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ENQUIRY No. A19

Leading the shift to shortsea freight

VARIOUS European companies and organisations - particularly the European Commission, but also others such as Scottish Enterprise with a presentation at RINA's Fast Freight Transportation by Sea conference at the end of 1998 - have been campaigning to shift more cargo off ever-more-crowded motorways and onto seas and rivers. In our April 1999 Editorial Comment, we also discussed the interesting pro-active plans of the Danish Maritime Authority, whose Door-to-Door project aims not only to move road freight onto the water but also to develop new types of competitive shortsea tonnage. Naval architects of the Carl Bro group have already drawn up the design of a 6300dwt multipurpose ro-ro ship, which we illustrated.

An important practical milestone in this battle, which is largely influenced by 'green' policies, has been reached today - perhaps appropriately at the start of a new millennium - with the launch of a brand-new sea operation between Göteborg in

Leading the way towards more shortsea freight. The upper cargo deck of *Spaarneborg*, almost complete at Flender Werft and showing the steel fender structure at the bulwarks to support the 70tonne load Storaboxes with their paper cargoes. Aspects of the IPSI project, which aims to cut turnaround times dramatically, from 12h to 2h, are included on this ship and her two sisters.



Sweden and Zeebrugge in Belgium. This will carry paper products - including reels, graphic and wrapping paper - manufactured by the giant Swedish paper company Stora, which formerly, and perhaps ironically, sent its cargo to western Europe on the trans-frontier rail network (which might have been expected to be a viable through-transport format).

The first of three purpose-built - and 'green' - ships is about to sail on the first loaded voyage of this service (or may already have done so by the time this issue appears). The contract to build the 13,000dwt *Spaarneborg* and her two sisters, at the Flender shipyard in Lübeck, Germany, was largely possible because a 15-year charter was secured by Wagenborg Shipping - the owner - from Stora, although the ships will also be used to carry general ro-ro cargoes by the operator, which is the Belgian company Cobelfret. Stora expects to save SKr200 million annually by switching from rail to sea.

A central plank of the whole new operation is the employment of the new Storaboxes, or SECUs as they are now known, which will form a large part of each cargo. We discussed these in our June 1998 edition (page 18); they are designed to take advantage of higher allowable axle weights now possible on Swedish Railways, since cargoes will arrive in Göteborg by rail. Their maximum capacity is 70tonnes each, leading to high point loads - a factor that called for careful attention to structural detail by Flender Werft's naval architects, using their Tribon CAD/CAM


software, when designing the new ships (the basic concept had been made by the Swedish consultant Globetech Marine, together with Stora, and some work had been done by Trieste-based NAOS). A Storabox has dimensions of 13.8m x 3.6m x 3.6m and is not designed for stacking.

New investment in port infrastructure to a tune of £13 million has been made by the Port of Göteborg at the Älvsborg harbour to support this new service, in particular, a new ramp system to haul Storaboxes directly over the stern onto the weather deck using translifters; there is no internal ramp to this level on board the ships. This method is understood to have been chosen because of the Storabox's loaded weight but also because the IPSI concept (see below) recommends direct horizontal access. The main deck will be loaded over a large stern ramp, and down a ramp to the lower hold. Port tractors will have to haul a total of 110tonnes (tractor, transliifter, Storabox and cargo) up the slopes involved. Because of the size and high axle weight, it is believed that Storaboxes will not at present be allowed to continue their journey by rail after arrival in Zeebrugge, so cargoes will have to be trans-shipped.

Chiefs of the European Commission will no doubt be pleased to hear that this trio of most interesting ships also includes features of their own 50%-sponsored IPSI programme. As we reported in our September issue last year (page 47), IPSI stands for 'improved port/ship interface', and the R&D work has been led by Hamworthy KSE, a premier name in cargo access gear. The promoters claim, that by harnessing such revolutionary aids as globally positioned satellites and so-called automated guided vehicles (AGVs) to locate cargo units in an exact position in the vehicle decks, loading and discharge times could be cut dramatically, from 12h to an amazing 2h. However, AGVs will not be employed on *Spaarneborg*.

A full IPSI-equipped ship would have guide kerbs for accurate positioning of loads, but these are omitted on the Wagenborg trio since Storaboxes, which will form a larger part of the regular cargo, will be block-stowed. The only other obvious signs of guide systems that *The Naval Architect* could see on its inspection of the *Spaarneborg* last month in Lübeck prior to delivery was a system of strong barriers along the bulwarks - and at the centreline in the main deck and lower hold. Storaboxes will be secured tightly against these to prevent transverse movement, while longitudinal movement will be prevented by each unit's own weight. A somewhat similar technique was employed on Gorthon Lines' trio of *Obbola*-class forest products carriers, completed by Astilleros Espanoles in 1996 (*The Naval Architect*, special supplement, May 1996).

These latter ships were also carrying loads on new-generation equipment - Rolux cassettes, with pre-packed cargoes of up to 60tonnes each, although the cassettes are built to handle 80tonnes. Interestingly, *Obbola* and her sisters are also on a 15-year charter to another Swedish paper products company, Svenska Cellulosa. A somewhat similar system had also been considered in the early 1990s by the Swedish operator Ahlmark for some new so-called CASH ships - a project that never materialised.

The arrival of *Spaarneborg* can be considered to be an important landmark in the environmental struggle, as well as a potential booster of ship operators' fortunes. The fact that premier companies are leading the way in such a pioneering manner will hopefully give more solid substance to paper plans and politicians' utterings, as well as giving a flying marine start to the new century. 

A special article on the *Spaarneborg* will appear in *The Naval Architect's* February issue. This ship will also be presented in *Significant Ships of 1999*, to be published in February.