

MARITIME HIGHWAYS

How can the Politicians Dreams be realised

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May 2004

Our Ref: 204049 Paper
05/05/04

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Introduction

This is the fifth paper that I have given to a ro-ro conference over a period of 23 years. The underlying theme of these papers has been similar; that the European shipping industry has failed to fulfil its potential to carry general cargo goods by sea and that it should develop strategies to address this loss of opportunity.

This is not because the industry is inefficient; far from it. Both the ro-ro and lo-lo intra European sectors are internally fiercely competitive. There is only room for the most efficient companies. Yet the facts are that large volumes of cargo move long distances by road that could be moved by coastal shipping or currently use short crossings between, say, Dover and Calais, Trelleborg and Sassnitz or Helsingborg and Helsingor, instead of taking the longer and environmentally sustainable options along a maritime highway. The question is, when there is demonstrably adequate traffic to fill shiploads every day on several different coastal corridors, why this industry fails to fulfil its potential to grow its own business by extending short crossings and converting log haul road traffic to the maritime mode? If the industry could not achieve this on its own, should it ask Government, and particularly the European Union, to assist. My own experience as a consultant on a number of short sea projects, including securing PACT funding, is that the main hurdles are the relationship between start-up costs and commercial risk and the fact that several of the companies with the greatest market share base their business on short and not long crossings.

My paper 10 years ago concentrated on emerging EU policy towards combined transport, pointing out that without an expansion in the capacity of non road modes that the core rationale of the European Union of increasing prosperity through continuing trade growth and the development of a 'single market' could be stifled. I also reminded this audience that liberalisation of the rail mode may itself pose a threat to the potential for 'coastal' shipping. I also pointed out that the EU had developed a definition, "combined transport", which would provide the basis for financial assistance in the future. Shipping routes of above 100 kilometres are defined as combined transport.

As we know, the process of rail liberalisation is taking time, but the decline in Pan European rail market share has been halted. Where liberalisation has worked, in Britain, the world's largest retailer is now using rail over distances as short as 200 km for secondary distribution to supermarkets. Rail liberalisation combined with a sympathetic grant regime can be highly competitive.

My paper 4 years ago pointed out to this audience that trade growth was continuing and reiterated that the route structure that the ro-ro industry offered did not generally deliver the outcome which EU and Government aspirations required. There are, of course, exceptions. I repeated my argument that two approaches were possible, to either co-operate to create

strategic commercial alliances built on base load cargo of forest products, new cars and so forth to create distance networks based on frequent services **or** to seek public sector assistance to develop a system of incentives which would encourage this industry to deliver the outcome required by a wider public interest.

In my 1994 paper I used the expression 'European maritime highway' to describe a vision of maximising the use of shipping channels to deliver an environmentally sound transport solution.

The title that I was given for this paper implies that politicians have adopted the same vision. Unfortunately, that may not be the case. The same expression can convey different dreams. There are marked differences between the approaches being taken in different countries. Different budgets appear to be involved, including those controlled directly by the Commission (Marco Polo), the TEN-T budgets in each Member State to which the EU contribute and funds identified within each country to 'kick start' coastal and short-sea projects (in France and now in the UK). The basis for valuing road kilometres saved is quite different as between the Marco Polo scheme and that applied within Britain for truck kilometres saved **within Britain** (Waterborne Freight Grants). A particular difficulty is that while the funding of road or rail infrastructure is seen as a domestic matter in each Member State (whether it concerns the Trans European network or not), short-sea shipping will play its most important role between countries, so that responsibilities (and political rewards) are by no means so clear.

This paper is intended to explore whether the present vision being explored by politicians and political institutions across Europe is likely to have a material impact on modal share across the European Union. Over the last 2-3 years, this vision has become encapsulated in the expression 'motorways of the sea'. It has several advantages. It is easier to say than 'Short Sea Shipping'. It conveys a 'user friendly' concept; a 'turn up and go' approach which is superficially attractive but may not, of course, be realistic or even desirable. Perhaps most important, it creates an image which the non maritime specialist can understand. One of the greatest political hurdles this industry faces is that (unlike rail) it is largely invisible to the general public (voters) and poorly understood.

There is no doubt that politicians and political institutions have bought into the idea of increasing the amount of freight moving by sea. But can that idea be transformed into a market based reality, acceptable to the commercial companies which are actually delivering services already! Of crucial importance is finding a formula that is acceptable to both the industry which already contributes hugely to pan European freight mobility and is expected to expand that role and the political institutions expected to provide the additional funding to deliver the vision.

The political buy-in

Following the introduction of the term in the Commission's 2001 Transport White Paper, the European Transport ministers meeting in Gijon in June 2002 pledged to create.

