



Improving regional maritime connectivity and reviewing implemented initiatives'

Steve Wray – Technical Director / Maritime Advisory

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Impact of Pandemic

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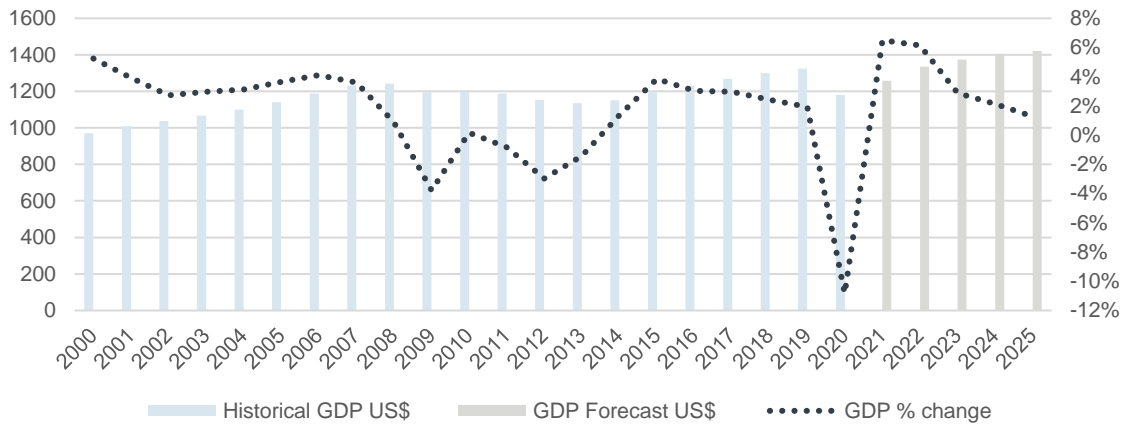
The comparison of port container volumes from 2019 to 2021 highlights the impact of the pandemic

- There was an initial dip in volumes followed by a “hockey stick leaning against a wall” shaped recovery (not quite a “v”) in Spain and wider region.
- Recovery has been partly funded by the use of “spare” cash resulting from no travel etc, which has been used for new home offices; house renovations etc which have given the economy a short-term boost ahead of the return to near normal and greater confidence that resulted in further pent up demand growth, especially in the US.
- The additional demand has given rise to additional challenges in the industry, especially related to the supply chain on the Trans-Pacific market and the knock on effect this has had on the Asia-Med services. Lines have prioritised services and extra loaders into the US to the detriment of other markets.
- 4 ▪ The EverGiven incident in the Suez Canal also has had a knock on effect in terms of delaying liner services and reducing available capacity.
- There has been a huge issue as a result of US demand and “over buying”, especially on USWC, coupled with poor US infrastructure and a general worldwide lack of lorry drivers. This has led to huge delays especially in LA/LB and San Pedro region.
- LA/LB were not 24 hour operators which hasn’t helped the situation, although they are now increasing working hours to help to remove the backlog.
- Shortage of lorry drivers and intermodal options has been highlighted as a major issue worldwide.
- Covid-19 and related issues has exacerbated capacity management issues in the supply chains – need shorter supply chains for the most part.
- Container lines in particular are getting rich on the back of this suffering – heavy surcharges have helped all lines to record huge profits at a time of artificial reduced supply and a poor quality of service.

