

are used to close the hold, making it possible to stack more containers on top of the hatches, which, then in absence of cell guides, require lashing (twist-locks and chains) to secure the cargo. There are also fully cellular container ships which are not equipped with hatches and therefore resemble more the description by Stopford of the 'open-top box'.

Multipurpose vessels are capable of carrying both break bulk cargo (non-containerized) as well as containers. They usually do not have cell guides so all container must be lashed and secured. Further, this kind of vessel often has tween decks (one extra deck) to optimize the intake of different types of cargo, containers as well as break bulk. Figure 4 shows an example of a geared MPP vessel with tween decks in the holds.



Figure 4: Example of a Multipurpose Vessel
Source: Kable Intelligence Limited 2016

Deep sea container vessels (Panamax and larger) are more standardized compared to short sea container vessels. They are hardly ever geared, with neither tween decks nor hatches and sail mostly on main routes without entering cold waters (needing a reinforced hull).

When it comes to classifying different sizes of container ships, sources differ. For the remainder of this study, we use the classification found in various documents from Clarkson Research Services:

Feeders—Feeders can further be broken down into a Feeder which can carry 100-499 TEUs and a Feedermax which can carry 500-999 TEUs. These vessels are used for short haulage, distributing containers within regions, from 'hubs' such as Rotterdam as well as coastal carriage (Stopford 2009). In June 2016, 39% of this fleet was geared.

Handy size—These vessels can carry 1,000-1,999 TEUs. Like the Feeders, they are mainly used for regional trade but are also capable of serving the long north-south trades (Stopford 2009). In June 2016, 52% of this fleet was geared.

Sub-Panamax—These vessels can carry 2,000-2,999 TEUs and mainly serve the same trade as Handysize. In June 2016, 54% of this fleet was geared.

A summary of all the ship sizes can be seen in Table 1.

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