“European motorways of the sea”

The concept has enjoyed many endorsements. For example, in May 2002:

“**Prime Minister Paavo Lipporen** began to market Finland's new Baltic Sea project... when he met with Lithuanian Prime Minister Algirdas Biazauskien in Helsinki. Lipporen presented the idea ‘Motorways of the Baltic Sea’ to his colleague.....Funding from the European Union will be sought for the ‘Motorways of the Baltic Sea’ project”.

The **Union of Baltic Cities** has argued for the extension of the concept of ‘Sea Motorways’ to include ferry connections.

On the 18th February 2004, **MEPs** warmly backed the introduction of ‘motorways of the sea’ to launch new regular trans-national cargo shipping lines. The ‘motorways of the sea’ will acquire the same importance as road networks and railways in the trans-European network.

There has been particular support from the members of the **Atlantic Arc Commission** whose political bureau issued a declaration on the motorways of the sea on 14th January 2004. It stated that:

“The Atlantic Arc Commission **unreservedly supports** the creation of motorways of the sea”.

It is encouraging to see such enthusiasm on the part of politicians and political institutions for maritime services. However, before we consider the question posed in the title of this paper: “how can politician's dreams be delivered”, it may be wise to consider just what these dreams are. One man's dream can often be another man's nightmare. Let us consider how these motorways are being defined.

Definition and scope

The Commission has made the following statements.

- Motorways of the Sea (MoS) is a new priority project proposed in the new guidelines for the trans-European transport network.
- Maritime links (are to) be treated with the same importance as land links.

MoS must:

- Concern a limited number of ports and aim at developing trans-national links to reduce congestion or link peripheral countries.
- Be proposed by at least two Member States who organise jointly an open tendering procedure.
- Concern a motorway of either
 - the Baltic Sea
 - Sea of Western Europe
 - Sea of south-east Europe
 - Sea of south-west Europe
- (public) finance can cover
 - port infrastructure
 - access infrastructure
 - electronic systems to manage logistics
 - start-up aids

In a statement on short sea shipping, the Commission has also stated.

“The term ‘Motorway’ refers to easy access, relatively high average speed, bypassing congested urban areas, reliability and high level of safety. This must also be the case with the Motorways of the Sea....for them to attract commercial operators”.

These Motorways should make it possible to bypass land bottlenecks in Europe as part of comprehensive door-to-door logistics chains.... The Commission is currently working on the details of the concept to present it in the next revision of the Trans-European Transport Network Guidelines. The TEN-T - for infrastructure – and Marco Polo Programme – for operational aspects – should be able to assist these Motorways. The example is frequently given of a route from Northern Italy to Spain to alleviate road bottlenecks across the Alps and Pyrenees.

The minutes of a workshop organised by the Commission in January 2003 provides further insight. **Mr. Alfonso Gonzelaz Finat** of DG Tren expected:

“the Motorways of the Sea to be incorporated into TEN-T”.

The **Van Miert** report (27.6.03) states:

“Genuine motorways of the sea are therefore aimed at acting as a substitute for motorways on land, either to avoid saturated land corridors, or to give access to countries separated from the rest of the European Union by Seas”.

That report proceeds to state that Member States would select their ports and organise a public tender for awarding a public service contract, and then phase out the operating aid within a pre-determined timeframe.....one....method could consist of a global tender to both ports and maritime companies, leaving the choice of ports to candidate consortia.

The **de Richemont parliamentary report in France** advocates a higher level of political intervention, stating that the choice of French ports would be:

“a political decision following consultation of the public and private players”.

That report recommends that the state should be the ‘organising authority’, responsible for identifying services....and then creating public-private companies (societes d’economie mixte – SEM) which would own the ro-ro vessels used. These companies would bring together the selected ports, hauliers, the transport logistics companies, the handling companies, the motorway companies and the private operator running the service.

Of course, this approach would effectively allow the cost of new vessels to be publicly funded. The de Richemont report explicitly states that a vessel be a “long term infrastructure that can be justified to future generations who will have to contribute financially (reimbursement of the public debt)”. The position taken is effectively that the maritime industry has failed to deliver in its present format. This fails to recognise the fact that, in terms of tonne km over the last 30 years, intra EU shipping has grown more or less as rapidly as road haulage.

In fact, the RETT Committee of the European Parliament (February 2004) rejected the notion of funding ships directly. It remains, nevertheless, a grey area. It is, of course, not unknown across Europe for the public sector to own ro-ro ships and to charter those ships to operators at rates which compare favourably with long run market rates.

Notes of caution

Not surprisingly, a number of bodies have introduced notes of caution to this procedure.

The **European Seaport Organisation (ESPO)** has argued that motorways of the sea should not be ‘artificially’ developed (i.e. irrespective of market demand), investment in facilities and ships should not distort competition and each project should be considered on its merits.