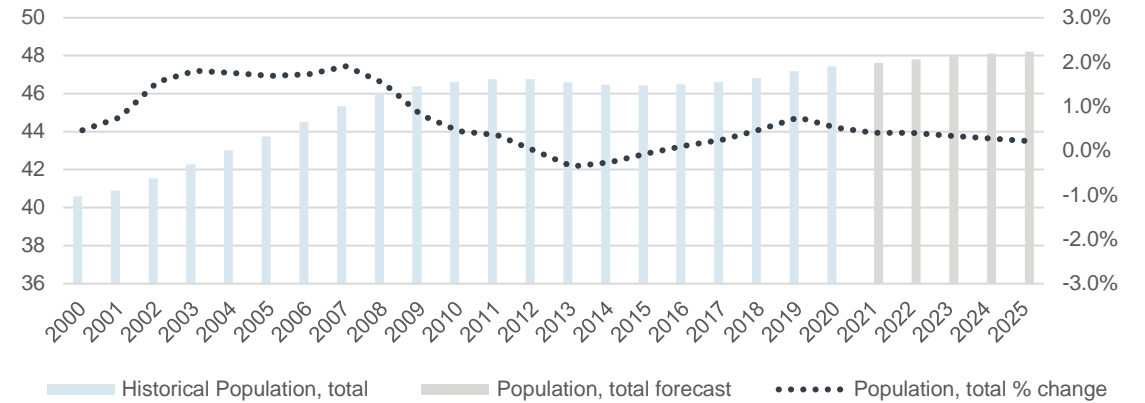
Macro-Economic Overview of Spain

- Between 2000-2010, Spain's GDP grew with a CAGR of 2.1% increasing from US\$ 97.1 billion to US\$ 120 billion. However this slowed to 1.13% between 2010-2019 with GDP increasing to US\$ 130 billion. As a result of the pandemic, GDP contracted by almost 11% to US\$ 118 billion. However, a strong economic rebound is likely with a CAGR of 3.5% expected between 2020-2025 to US\$ 142 billion.
- Between 2000-2010, Spain's total population grew with a CAGR of 1.4% from 40.6 million to 46.6 million people. However this slowed to 0.18% between 2010-2020 with the population having increased to 47.4 million people. Spain's total population is expected to increase by 0.3% annually between 2020-2025 to 48.2 million people.
- Between 2000-2010, Spain's employment grew with a CAGR of 1.8% increasing from 15.6 million people. However this slowed to 0.61% between 2010-2019 with employment increasing to 19.8 million people. As a result of the pandemic, employment contracted by 2.9% to 19.2 million people. However, a strong economic rebound is likely to increase employment with a CAGR of 1.4% expected between 2020-2025 to 20.8 million people.

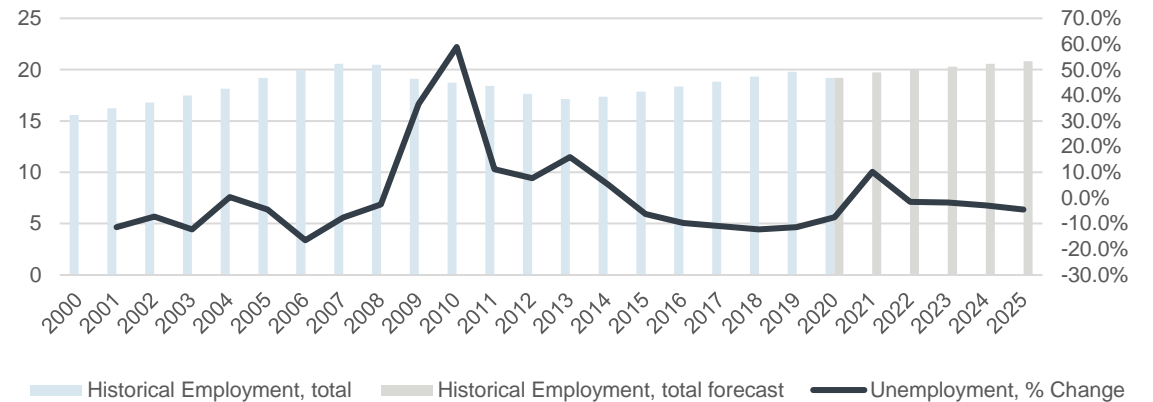
Spain GDP, constant prices and exchange rate, 2000-2025



