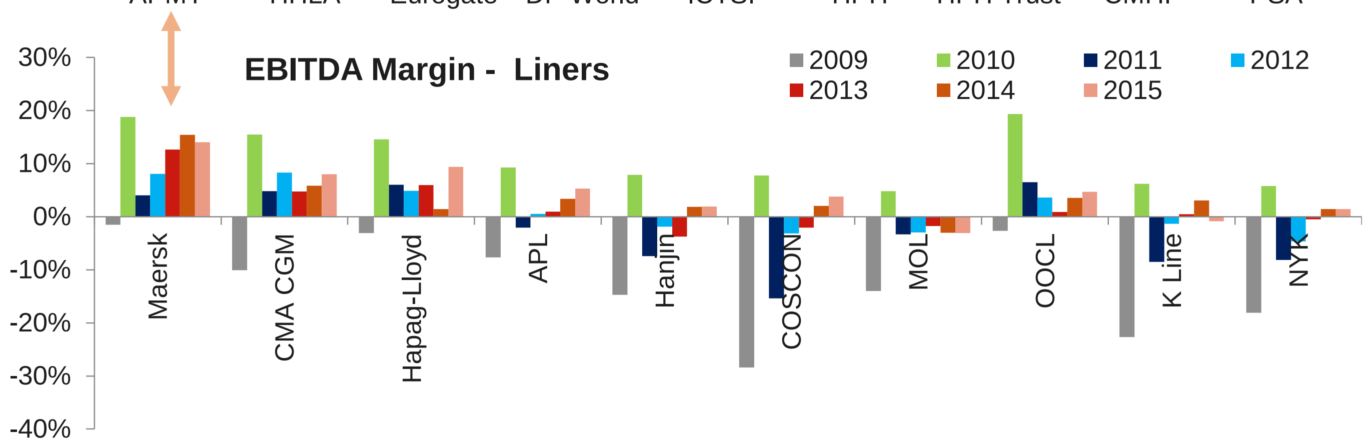
- SIPG is the dominant ocean terminal operator in YRD
- Invested substantially in YRD river ports to secure hinterland cargo
- Increased efficiency, but also limit diversion to (small) competitor ports
- Impacts for competition & customer choice?

Source: SIPG

Impact on Terminal Operator Financial Performance?

CT operators (CTOs) continue to outperform lines, but will investment outside gate drive down returns



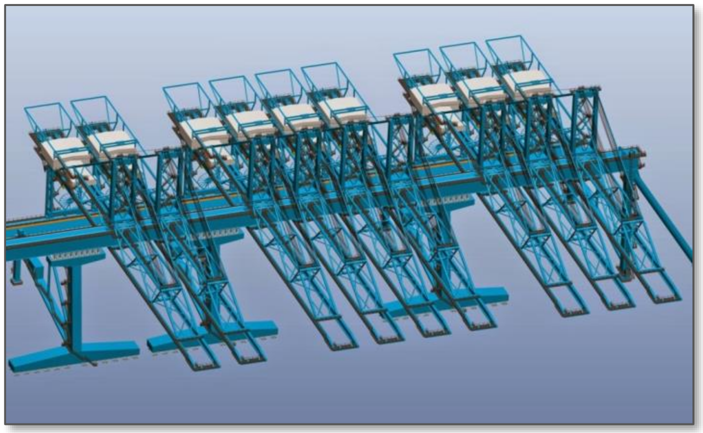


- Investment outside gate to secure volumes
- But at what cost?
  - Pitch CTOs against service provides / customers?
  - Reversal of strategy previously pursued by some CTOs
  - Lower stand alone returns for these investments?
  - ….but are benchmark returns for CTs falling – comparator is changing?

Source: Annual Reports; ICF Analysis
Notes: EBITDA / Revenue; recent PSA performance to be confirmed

Ports & Supply Chains of the Future

New Technology, New Ways of Thinking, New Ways of Competing, New Ways of Connecting?



- "At the terminal / port":
  - More of the same but a bit better (e.g. VICT, Melbourne; Maasvlakte 2, Rotterdam)…
  - …or a step change in design & operations?
  - But what is the return on investment and are customers willing to pay for superior productivity?
- What about Hinterland connectivity?

Source: APMT; GRID Logistics Inc; Hyperloop One

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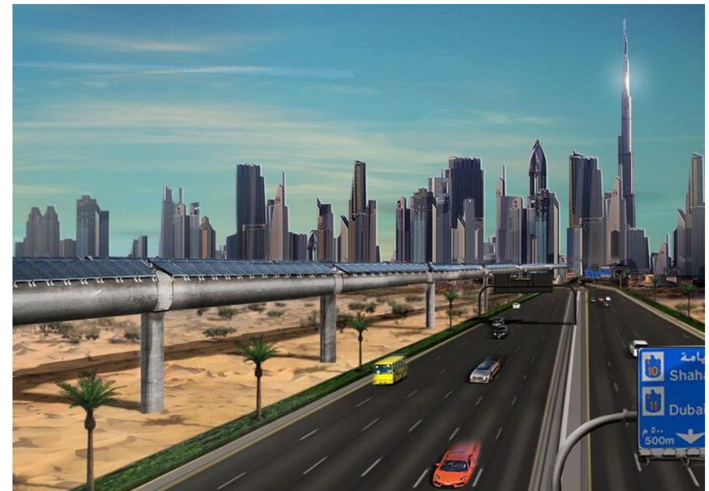
New Ways of Connecting with the Hinterland

E.g. Hyperloop, driverless trucks, etc.



"DP World Invests in Hyperloop"

"Hyperloop One…have announced a further US$50 million in funding, provided by DP World, taking the total seed money raised to $160 million…." [Port Technology Oct 14, 2016]

- Moves cargo (or pax) speeds > 1,100 km/hr
- Fully enclosed tube: system isolated from weather and crossings
- Low pressure environment reduces resistance
- Electric propulsion enables emissions free transport (if generation is "green")
- Levitated pod reduces friction, compressor reduces resistance

- Can move one container at a time – no need to 'build a train'
- Reduced land take at terminal (e.g. versus on-dock rail yard)
- Requires 'truck move at other end' (for now)
- Does maritime cargo need >1,100 km/hr for landside moves?
- Operational details and costs to be determined
- Best suited to certain gateway terminals & hinterlands, but not others?

Source: Hyperloop One; Press

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Wrap

- Slower growth here to stay…
- …presents new challenges & opportunities for (previously) high-growth gateway ports
- Good hinterland connectivity is still dependent on a range of stakeholders (sometimes competitors) coming together
- Public sector plays a critical role – both “soft and hard” infrastructure - even where ports are fully privatised
- Terminal / port operators are not “masters of their own fate”
- CTOs looking to invest outside the gate to exert more control over hinterland connectivity – policy makers must be sensitive to competitive impacts
- Impact from radical new technologies is some years away

Thank you

Any questions?

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Thank You