The **European Community Shipowners Association (ECSA)** (August 2003) supports the Commissions efforts in terms of simplifying administrative procedures in ports and establishing short sea promotion centres. However, it sets out the following warning signals:

- support measures should not distort competition
- information on any project should be set out in the Official Journal so that it can be stopped immediately if it can be shown competition will be distorted
- container and bulk shipment services should enjoy the same financial benefits as ro-ro services

ECSA has little confidence in the idea of selecting ports and states:

“transferring Motorways of the Sea into a public service context is strongly opposed by industry. Public services should remain the exception. Re-introducing the concept in the context of Motorways of the Sea would have the same disastrous effect as experienced on rail transport”.

ECSA “seriously questions the suggestions to ‘create’ Motorways of the Sea through a mapping exercise selecting specific ports and services and excluding others”.

It is certainly difficult to have any confidence in the proposals of the high-level group of 2nd July 2003 (the Van Miert group) which recommended that Community funding be limited to projects which “concern the smallest number of ports (ideally two in each different Member State)”.

There are, for example, 37 different GB ports that offer scheduled ro-ro and lo-lo services to other European countries. The political process that could lead to just 2 ports being selected is unthinkable. Few of the larger countries are served by only two ports! Appendix I summarises services and capacity offered.

The **UK Government** conducted a brief consultation process of the proposal to amend the Trans-European Network Guidelines in relation to ‘Motorways of the Sea’. It took the view that while it strongly supports

“the underlying objective of encouraging sea transport where this is a sensible alternative to road”

that it shares a general concern that there was a risk of distortion of competition where

“subsidy is introduced into a regime where private ports and operators compete with each other”

The UK Government stated that it would

“work constructively with the Commission and other member states in helping to define the concept and implement it, to the extent that this is consistent with maintaining free competition for UK ports and operators”.

It is evident that there is no consensus as to what motorways of the sea are expected to be. On the one hand, they may be short ‘bottleneck busters’ offering high frequencies to hauliers at a standard tariff, subsidised to undercut overland haulage and taking a ‘narrow’ role in terms of supply chain management. On the other hand there may also be long distance low frequency services such as Grimaldi’s Euro Med service, offering a comprehensive logistics service including handling and storage.

Interpretation

There is clearly frustration that short sea shipping does not play a more important role in intra European transport, particularly at the Commission. Extensive research programmes over the last 10-15 years have failed to make a significant change in transport behaviour, largely because the transport industry was already aware of both the opportunities available and the commercial barriers to develop new and longer services. To many in the maritime industry, the theoretical opportunity to expand shipping services has been obvious. Growth in intra European trade, a key feature and objective of the Single European Market, inevitably adds pressure onto inland infrastructure. The railway industry continues to suffer from institutional inefficiency which stems from its history of state monopoly. The shipping industry is, by contrast, highly cost efficient because of its internal competitiveness. The challenge is to find the means whereby public sector funding can assist the a largely private sector shipping industry in expanding its role to the common good, reducing the environmental impact of road haulage without bankrupting shipping lines during a transitional phase (i.e. the problem of start up costs). If the vehicle for developing short sea shipping (SSS) is to be private sector shipping companies then it is obvious that the relationship between commercial risk and reward must be changed; otherwise more maritime services would already exist!

The funds available at a Pan European level for such schemes through PACT or Marco Polo are very limited. It is therefore difficult to avoid the conclusion that the ‘motorways of the sea’ concept is deliberately tied closely to the development of the Trans European Network (TEN-T) in order to tap into the larger European funds currently being spent through the Member states on their own road and rail infrastructure which has been designated as part of the TEN. That network represents an understanding between the European Union and the individual Member States that are actually responsible for road and rail infrastructure. In return for following a code of conduct in the development and management of that network

to promote Pan European 'free-trade', the Community assists in the funding of that network. It is self evident that if some of these funds could be diverted to the maritime industry that there could be a switch of mode from road to sea over longer distance flows to the common good.

However, there is a strong implication in the emerging policy debate that eligibility will depend upon either political patronage or technical studies conducted by public sector transport officers. Because the substantial funds that would be required to finance new services are most likely to come from the Trans European network, there is a bureaucratic need to define maritime opportunities as though they were lines on a map. This could lead to serious confusion between the ship and the sea it floats upon or, in highway terms, between the truck and road upon which it drives!

The environmental case

This paper will not seek to explore the detailed environmental case for diverting traffic from road to sea. The EU has itself funded such studies and one might assume that the rate of €1 per 500 tonne km (€0.002 per tonne km) diverted which is built into the Marco Polo scheme reflects its view of the environmental damage caused by road haulage.