Spain Population, millions, 2000-2025



Spain Employment against Unemployment, millions, 2000-2025

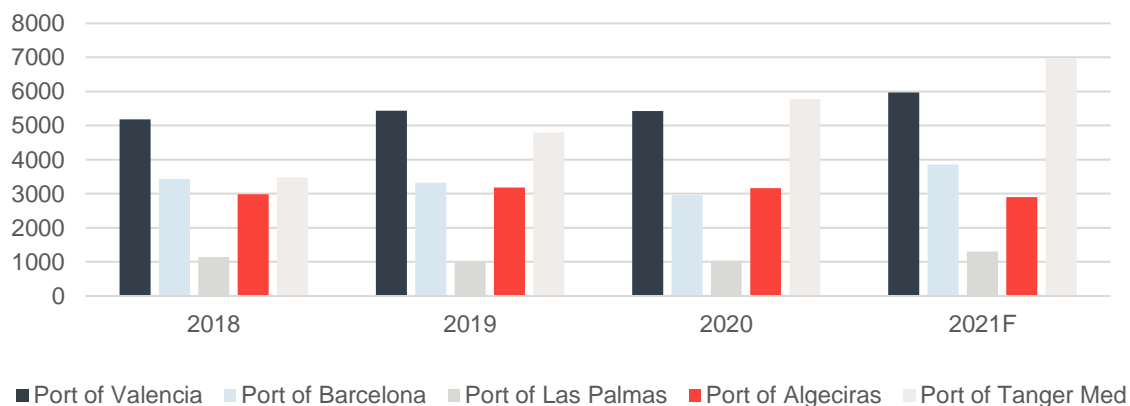


Impact on Port Throughput

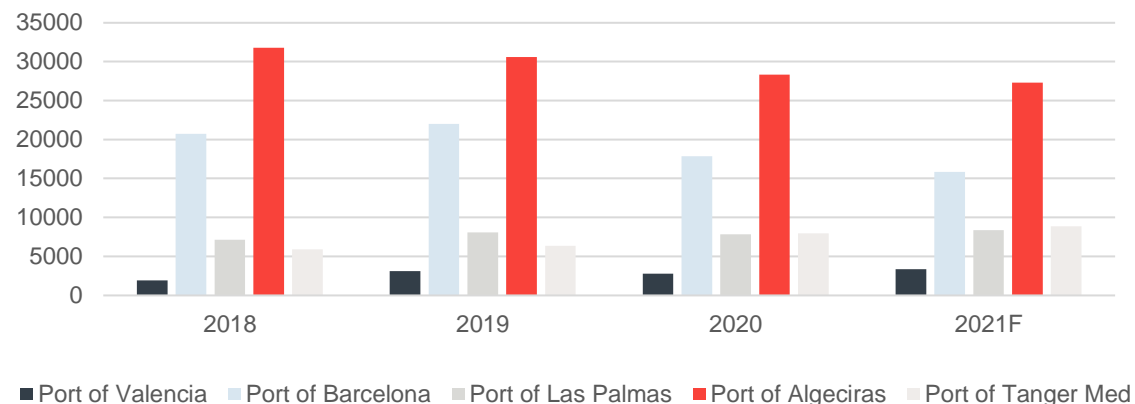
TEU, Liquid Bulk and Bulk Volumes

- Historically, the ports of Valencia and Tanger Med have dominated TEU Volumes with 5.4 and 5.8 million TEU in 2020. Looking forward to 2021, H1 volumes show evidence of recovery from the pandemic except the Port of Algeciras which decreased by 8.5% in H1 of 2021. The ports of Valencia, Barcelona, Las Palmas and Tanger Med all increased by 10.0%, 30.4%, 26.1% and 20.7% in TEU volumes respectively in H1 of 2021.
- Liquid bulk on the other hand, has been dominated by the ports of Barcelona and Algeciras with 17.8 million mt and 28.3 million mt respectively. However, these two ports in H1 of 2021 have both experienced a decline in volumes by -11.3% and -4.9%. The ports of Valencia, Las Palmas and Tanger Med increased in terms of liquid bulk volumes by 21.3%, 7.1% and 10.9% in H1 of 2021.
- In terms of bulk cargo, volumes have been dominated by the ports of Valencia and Barcelona with 2.6 million mt and 4.6 million mt in 2020. All ports are showed increases in H1 of 2021 by 16.1%, 15.8%, 5.9%, 33.1% and 6.4% for the ports of Valencia, Barcelona, Las Palmas, Algeciras and Tanger Med respectively.

