

## **Can the influence on environment be reduced together with lower handling costs in the transportation chain?**

The down turn we have seen within the transportation at sea is the deepest for decades and is a reflection of the recession many countries had encountered.

With focus on the container shipping, a huge amount of new orders have been placed on different shipyards before the recession and consequently created many problems..

Today large shipping companies with good reputation have great difficulties to achieve black figures resulting that vessels will be taken out of service or been laid up directly after delivery from the shipyard, the number of vessels are about 500-600 of which some are quite huge.

Up to now the dominated view has been focused on economy of scale with larger vessels and large hub ports entailing a more complex port handling and increased environmental impact. Scale economy on the very large vessels is reflected in lower freight rates in a tougher market, unfortunately the same cannot be seen on the landside where the complexity instead increases the cost.

*An idea in present time* would be to utilize laid up container vessels as floating container terminals (lift on – lift off) by putting together 2 – 3 vessels side by side with gantry cranes onboard. For example take three 10.000 teus vessel and calculate the operative capacity to one third that gives a maximal capacity of 10.000 teus on that terminal. If you limit the operation to lift on and lift off and sea-to-sea handling only we achieve a less complex operation. Such a terminal can be placed in a suitable sheltered area like an estuary or similar with enough water dept.

Ocean vessels will discharge to the terminal like in a normal terminal, feeder ships will then bring the cargo forth to minor ports close to its final destination and there aim to a direct transfer between the different actors in the transport i.e. vessel, lorry or train. Same procedure will be applied but opposite for the export. An efficient transport chain has then been created with scale of economy on the ocean leg and a less complicated handling between the mother vessel and feeder, and a pure hand in hand handling at destination and at port of loading. A smaller port has a better possibility to conduct an operation in the ship's port of call without disturbances from other activities as take place in the larger ports today were all kind of transport shall be served simultaneously.

With a floating container terminal many savings could be achieved, especially taking into consideration the environment but also the handling costs taking into consideration the whole transportation chain. A floating hub should partly replace existing ports with their increasing requirement of more land and dredging of ports entrances. The traffic around established ports could then be reduced considerably with environmental savings as a consequence. With a fine tuned liner web from the hub long distance transport on land should if not be eliminated at least be reduced and with a hand in hand transfer achieve cost savings in most of the links of the chain, reduced energy consumption but above all a reduced impact on the environment. Can a unit be handled in a terminal once instead of three times which can be seen as a minimum today the savings will be considerable.

*What is the difference* between the present transport structure and the one outlined above?

The different liner webs of today are calling a number of ports in different legs and those ports are mostly quite large and acting as hub for different kind of transport. The different cargo flows are performed by vessels, riverboats, trains or lorries, which create the previous mentioned complexity which in turn increase with an increasing traffic.

With this hinted angle of approach the economy of scale for oversea transportation should be solved and at the same time provide a fine tuned web for distribution to and from shippers and receivers at a lower cost and with considerable benefits for the municipality and the nature. Besides the mounting surplus of container vessels can be used and benefit the owners.

*Pros and cons in relation to present system.*

*Advantages:*

- Ship owner of laid up vessels will get small revenues instead of only costs, but will they ever come back in service they were built for?
- Considerable lower costs of the infrastructure as being waterways and considerable lower terminal costs if less number of handlings can be attainable. Land requirement and dredging is normally a quite heavy burden and is nearly eliminated in this scheme.
- A considerable reduction of impact on the environment by terminal equipment, long haulage on roads from hub ports to final destination and vice versa, instead shorter transports between port of load or discharge and shippers/receivers, less requirement of working and storage areas which instead can be used for other purposes. Less accidents and noise on roads. Last but not least less energy consumption.

*Disadvantage*

- The weather can influence but the off shore industry has well proven technology like sophisticated positioning systems which might be applied here?

Above should not be seen as an answer of captioned issue but more as a thought and a vision how to use today's problem as a tool for new solutions in future container shipping.

S.Jäderberg, N.Andersson  
Captains.