However, **studies by the UK Government** which have been endorsed by the Commission have arrived at a very different view on the environmental costs of road freight haulage. **EC document N464/2003 (Company Neutral Revenue Support Scheme)**, published on 16th December 2003 and authorising the UK Government's policy towards the grant assistance of both rail and waterborne freight transport in Britain, describes a detailed breakdown of appropriate values to attribute to noise, climate change and so forth under the heading '**sensitive lorry miles**'. The levels of environmental damage estimated in the UK varies by road type and urban or rural context. Applied nationally, the data implies that road haulage creates €14.5 billion worth of damage per annum, equivalent to almost €0.1 per tonne kilometre as compared with the rate of only €0.002 used for the Marco Polo scheme. The rate assumed in Britain is therefore up to 50 times greater than that used under the Marco Polo schemes.

Table 1 Environmental damage by road haulage (rates agreed by EC as basis for UK Government support for rail and water services)

€ per vehicle km

| | Motorway by congestion band | | | Conurbations | | Rural & urban | |
|--|-----------------------------|--------|--------|-------------------|--------|-------------------|--------|
| | High | Medium | Low | Trunk & principal | Other | Trunk & principal | Other |
| Non user road haulage costs | 0.99 | 0.60 | 0.39 | 1.63 | 1.96 | 0.84 | 0.76 |
| Tax already paid | (0.27) | (0.27) | (0.27) | (0.27) | (0.26) | (0.27) | (0.26) |
| Gross justifiable subsidy | 0.72 | 0.33 | 0.12 | 1.36 | 1.70 | 0.57 | 0.50 |
| Non user rail costs | (0.08) | (0.08) | (0.08) | (0.08) | (0.08) | (0.08) | (0.08) |
| Net justifiable subsidy to rail per unit | 0.64 | 0.25 | 0.04 | 1.28 | 1.62 | 0.49 | 0.42 |
| Approx. HGV km by road type (billion) | 2.68 | 4.03 | 7.81 | 1.49 | 0.17 | 12.57 | 1.66 |
| Net environmental damage (€billion) | 1.93 | 1.33 | 0.94 | 2.03 | 0.29 | 7.16 | 0.83 |

Implied weighted mean level of subsidy per tonne km: €0.10

Implied weighted mean level of subsidy per truck km: €0.48

It is open to prospective operators of rail services in Britain to apply for grants at these rates. They are not 'start up' grants and can be 'justified' over periods of 10 years or more. The Company Neutral scheme for rail is paid on the basis of results, leaving the operator to fund start up costs. The operator is simply paid a predetermined rate for every container moved by rail from one region to another. The rate is based on the environmental savings generated and the need for grant bearing in mind the relative door-to-door costs of road versus rail. The rates are published on the web. The scheme is expected to be available on a long term basis and is not for start up schemes.

A parallel scheme for waterborne freight in the UK, targeted at saving lorry miles within the UK, was authorised by the Commission on the 20th April 2004 (Waterborne Freight Grant or WFG) for coastal and short sea services. In order to correspond to the approach adopted for the Marco Polo scheme (see below), it is limited to 30% of service operating costs but will be evaluated on the basis of the much higher interpretation of the value of sensitive lorry miles in the UK. A budget of €30m p.a. has been identified. There is one crucial difference between the waterborne scheme and the rail scheme however. Whereas rail operating grants are based explicitly on the distortion which already exists favouring road haulage because road haulage does not pay its full external (non user) costs and can therefore proceed indefinitely, the WFG is limited to a role of a 'start up grant'. While this makes it compatible with the Marco Polo scheme, it will tend to encourage 'new' services which may,

at the end of the grant period lose viability even though they continue to deliver environmental benefits.

I understand that in France, a budget has been identified to fund the start up of a limited number of new routes aimed specifically at removing road freight from sensitive areas (e.g. the Alps and the Pyrenees).

In the case of both the UK and France, it will prove interesting to see whether services which entirely by-pass each country are funded. For example, an most effective way of relieving traffic across Britain would be to assist ro-ro services between the Republic of Ireland and the Continental mainland or, in the case of France, between Italy and Spain or Spain and the UK. There will some interesting European tests ahead for political institutions.

The Marco Polo scheme

The Marco Polo scheme is designed to aid start-up services and is not designed to provide continuous long term support. The 'modal shift action' guidelines rule out subsidy for a new service if there is distortion of competition in the relevant markets to an extent which damages the common interest.

For heavy goods vehicles carrying an average of 12.5 tonnes including empty running, the Marco Polo scheme is 'worth' €0.025 per vehicle kilometre as compared with the UK Government evaluation a weighted environmental cost on the least congested motorways of €0.39 per vehicle kilometre.