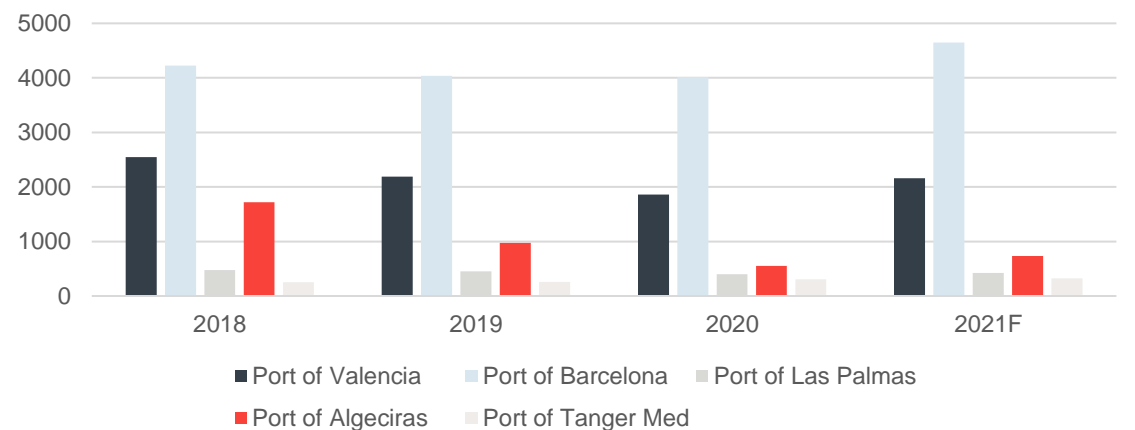
Ports by TEU Volumes (000' TEU)



Ports by Liquid Bulk Volumes (000' mt)



Ports by Bulk Volumes (000' mt)



State of Global Maritime

Global Maritime – Overview

Global Maritime – What’s happening



Size of container vessels continuing to grow – cascading the once largest vessels to secondary markets – increase in t/s opportunities



IMO sulphur cap and LNG implications for bunkering and trade routing



Regulations on fuel and vessel technology changing



Tonnage oversupply and cascading, reshaping of alliances – profitability of lines will help fund further newbuild orders. A shortage of small feeder vessels is pushing up charter rates and forcing lines into 2nd hand markets and alternative feeder deployment



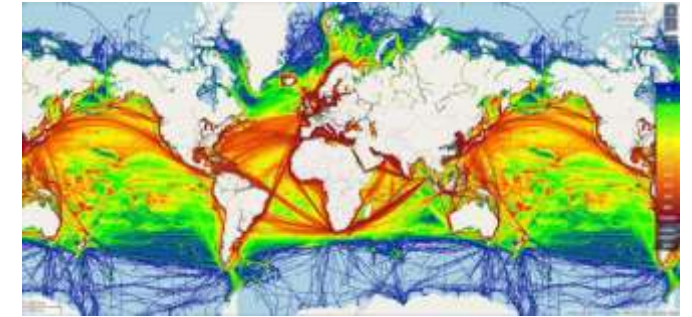
Port authorities reshaping less competitive infrastructure



Pressure on terminal operators to upgrade facilities and provide high service levels



Trade tariffs creating uncertainty



Global Shipping Traffic

Global Maritime – Container “Cascade” Effect

Ability to handle larger vessels now required by Baltic Sea ports due to cascading

1 The increase in the size of vessels deployed on the main arterial lanes has resulted in a displacement of former largest vessels to secondary trade lanes. MSC Gülsün of 23,756 TEU has since been replaced by the Ever Ace, with 23,992 TEU as largest vessel.

2 Vessels that were deployed on the main arterial trade lanes have now been “cascaded” to secondary trade lanes, ahead of the “actual” demand.

3 Smaller ports are no longer able to handle main trade lane vessels and instead must rely on secondary trade vessels and feeder/short-sea services. Increase in amount of t/s and competing t/as hubs.

4 Displacement of <500TEU vessels by <2,500TEU vessels on feeder/short-sea services as a result of an increase in incidence of transshipment in the region.

5 Following the formation of the new alliance structure, there will be a reduced number of service alternatives available to each shipper. **Spanish ports must be able to handle larger vessels efficiently to avoid losing volumes, or settle with handling feeder services.**

Transshipment & Hinterland Competitiveness for Southern Spain

Transshipment Competition – Choice of Port

Typical influencing factors for the choice of port in any region



- Location and Facilities (e.g. physical accessibility, water depth, cranes etc.) and availability of capacity
- Tariff levels (cargo handling and ship dues) and operating costs
- Performance and service levels (e.g. speed of container handling, flexibility, IT systems etc. labour arrangements, avoidance of congestion)
- Potential for dedicated facilities/terminal areas
- Support services and value-added services – functions – i.e. container maintenance and repair, bunkering/fuel, ships stores Free Zone credentials etc
- For transshipment ports, access to a local market in addition to providing good hub facilities is also of strong appeal to shipping lines

