



ASSOCIATED BRITISH PORTS

KEEPING MEGA-SHIPS ON COURSE

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BRITAIN TRADING

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Ultra Large Container Ships (ULCS) have become an increasingly familiar – and spectacular – sight around the UK's coast as vessels continue to grow in size. When one of these mega-ships, the MSC Maya, made her maiden call at Southampton recently she became largest containership to visit the port so far at 19,224 TEU and 395.4 metres in length.

Mega-ships now represent well over half of the business at the new US\$158 million SCT 5 berth operated by DP World at Associated British Port's (ABP) Port of Southampton. Southampton is not alone as ports worldwide see the impact of the rapid acceleration in the number and size of mega-ships but it provides a good example of how best to handle the challenges and opportunities these super vessels bring.

INFRASTRUCTURE INVESTMENT

Economies of scale in such areas as fuel and crew may allow shipping lines to transport more cargo at less cost on mega-ships but that is only half of the equation. A new breed of 'mega-ports' not only need to be able to attract and accommodate mega-

ships, they also have to be able to deliver a swift and seamless service when these vessels arrive.

The SCT 5 berth at Southampton, which opened in March 2014, is 500 metres long with a depth of 16 metres, and the potential for 17 metre draughts. It was purpose-built to handle the world's largest ships, predominately from Asia and the Far East, such as the MSC Oscar class, among which includes the MSC Maya mentioned above, and Maersk's Triple E-class vessels.

The terminal now welcomes at least one mega-ship of circa 400 metres and 15.5 metres draught a week, as well as 366 metre sized vessels on a near-daily basis; this works out at about 80 calls for 400 metre ships and 300 calls of 366 metre vessels annually.

Four Liebherr super post panama cranes are capable of reaching across vessels 24 containers wide, six super post panama cranes reach 22 containers wide and there are also five further quay cranes with less outreach. This capacity to extend across the largest ships provides future-proofing if the trend towards larger vessels continues.

ABP's spend on SCT 5 reflects its long-term strategy of investment across its 21 ports, which has also seen it develop \$431 million state of the art bulk handling facilities on the Humber, where its port of Immingham is welcoming Capesize and Panamax vessels.

The installation of continuous ship unloaders at Immingham allows discharge rates to increase from 11,000 tonnes per 24 hours tonnes to almost 40,000 tonnes, significantly speeding up the turnaround of vast bulk carriers. ABP's Humber International Terminal can handle draughts of 14 metres, lengths of 303 metres and beams of 45 metres.

For ports that need to remain competitive in the mega-ships market, doing nothing is not an option with the potential for lost customers and stunted business growth.

COMMUNICATION IS KEY

Detailed preparation and regular communication between VTS and shipping agents, DP World, towage companies and shipping lines are key to a successful mega ship call. ABP Southampton, which provides

the area's VTS and pilotage services, liaises closely with the shipping agent a week in advance of a mega ship's arrival before communicating with the ship as it exits the Suez Canal and nears port.

VTS staff use the traffic planning communication system PAVIS as well as radar and the Automatic Ship Identity System to track vessels as they approach. From a pool of 45 pilots, 10 are on duty at any one time from their base at Gosport where two launches are based. Two pilots will join a mega-ship about four miles south of the port, just east of the Isle of Wight and will be on board for up to four hours on an inbound vessel.

TIDE IS HIGH

The trickiest challenge is to navigate the West Bramble Bank, which is just off Cowes and has two bends in a distinctive S shape. The water can become so shallow here that once a year, during low water spring tides, two local yachting clubs enjoy a 45-minute game of cricket on the exposed sandbar.

Among the greatest differences between handling mega and smaller ships at Southampton is the need for clear channel status. While some smaller ships can pass each other with more room for manoeuvre, VTS operate a strict one-way system for a mega-ship as nothing can pass until it reaches its berth. One of the advantages of Southampton is its 17 hours of rising tide every day, with its unique double high tide giving the port greater capacity and flexibility on tidal windows.

BOXING CLEVER

A 19,000 TEU ship can require three tugs, if not four. The intense pressure created by a huge amount of varied cargo arriving at the same time – and the need for ever quicker turnarounds – can provide challenges for some ports, especially if other workflows are to be managed too. At DP World Southampton, the terminal can berth three mega-ships alongside at any one time, allowing its cranes to move seamlessly over to the next vessel without delay.

Flexibility of labour is also key to any operation and an efficient box exchange. Turnaround times at Southampton can range from 18 to 36 hours depending on the loads and the number of cranes used. Although DP World Southampton has a total of 570 staff directly employed it also relies on a third party contractor which can supply another 250 staff at busy times to ensure it can meet the ebb and flow of workloads in a cost effective way.

Shipping lines may see economies of scale in ever larger vessels but unless ports can provide services to match any savings will be lost if a ship is tied up alongside and not making money. A quicker turnaround



will also allow a ship to travel more slowly and burn less fuel, if that is part of the line's strategy.

Bigger ships and rail should go hand in hand. At Southampton, some 36% of container cargo is moved inland by rail on some 23 container trains a day. Customers who see trains as a more reliable option than road may prefer to use a port with strong rail links while operators will see the benefits of less congestion and a happier local community. Rail is the most economic on the longer distances, giving the port an advantage over other ports with lower percentages of rail traffic.

DREDGING

Dredging is an essential, if costly, prerequisite for any port trying to attract mega-ships. ABP invested in an extensive dredging programme to deepen and widen the main channel linking international shipping lanes to Southampton as the final piece of the jigsaw at SCT 5 with some five million cubic metres of material removed. This allows container vessels to depart the terminal at 15.5 metre draught, while the SCT 5 berth is dredged to 16 metres and can also be further deepened to 17 metres to meet future demand.

FINAL THOUGHTS

Mega ships are here to stay. We may see a gradual increase in capacity over the coming years but vessel size will remain fairly stable amid global headwinds and new challenges. At one stage we saw very large tankers increase in size and then fall away again.

Although more mega-ships are under construction and on order, lower bunker costs, overcapacity and consolidation may act as a drag on the trend towards even larger vessels, as will the infrastructure and capabilities of a port. In addition, the bigger a ship and cargo, potentially

the longer it needs to remain in port. However, the push towards ever greater efficiency by shipping lines will continue to dictate the mega-ships market and drive development shore-side.

ABOUT THE AUTHOR

Captain Martin Phipps is a Master Mariner and the Harbour Master at ABP Southampton. He served for 20 years in the merchant navy – including 10 years in command posts – after joining the service at the age of 16. Captain Phipps then joined ABP and has 20 years of experience as a pilot at Southampton, with the last six years as Harbour Master

ABOUT THE ORGANISATION

ABP is the UK's leading port operator, with a network of 21 ports across England, Scotland and Wales. Its ports include Immingham, the UK's busiest port, and Southampton, the nation's second largest and the UK's most efficient container port, as well as the UK's number one for cars and cruise. ABP handles more than 100 million tonnes of cargo annually, including 30 million tonnes of exports. Together with its customers, ABP supports more than 84,000 jobs and contributes \$8 billion to the UK economy every year.

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