It is important to consider whether the Marco Polo level of subsidy is actually adequate to fund the start up costs of new services. Consider, for example, a new ro-ro service to operate between Northern Spain and the UK; a route which has been discussed and attempted several times and is apparently attractive because of the large volume of freight moving along that corridor. The overland distance saved per trip is around 1000 km. It is recognised that the main commercial hurdle is the time that it will take after a service is launched to persuade road hauliers, shippers and forwarders to change their practice and use the service. In the example below, over the first 2 years only two thirds of fixed costs would be covered, implying a loss of €7 billion, as load factor rises from 25% to 75% over 2 years. At 75% load factor, we assume the service would be viable and is consistent with a market rate of €600 per unit carried, dock gate to dock gate between Northern Spain and Southern Britain.

Table 2 Hypothetical costs for a Northern Spain – Southern UK ro-ro service

Assumptions: 2 ships offering 3 times weekly service (100 trailer capacity)

Annual fixed costs (before cargo handling costs)

| | €m |
|--------------|------------|
| Charter | 6.0 |
| Bunkers | 2.5 |
| Port entry | 1.0 |
| Overheads | <u>1.0</u> |
| Annual costs | 10.5 |

Fixed cost over 2 years 21.0 (75% load factor)

Contribution over first 2 years 14.0 (50% load factor)

Start up cost €7.0 million

Fixed cost per unit after years: €467

Assumed variable costs/unit (stevedoring): €133

Market rate, dock gate-dock gate: €600

Load factor: 25% rising to break even at 75% after 2 years (mean 50% over 2 years).

Mean trailers carried per sailing: 50 units (first 2 years)

Trailers moved over 2 years: 30,000 (600 sailings)

Trailer km saved: 30 million

Tonne km saved: 400 million

Marco Polo subsidy eligibility @ €0.002/tonne km: €0.8 million (400m x €0.002)

It is immediately apparent that the Marco Polo subsidy that can be justified during the build up period is totally inadequate to cover the cost for a commercial ro-ro operator of start-up costs. Put another way, despite Marco Polo allowing up to 30% of eligible costs to be subsidised, the rate available per tonne km would limit subsidy in this case to just 4% (€0.8/21.0m) of fixed costs; eligible costs would also include cargo handling costs, further reducing that percentage. A subsidy scheme which can only cover 3-4% of a new service cost is unlikely to make a significant impact on private sector decision makers. By contrast, that the UK's assessment of road haulage damage is far higher, even on uncongested motorways. It may be that the new Waterborne Freight Grants in the UK will encourage the extension of the type of short sea service described in table 2 to, say, Liverpool instead of Southampton to capitalise on the grant available. In any event, the implication is that if NEW

'motorways of the sea' are to be established then much larger sums will be required from public sector budgets than Marco Polo alone can offer. Outside of the UK, the most obvious budget is the TEN-T, not a budget that lends itself easily to the shipping industry.

The issue of competition policy

It is evident from the statement made by ECSA that shipping lines will not welcome politicians dictating what routes should be followed or the opening of new subsidised routes which will compete with established routes. This in itself need not be a 'showstopper'. The well publicised Superfast service between Rosyth and Zeebrugge was assisted by a UK Government grant for the ro-ro terminal in Rosyth (but not the ferry service itself). Existing operators objected to it opening but it is now well established, it is viable and has not put other ferry services out of business. It is inevitable that established operators will object. The process which was adopted in this case was for the public sector to invite interest and to select the operator who offered the best proposition and was prepared to take the greatest risk. Existing operators were therefore not excluded from the opportunity. A competitive regime continues to apply in the North Sea market place.

However, there must be legitimate concern that public sector agencies will have the expertise or experience to decide upon the most efficient means of designing new routes, selecting ports and so forth. The shipping industry would be wise to consider very carefully why the term 'motorways of the sea' has emerged. If it is intended to make it politically easier to divert Trans European Network funds into ports and even into shipping that is to be welcomed. It is unfortunate that the shipping industry has failed to gain public funding despite the proof of its ability to deliver while the railway industry has attracted very large levels of subsidy as its own contribution to Pan European freight delivery has declined. It is, of course, that much easier for the public sector to subsidise a monopolist than a company operating in a competitive environment whose competitors will object to the market being distorted! However, if the cost of attracting those funds is to be the definition of politically determined lines drawn on the map across the sea through pre-determined ports, that maybe a price that is too high. That is, the politicians' dreams to fund an expansion in maritime capacity through including shipping within the TEN-T may prove to be a nightmare for the shipping industry itself, not least because of the huge and elaborate system of services which the industry already delivers, and which politicians and political institutions may not appreciate.