Services

| Port | Lane | Route | Partners | Ship Deployed | Avg TEU per Week |
|------------|---|--|--|-------------------------------------|------------------|
| Valencia | Med / Far East - dedicated services | 2M agreement - Asia-Med - AE-11 / Jade (HS : SERA 2) | MSC / Maersk A/S / Alliance partners: Hamburg Süd | 13 ships (from 19,437 - 23,756 teu) | 22732 |
| | Europe / Far East services calling en route in Middle East and South Asia | 2M agreement - Asia-Med - AE-11 / Jade (HS : SERA 2) | MSC / Maersk A/S / Alliance partners: Hamburg Süd | 13 ships (from 19,437 - 23,756 teu) | 22732 |
| | Med / Far East - dedicated services | OCEAN Alliance - Asia-Med service - MED2 | CMA CGM / OOCL / Alliance partners: Evergreen Line / COSCO Shipping | 11 ships (from 8,465 - 17,292 teu) | 13241 |
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| Barcelona | Med / Far East - dedicated services | 2M agreement - Asia-Med - AE-11 / Jade (HS : SERA 2) | Vessel providers: MSC / Maersk A/S / Alliance partners: Hamburg Süd | 13 ships (from 19,437 - 23,756 teu) | 22732 |
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| | Med / Far East - dedicated services | THE Alliance - Asia-Med service - MD2 | Vessel providers: HMM Co Ltd / ONE (Ocean Network Express) / Hapag-Lloyd / Alliance partners: Yang Ming Marine Transport Corp. | 11 ships (from 14,952 - 16,010 teu) | 15070 |
| | Med / Far East - dedicated services | OCEAN Alliance - Asia-Med service - MED2 | Vessel providers: CMA CGM / OOCL / Alliance partners: Evergreen Line / COSCO Shipping | 11 ships (from 8,465 - 17,292 teu) | 13241 |
| Las Palmas | Europe / East Coast of South America | MSC / Hapag-Lloyd - Med-ECSA service (MED/SAEC / MSE) (Zim : SAM) | Vessel providers: MSC / Hapag-Lloyd / Slotter: Zim | 8 ships (from 8,600 - 9,411 teu) | 9000 |
| | Services Europe / South & East Africa | MSC - Europe-South Africa service (Hapag-Lloyd : SAX) | Vessel providers: MSC / Slotter: Hapag-Lloyd / Stinnes Linien | 9 ships (from 7,241 - 11,037 teu) | 8087 |
| | Services Europe / West Africa | MSC - Med-Canary-West Africa service | Vessel providers: MSC | 7 ships (from 4,056 - 5,926 teu) | 5073 |
| | Services Europe / Canary Islands & Morocco | Boluda Lines - Cadiz-Canary service | Vessel providers: Boluda Lines | 4 ships (from 749 - 822 teu) | 3196 |
| Algeciras | North Europe / Far East | THE Alliance - Asia-North Europe service - FE4 | Vessel providers: ONE (Ocean Network Express) / HMM Co Ltd / Alliance partners: Hapag-Lloyd / Yang Ming Marine Transport Corp. | 12 ships (from 20,170 - 23,964 teu) | 23576 |
| | North Europe / Far East | OCEAN Alliance - Asia-North Europe service - NEU4 | Vessel providers: CMA CGM / Alliance partners: COSCO Shipping / Evergreen Line / OOCL | 13 ships (from 17,859 - 23,112 teu) | 22209 |
| | Med / Far East services - as part of a wider port rotation | OCEAN Alliance - Asia-North Europe service - NEU4 | Vessel providers: CMA CGM / Alliance partners: COSCO Shipping / Evergreen Line / OOCL | 13 ships (from 17,859 - 23,112 teu) | 22209 |
| | Europe / Far East services calling en route in Middle East and South Asia | OCEAN Alliance - Asia-North Europe service - NEU4 | Vessel providers: CMA CGM / Alliance partners: COSCO Shipping / Evergreen Line / OOCL | 13 ships (from 17,859 - 23,112 teu) | 22209 |
| Tanger Med | Mediterranean to USNH / Canada (St Lawrence) | THE Alliance - Asia-North Europe service - FE4 | Vessel providers: ONE (Ocean Network Express) / HMM Co Ltd / Alliance partners: Hapag-Lloyd / Yang Ming Marine Transport Corp. | 12 ships (from 20,170 - 23,964 teu) | 23576 |
| | North Europe / Far East | THE Alliance - Asia-North Europe service - FE2 | Vessel providers: Hapag-Lloyd / ONE (Ocean Network Express) / HMM Co Ltd / Alliance partners: Yang Ming Marine Transport Corp. | 12 ships (from 16,010 - 20,182 teu) | 19675 |
| | North Europe / Far East | THE Alliance - Asia-North Europe service - FE2 | Vessel providers: Hapag-Lloyd / ONE (Ocean Network Express) / HMM Co Ltd / Alliance partners: Yang Ming Marine Transport Corp. | 12 ships (from 16,010 - 20,182 teu) | 19675 |
| | North Europe / Far East | 2M agreement - Asia-Europe (AE-5 / Albatross) (HS : NERA 5) (HL : FE7) | Vessel providers: Maersk A/S / MSC / Alliance partners: Hamburg Süd / Slotter: Hapag-Lloyd | 13 ships (from 18,340 - 20,568 teu) | 19454 |

