



The feasibility of mega container vessels

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Abstract

The introduction of the container revolutionised maritime trade and shipping. Since 1956 container vessels have evolved from converted tankers and cargo ships, via full cellular container ships that could navigate the Panama Canal, to post-Panamax vessels with a capacity of approx. 8500 TEU (Twenty foot Equivalent Unit). Even bigger container ships (9600 TEU) are to be delivered soon. However, current technical and physical constraints such as propulsion and port limitations pose restrictions to further growth. Moreover, the diminishing economies of scale in ship costs are offset by the increase of other costs involved (e.g. port fees, terminal handling charges). Nevertheless, empirical research shows that the concept of mega container vessels is appealing and that, if available, most shipping lines will deploy such ships. So, the next generation container ships will probably consist of Suez-max vessels (up to 12,500 TEU) with twin propulsion systems. Albeit feasible from a technical point of view the ultimate 18,000 TEU container ship i.e. Malacca-max has too many limitations to become popular.

Keywords: Container vessels; Shipping lines; Container revolution.

1. Introduction

With the internationalisation and globalisation of economies shipping has obtained a central role in world trade. Most of the general cargo is transported in containers. The increase in volume of containerised cargo is continuing from the last decades into the beginning of this new century. On most major routes a doubling of volume occurred in less than ten years. The current fleet of container ships with a total capacity of 7 million Twenty foot Equivalent Units (TEU) has also doubled since 1997 (Mainport News, 2004). Moreover, ship size is still increasing. In this paper the (future) development of containerships is examined. From a historical perspective a trend is described towards vessels of 10.000 TEU. Already on the drawing board are Ultra-Large Container Ships (ULCS) up to 12,500 TEU such as Suez-max and even Malacca-max container carriers (18,000 TEU). However, it seems that for these mega container ships new technical and logistical concepts are needed. Via desk research the pros and cons of such vessels were identified. In addition, executives of major container shipping lines in Asia and Europe have been interviewed. Finally, conclusions will be drawn on the feasibility of these mega carriers.

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