The motorways of the sea that exist already

Table 3 below summarises the ro-ro and lo-lo services which already serve the short-sea market over distances in excess of 100 kilometres. Routes of above 100 kilometres in length are defined as 'combined transport' under EU directives and are in all cases in competition

with shorter crossings, fixed links or overland haulage and are therefore able to reduce net inland road haulage. Collectively, we estimate 3636 such sailings per week (864 of which are lo-lo) already serve the Western Seaboard of Europe. Many of these services could be adversely affected by subsidised routes. They employ over 800 ships (330 ro-ro). Collectively, they offer an annual service capacity equivalent to around 15 million trucks. The majority of that capacity is applied to routes such as Trelleborg to Travemunde or the Tees to Zeebrugge, services which move cargo between 'near neighbours' but along routes which already divert cargo from ones which would 'consume' more road capacity (e.g. via the Dover Straits). However, a proportion of that capacity moves cargo over much longer routes running along the Western European 'Maritime Highway' between the Baltic and the Iberian Peninsula, which is discussed in more detail below. A more comprehensive listing of the ports already offering 'motorways of the sea' is described in Appendix 1, including the number of ships operated and capacity available (note that the totals above avoid double counting). This analysis does not include intra Mediterranean services, so that the total intra European total maritime capacity is significantly greater.

Table 3 Current short-sea unit load services (ro-ro plus lo-lo) complying with 'combined transport' criteria.

SAILINGS BETWEEN COUNTRIES - INTRA EUROPEAN CONTAINER AND RORO SERVICES

sailings per week

| | Ireland | N Ireland | GB | Portugal | Spain | France | Belgium | Neth | Germany | Denmark | Poland | Lith | Latvia | Estonia | Russia | Finland |
|--------------|------------|------------|------------|-----------|-----------|------------|------------|------------|------------|------------|-----------|-----------|-----------|------------|-----------|------------|
| Ireland | | 48 | 146 | 1 | 4 | 8 | 4 | 17 | | | | | | | | |
| N Ireland | 48 | | 66 | 1 | 1 | 1 | 2 | 7 | | | | | | | | |
| GB | 146 | 66 | | 6 | 15 | 144 | 169 | 183 | 22 | 22 | 3 | 2 | 2 | 4 | 2 | 11 |
| Portugal | 1 | 1 | 6 | | 1 | 4 | 2 | 5 | 1 | 2 | | | | | | |
| Spain | 4 | 1 | 15 | 1 | | 9 | 3 | 10 | | 1 | | | | | | 1 |
| France | 8 | 1 | 144 | 4 | 9 | | 1 | | 1 | 1 | | | | | 1 | |
| Belgium | 4 | 2 | 169 | 2 | 3 | 1 | | | | 1 | 2 | 2 | 3 | 3 | 7 | 12 |
| Netherlands | 17 | 7 | 183 | 5 | 10 | | | | | 2 | 1 | 3 | 3 | 3 | 12 | 8 |
| Germany | | | 22 | 1 | | 1 | | | | 24 | 12 | 16 | 9 | 15 | 20 | 66 |
| Denmark | | | 22 | 2 | 1 | 1 | 1 | 2 | 24 | | 7 | 6 | 1 | 3 | 2 | 9 |
| Poland | | | 3 | | | | 2 | 1 | 12 | 7 | | | | | | 2 |
| Lithuania | | | 2 | | | | 2 | 3 | 16 | 6 | | | | | | |
| Latvia | | | 2 | | | | 3 | 3 | 9 | 1 | | | | | | 2 |
| Estonia | | | 4 | | | | 3 | 3 | 15 | 3 | | | | | | 58 |
| Russia | | | 2 | | | 1 | 7 | 12 | 20 | 2 | | | | 3 | | 4 |
| Finland | | | 11 | | 1 | | 12 | 8 | 66 | 9 | 2 | | 2 | 58 | 4 | |
| Sweden | 1 | | 23 | 2 | 1 | | 16 | 9 | 143 | 68 | 29 | 5 | 13 | 14 | | 119 |
| Norway | | | 22 | | 1 | | 13 | 11 | 28 | 48 | | | | | | 1 |
| TOTAL | 229 | 126 | 841 | 25 | 47 | 170 | 239 | 272 | 357 | 197 | 56 | 33 | 33 | 102 | 50 | 293 |

Source : MDS Transmodal - Containership Databank (April 2004)

It is self evident that the very existence of these services will mean that introducing new and subsidised services may lead to legal action arguing anti-competitive behaviour. It will also mean that to even match the level of capacity already offered, the public sector cost of financing a wide range of new start-up services could be prohibitive. An incremental approach based upon existing business structures will be much cheaper, be more acceptable to existing service providers and is much more likely to be relevant to market needs.

It is important to identify a strategy upon which market leaders and politicians can agree.

Incentivising the market

One of the features of the debate which is developing over Motorways of the Sea is that it appears to imply that the public sector decides upon which new routes should be established. This contrasts with the Commission's approach to rail freight over the last 13 years which has been to promote directives to liberalise the rail freight industry. The implication is that the maritime market is 'too' liberal and the rail freight industry not liberal enough!