Demand vs. Capacity

- The ports in question all have extremely high capacity utilisations levels regardless of their respective container volumes.
- A general rule of thumb is that when capacity utilisation is above 75%, this a signal that demand is beginning to gain pace against supply and that expansion should be considered.
- The port of Valencia has the highest capacity utilisation out of the ports in question with 79.6% followed by Tanger Med and Barcelona with 77.4% and 77.1% respectively. The TEU capacities for Las Palmas and Algeciras are not available and therefore, it is unclear what their utilisation levels are.
- As a result, the ports with information regarding their capacities should consider expansion. Containerisation rates have been consistently stable in recent years and subsequently, it is inevitable that goods that can be containerised, will be containerised.
- Consequently, demand at containers hubs such as the ports in question will continue to increase and will play a large role in global trade going forward.

| Port | TEU 2021 (million) | Capacity | Capacity Utilisation |
|------------|--------------------|----------|----------------------|
| Valencia | 5.97 | 7.5 | 79.6% |
| Barcelona | 3.86 | 5 | 77.1% |
| Las Palmas | 1.30 | 2.00 | 65.0% |
| Algeciras | 2.90 | 4.50 | 64.4% |
| Tanger Med | 6.97 | 9 | 77.4% |

Map of Major Spanish Ports



Reviewing Implemented Initiatives

Initiatives Available to Spanish Ports

Terminals need to be able to handle bigger vessels if they are to compete as direct mainline calls on main arterial trade lanes.

Pay to expand an existing facility or to develop a new one?

- *Alliances service demand plays an integral role in expanding and development planning.*
- Pay to develop automation capabilities
 - *Attractive for shippers as costs and efficiency should be increasingly favourable – CAPEX handled by port*
- Pay to dredge the channel or turning circle to allow access for bigger vessels requiring deeper water.
 - *Critical for attracting the largest of all types of vessels*
- Pay for new and bigger STS gantry cranes with wider reach.
 - *Can directly capture the largest Container vessels*
- Pay to increase the terminal area to provide more stacking spaces for an increase in the number of units handled.
 - *Capacity and storage expense to accommodate for increase hinterland demand*



Initiative Review

Examples

Partnership with rail providers and/or hauliers;

- *Mutual benefit of container volumes being moved by rail with a partner that provides the necessary rail links and services. Similar partnerships could work with forwarding agents / hauliers to move units by truck – important to provide direct access to land-locked countries.*

Widening of and improvement of the quality of access roads;

- *More difficult to get anyone to improve roads – should it be a Government / State responsibility, or Port Authority responsibility? Potential opportunity for investment in toll roads in key areas to speed up vessel movements and provide incentive for investment.*

Links with ICDs to consolidate cargo volumes for further on carriage

- *Desire to move units out of the container terminal as soon as possible could result in the possible need to consolidate volumes in a few strategic places. ICD's can be profitable and may be of interest to the terminal operators.*

