



# IS THE 30,000 TEU VESSEL REALISTIC?

One of the most striking trends in the maritime industry in recent years has been the increasing size of container ships, the largest of which is approximately ten times bigger than they were a decade ago.

This is a result of a market that is starkly different than the one we entered in the beginning of the century, one which has undergone financial crises and the formation of multi-carrier alliances.

Carriers have had to adapt to new consumer habits and may have to do so again soon as demand for goods continues to increase and the global economy recovers from the COVID-19 pandemic.

Vessels have increased numerous times in recent years, and they might have to again. The mega-ships in the global fleet today and those that will enter in the near future are sure to affect the maritime and wider supply chain.

## RECORD BREAKING VESSEL SIZES

The latest fleet of mega-ships can carry up to 24,000 TEU, with some carriers, most notably HMM, MSC and CMA CGM, ordering vessels that are not only bigger than those

that came before but are also more environmentally friendly.

Earlier in 2020 HMM unveiled its said fleet of mega-ships, which it was able to do as part of its inclusion in the THE Alliance, alongside Hapag-Lloyd, ONE and Yang Ming.

CMA CGM launched a similarly sized fleet of vessels, with the biggest of which, the LNG-powered CMA CGM Jacques Saade, began its maiden voyage in September 2020.

While the record is currently just under 24,000 TEU, COSCO has plans to break it with its fleet of 25,000 TEU taking shape at the time of publication.

The increase in the size of vessels has allowed carriers to cut operational and fuel costs by delivering more cargo in single hauls. The International Transport Federation (ITF) estimates that by increasing the size of vessels, carriers have been able to cut the cost of transportation by a third per TEU.

To be economically viable they must be deployed on highly efficient trade routes that have ports large enough to receive them and connected hinterlands through which they can easily move containers.

Furthermore, these ports must be able to

unload and turnaround mega-ships within one or two days to make them economically efficient for the carriers. This in turn leads to greater stress on ports, which must invest in more land, dig deeper channels and implement greater levels of automation.

Additionally, they must also look to improve hinterland infrastructure, all the while reducing carbon emissions, which makes receiving mega-ships particularly challenging for many ports, especially ones near major cities.

## CASCADING EFFECT

Another effect is cascading, which sees the previous round of ships pushed onto less efficient trade routes, such as those in North America (aside from LA and Long Beach), Africa and South America. Ports in these areas would require their own substantial investment to be able to receive bigger vessels.

There are also repercussions further down the supply chain. Shippers need carriers to provide frequent services. The larger the vessel, the fewer voyages it needs to make. Consequently, traffic is less consistent and moves in peaks and

troughs, which causes pressure an inflexibility across the supply chain.

Larger vessels also result in what the ITF calls service and cargo concentration, with less choice for shippers and supply chain resilience as carriers increasingly operate in major alliances.

### HOW BIG IS TOO BIG

Such has been the speed of vessels in the 21st century that it begs the questions: how big can container ships become? Is it possible that in the next decade the industry could see a container ship of 30,000 TEU or more if the economy continues to demand ever greater numbers of goods?

When all factors are taken into consideration, such a vessel appears a remote possibility.

“Whilst technically it might well be possible to build such vessels it is highly questionable whether they would make any economic sense,” Lars Jensen, CEO, Sealntelligence, told PTI.

While it may appear that mega-ships could offer carriers an insurmountable advantage over other areas of the maritime industry, the sheer scale of the investment needed on the landside makes larger vessels less likely.

“You might be able to make a calculation showing that an even larger vessel will have a lower operating cost per TEU, but that is not the same as the vessel being economically advantageous in a network setting,” Jensen continued.

“Larger vessels result in fewer weekly services operated, in turn resulting in fewer direct connections and therefore more

transshipment and feeding costs. And the time spend in port increases sharply as the time it takes to handle a large vessel does not convey any scale advantage. As a consequence, the vessel ends up spending more of its time in port and less of its time actually sailing and moving the cargo.”

That sentiment is shared by Hapag-Lloyd, the fifth largest carrier in the world. Earlier in 2020 it plans to build and launch its own fleet of mega-ships but postponed them due to the uncertainty caused by the COVID-19 pandemic.

However, it is known that the carrier still needs mega-ships and is set to reassess its position on investment following the pandemic.

Speaking to PTI, a spokesperson from Hapag-Lloyd said, “Large vessels can be more efficient than smaller vessels as a general matter while fixed costs can potentially be allocated to a much higher number of transported containers. At the same time, the utilisation is also important while it does not create too much sense economically to sail a vessel that is half-full only.

“Hence, deploying large vessels on major Trades such as Far East – North Europe, for example, can be economically attractive whilst using it in on other Trades with smaller transport volumes does not necessarily create much sense. In consequence it is about deploying the right vessel sizes to the specific services,” he added.

When asked about the feasibility of a 30,000 TEU the spokesperson said: “Though it would be possible from a technical perspective, it wouldn’t bring much advantage from an economic and operational perspective.

“Slot costs would only decrease on a very small level whilst those vessels couldn’t berth at many terminals due to their size”

### MEETING DEMAND

The main driving business factor behind the growth of vessels and fleets has been the carriers’ need to meet growing demand as efficiently as possible. Macro-economic trends, such as globalisation and the growth of e-commerce, have played a profound role.

The COVID-19 pandemic has made e-commerce grow even faster and increased demand on carriers and, consequently pressure on ports and hinterlands. By building even larger ships, carriers may inadvertently add to that pressure, which in the long-term could prove self-defeating.

Therefore, shippers could look to means of transporting across shorter distances other than container ships. Other long-term consequences could be more cooperation between supply chain and landside stakeholders.

As carriers have consolidated their influence through alliances, so could port authorities, governments and shippers, and in doing so balance out the supply chain.

For ports, the expanding fleet of mega-ships could prove to be the motivation they need to collaborate more on operational issues, such as data sharing, and long-term infrastructure investment.

While the 30,000 TEU vessel may currently be a distant prospect, mega-ships will continue to have a profound effect on the maritime industry and global economy for the foreseeable future.

*Written by Max Schwerdtfeger*

**“IT IS ABOUT  
DEPLOYING  
THE RIGHT  
VESSEL SIZES  
TO THE SPECIFIC  
SERVICES.”**

– Hapag-Lloyd