It is important to remind ourselves why the European rail freight industry was in need of attention. It consisted of a number of small state monopolies defined strictly by the boundaries of the Member States. Its market share of Pan European rail freight fell from 20% to 8% between 1970 and 2000. Meanwhile, deregulation and a competitive environment in the USA had allowed inter-city rail freight market share in America over the same period to be retained at 40% despite competition from larger trucks and the State continuing to invest in highway infrastructure. This provides an easy lesson that the Commission has clearly taken on board. Competition and a continental scale of operation works!

The UK was an early enthusiast for liberalisation of the rail freight market. It recognised that the high environmental costs imposed by road haulage (see table 1) justified subsidies to rail freight operators. However, it did not wish to 'pick' winners. The UK now has 5 different rail freight traction operators. The UK wanted to offer any operator the opportunity to compete for traffic available with the benefit of a subsidy which was:

- i) at a financial level that was no greater than the net environmental damage measured by 'sensitive lorry miles' done by the road traffic that could be replaced and
- ii) no greater than was needed to compete with road haulage

Thus, for example, no subsidy should be required for a journey of longer than 500 km but a high subsidy would be required over a distance of 200 km subject to the value of

environmental savings. The scheme was available to any company commissioning a service, not necessarily the railway operator. The grant went to the risk taker (in maritime terms, this would be the line and not the ship or port owner), and was to be paid entirely on results. A container could be switched between trains en route. All that would matter is that the container can be shown to have been moved by rail from A to B. A subsidy rate per container was posted on a web site for each region to region flow. The scheme began on 1st April 2004.

The UK maritime industry, represented now by the most recent of the Short Sea Forums called 'Sea and Water', is already considering whether the scheme could be extended to the water mode. In effect, it will be difficult for the UK Government to refuse as there is an implicit obligation for rail and water to be treated equally.

This 'Company Neutral' approach would have a number of very important advantages.

- i) It entirely avoids the problem of market distortion. The grant is available to any company on any route providing environmental benefits are adequate and grant is required to switch traffic from road.
- ii) It allows existing companies to extend their networks incrementally, avoiding high start-up costs and the difficulty of estimating before the event!
- iii) It deals with the present dilemma whereby those shipping lines already offering shorter crossing services and therefore, because of their market knowledge best positioned to start longer parallel services to reduce net road haulage, could be incentivised to develop longer services rather than see them as a threat.
- iv) Public money is paid on results and not on promises, aspirations or political influence.
- v) It allows supply chain solutions to be developed rather than just 'floating bridges' which are most suitable for short crossings of narrow Straits.
- vi) It avoids the threat of a log jam whereby proposals for new services are legally challenged by operators of existing services.

This approach may represent a more acceptable means of introducing public sector finance into the shipping industry. It does suffer from one handicap is so far as the State is concerned; it is difficult to define a budget. Rail (or water transport) might become too successful for the State to afford!

The role of transshipment and logistics hubs

The most effective means of reducing the overall supply chain costs of using short sea shipping is by developing the ports themselves as logistics hubs. The additional cost of moving goods by road to distribution centres beyond the port is saved. This process is already taking place in many ports, particularly now that industrial relations within the port sector have improved.

A practical extension of this approach that will suit the geographical location of some ports is to extend and develop the value which existing shipping services offer on an incremental basis through transshipment. This is already exploited extensively by the deep-sea container industry. It allows new routes to be developed without additional ships. A container can be moved from Waterford to Oslo via Rotterdam without the need for a direct service. A 'maritime highway' allows this concept to be broadened from the traditional 'hub and spoke' one to one of interlining en route. The 'Maritime Highway' of the English Channel accommodates a wide range of shipping services to an even wider range of ports. All that is required to increase the range of origins and destinations that can be served is that one ship sets down some of its cargo in one port to be collected by another vessel sailing in the same direction but bound for a different destination. Better still if the port not only caters for lo-lo and ro-ro services but can also offer on-dock open and covered storage and warehousing to develop maritime logistics centres.

Table 4 describes short-sea sailings between countries on the Atlantic seaboard of Europe sailing along this highway; 250 connections per week per direction ALREADY, excluding all ferry 'crossing' movements. The opportunity is surely to build upon what the industry already offers on an incremental basis, and for State funding to be directed at these opportunities first.