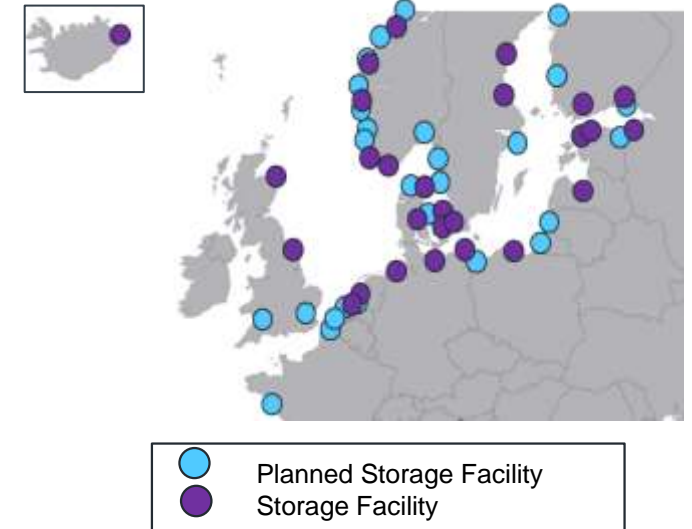


Initiative Review

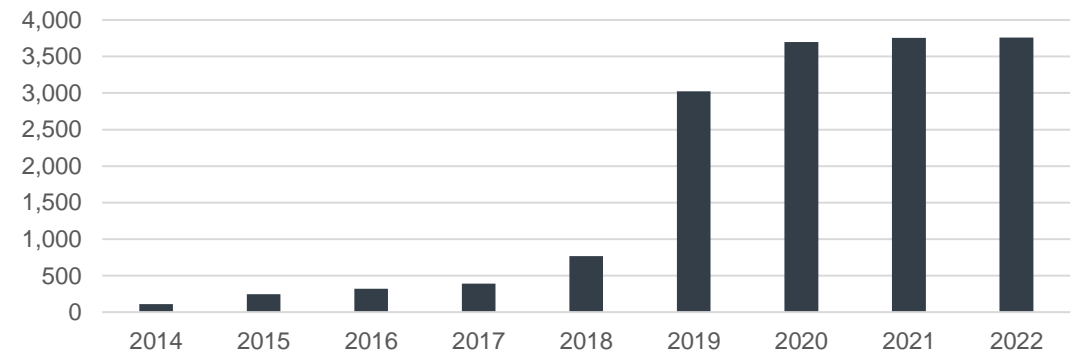
LNG bunkering / storage facilities

- SECA regulations have required vessels in Scan-Balt and Europe to limit sulphur emissions – this has increased LNG powered vessels in the region (since 2015). Will become global.
- Many ports have created storage facilities for LNG and bunkering vessels to service LNG fuelled vessels.
- Global IMO 2020 will expand sulphur emissions worldwide – LNG fuelled vessels becoming increasingly popular globally.
- Cost of low sulphur fuels is dropping but still high ~\$474/t in Rotterdam compared with the lower price of High sulphur fuels ~\$370/t.
- CMA CGM have taken the initiative to launch a fleet of nine LNG powered 23,000 TEU container vessels, whilst many other lines are fitting scrubbers or investigating new fuel opportunities.
- Maersk Line have started to make other arrangements with hydrogen related fuels to further confuse the picture.
- Retrofitted scrubber vessels to adapt to IMO 2020, have different requirements for ship maintenance and repair.

European LNG Storage Facilities









Number of scrubber fitted vessels



Conclusion

Regional Connectivity – Conclusions

Market summary


- Fleet expansion has given opportunity for main Spanish ports to attract direct calls for both gateway and t/s cargo. Further orderbook developments are likely (as a result of liner profitability) to see further capacity demands for t/s hubs for both “hub and spoke” and “relay” t/s. 
- Inflated charter rates for feeders could further increase the chance of vessel size increases in this sector.
- The active developing ports will lead the less organised / developed ports behind. 
- Ports are showing initiatives to attract volumes, breeding healthy competition 
- LNG powered vessels also showing increasing demand 
- Demand for LNG and hydrogen related fuels continue to fight to becomes the more attractive ‘clean’ fuel source in the future, further complicating the picture for ports in terms of providing bunker services 
- Low interest rate environment encouraging investment will not be around indefinitely, prime time for firms to invest 



COMMERCIAL & OPERATIONAL EXPERIENCE IN >250 CONTAINER TERMINALS GLOBALLY


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Steve Wray
Technical Director,
Maritime Advisory

 +44 (0) 77 8527 2821

 +44 (0) 20 3116 9043

 Steve.wray@wsp.com

 70 Chancery Lane
London
WC2A 1AF
United Kingdom

