

# Ro-ro fleet categories

The term roll-on / roll off, or ro-ro for short, is a very wide one as it simply includes all vessels where there is an option of transferring cargo horizontally into the ship, whether it be trailers, cars, forest products, steel, heavylift or project cargo, from the shore into the ship or vice-versa.

Car carriers form the largest percentage of the ro-ro fleet. The popularity of the pure car truck carrier (PCTC) is, of course, reflecting the global nature of the car industry. Wherever people are buying cars, they have to be transported as efficiently as possible. Twenty years ago, it was rare to find a PCTC outside the main Japan - USA/Europe and Europe - USA trade lanes but today they are everywhere as new car exporting and importing nations are emerging. Countries such as Brazil, Mexico, South Africa, South Korea, Thailand, Malaysia, India, China, Turkey, Czech Republic, Slovakia, Russia and now Morocco are all elbowing their way into the lucrative trade requiring a growing diversity of services but also opening up new opportunities for these vessels to transport other cargoes such as high & heavy project shipments, trucks, construction and agricultural machinery with great efficiency. Consequently, the majority of PCTCs that have been built in the last 15 years are very flexible often featuring 2 to 4 heavy ro-ro decks with hoistable cardecks above and quarter ramps with capacities of up to 200t. The vast majority of vessels have an overall length of less than 200m, a restriction imposed by loading berths in some Japanese ports. The maximum car capacity on this length is 7000 cars. Vessels that are used on other trades, especially from S.Korea are now somewhat larger with a length of up to 230m and capacity reaching 8000 cars. The next step in the evolution of car carriers will come with the wider Panama canal but it is doubtful that vehicle capacity will exceed 10 - 12,000 units because of the limited capacity of most car terminals. Another trend is a combination of deepsea ro-ro and PCTC. With many strengthened decks, hoistable decks and heavily dimensioned stern quarter ramps, the vessels are designed to transport a wide spectrum of cargo as well as being able to transport new and/or second-hand vehicles efficiently. Grimaldi has many vessels of this kind in its fleet as has Wallenius Wilhelmsen. These vessels seem to be the future direction of the deepsea ro-ro fleet.

The deepsea ro-ro was epitomised by the ACL, PARALLA and BOOGABILLA classes pioneered mainly by Scandinavian owners. Vessels of this concept were quite popular in the '70ies and '80ies resulting from congestion in many African and Arabian ports but, with the exception of the Grimaldi Group, very few newbuildings of the type were ordered in the eighties and nineties. In 2009, some of the lines started ordering replacement tonnage. The vessels resemble an overgrown shortsea ro-ro with 3 or 4 covered decks, aft accommodation and large quarter ramp. Typically, the vessels transport a combination of rolling and project cargoes as well as containers on deck. They are the real multi-purpose carriers. With the amazing growth of containership sizes, these vessels are generally unable to compete for container cargoes so have found themselves in profitable niche trades where containerships cannot compete by size and the cargo mix is less focussed on consumer products. The ma-

majority of deepsea ro-ro ships can be found on trades to West Africa with operators such as CMA-CGM, Messina Line and Grimaldi. CMA-CGM, NSCSA and Messina Line have new generation deepsea ro-ro vessels on order which will replace and ageing fleet. New orders from ACL are also expected soon.

For the very reasons outlined above, the ro-ro containership has also waned in popularity. Obviously only useful in those ports where dedicated container facilities are not available, the genre has been displaced by pure containerships in all but a very few trades. Ro-Ro containerships are usually equipped with cell guides but the containers can be brought on board via a ramp, then transferred onto the deck/cells by means of ships gear.

On the other hand, the ro-ro / conventional / heavy lift vessel remains popular, especially in Japan and the Far East. Japan is, of course, a major manufacturer of vehicles of all types, not just cars. Trucks, construction machinery, bulldozers, buses, tractors etc are exported to almost every country in the world. Some Japanese lines specialise in this type of outsize cargo which is better rolled than lifted and have evolved a unique vessel type which may look very much like a small conventional cargo vessel with gear and hatches but is also equipped with a quarter ramp giving access to the vessel's tween deck. Eastern Car Liner, NYK Hinode, Kyowa and Toko Line are the main exponents. In Europe, the German developed "deck carrier" evolved to become a very handy project vessel, frequently equipped with side mounted heavy lift cranes. The large box shaped maindeck is accessed via a stern ramp. With the rapid growth in economic activity up to last year, specialist project vessels were much in demand and there are now a number of new ro-ro heavy lift / project carriers built for CombiLift, Rolldock and Scanscot which include stern access as well as large hatches and heavy lift cranes.

The shortsea ro-ro is the one which has made the largest impact, connecting the road systems of an increasingly globalised world. With trade becoming much more open and speed with reliability dominating the demands of the logistics operators, ro-ro has become the transport means of choice on shorter routes. The speed, ease and comparative cheapness of cargo handling in port has always been the strength of the ro-ro system against which the higher ship cost has to be balanced. Artificially, the freight ro-ro is re-

*A new category, a ro-ro PCTC under construction for NSCSA.*