Table 4 Intra European services passing along the English Channel – ports served (ro-ro plus lo-lo, excluding ‘Cross Channel’ movements)

SAILINGS BETWEEN COUNTRIES - INTRA EUROPEAN CONTAINER AND RORO SERVICES PASSING THROUGH THE DOVER STRAITS

sailings per week

| | Ireland | N Ireland | GB | Portugal | Spain | France | Belgium | Neth | Germany | Denmark | Finland | Sweden | Norway | TOTAL |
|--------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|----------|----------|----------|----------|------------|
| Ireland | | | 2 | 2 | 1 | 2 | 5 | 16 | | | | | | 28 |
| N Ireland | | | | 1 | 1 | 2 | 3 | 6 | | | | | | 13 |
| GB | 2 | | | 6 | 8 | 8 | 3 | 11 | 2 | 1 | | 2 | 1 | 44 |
| Portugal | 2 | 1 | 6 | | | 4 | 2 | 7 | 1 | 1 | | 1 | | 25 |
| Spain | 1 | 1 | 8 | | | 5 | 3 | 10 | | | 1 | 1 | 1 | 31 |
| France | 2 | 2 | 8 | 4 | 5 | | 2 | | 1 | | | | | 24 |
| Belgium | 5 | 3 | 3 | 2 | 3 | 2 | | | 1 | | | | | 19 |
| Netherlands | 16 | 6 | 11 | 7 | 10 | | | | | | 1 | | | 51 |
| Germany | | | 2 | 1 | | 1 | 1 | | | | | | | 5 |
| Denmark | | | 1 | 1 | | | | | | | | | | 2 |
| Finland | | | | | 1 | | | 1 | | | | | | 2 |
| Sweden | | | 2 | 1 | 1 | | | | | | | | | 4 |
| Norway | | | 1 | | 1 | | | | | | | | | 2 |
| TOTAL | 28 | 13 | 44 | 25 | 31 | 24 | 19 | 51 | 5 | 2 | 2 | 4 | 2 | 250 |

Source : MDS Transmodal - Containership Databank (April 2004)

The English Channel describes an example of a maritime highway that already exist. Maritime highways – shipping channels - should not be confused with ships substituting as fixed links.

One of the lessons which the freight industry needs to get across to politicians is that shipping and rail is not a simple logistical substitute for road haulage. Intra European shipping services will best serve the wider public interest by operating between port based logistical (warehousing) hubs on a relatively infrequent basis, consolidating cargo to maximise economies of scale.

Investment in port based storage is a crucial element in any short sea shipping strategy. However, the long term investment that this implies will simply not take place if there is a risk that the State could choose to operate a subsidised service between different ports! I fear that some elements of the 'Motorways of the Sea' proposals will not only discourage investment in new ships but also in port based logistics centres. It is also important to point out, as did ECSA, that container services are equally deserving of subsidy. After all, a substantial proportion of intra European ro-ro cargo is carried in containers in any case.

If it is in the public interest to divert a trailer or container from road to a shipping service, then all the public sector need do is pay the shipping service whatever it costs to do the job. We show in table 5 how such costs and benefits can be calculated.

The public interest case

We have shown above that short sea ro-ro and lo-lo shipping already supplies an extensive service to the European economy, a fact which may not be apparent to politicians. The services we identified above offer the equivalent of some 15 million unit load capacity p.a..

We have attempted to estimate how much shipping could contribute to sustainable distribution along the Western Europe seaboard. In order to do this we have

- i) estimated the volume of general cargo moving between the maritime areas of Western Europe
- ii) on the basis of a generic model, estimated the cost of moving those goods in containers or trailers by ro-ro trailer ships instead of by road. A proportion of these tonnages do, of course, already move by sea, moving on the services described in table 3.
- iii) determined which flows are cheaper by sea if shipload quantities are available to the lines operating the services

- iv) estimated the overall contribution this makes to removing traffic from the road
- v) considered that saving in road kilometres in the context of grant regimes; that is, what is the value to the public interest of carrying cargo by sea?

Table 5 Western European Seaboard General Cargo freight market (2001) – estimated total unitised trade available between countries (all modes)

Total Unitised Trade, 2001 Thousand Tonnes

| From | To | Algeria | Denmark | Finland | France - Northwest | Germany - Northwest | Irish Republic | Italy | Morocco | Norway | Portugal | Spain - Atlantic | Spain - Mediterranean | Sweden | Tunisia | UK - North | UK - South | Total |
|-----------------------|----|---------|---------|---------|--------------------|---------------------|----------------|-------|---------|--------|----------|------------------|-----------------------|--------|---------|------------|------------|--------|
| Algeria | | | | | 51 | 0 | | | | | | | | | | 6 | 4 | 61 |
| Denmark | | 30 | | | 251 | | 38 | 410 | 4 | | 68 | 110 | 131 | | 2 | 766 | 316 | 2,126 |
| Finland | | 4 | | | 254 | | 25 | 370 | 17 | | 45 | 189 | 109 | | 5 | 804 | 244 | 2,068 |
| France - Northwest | | 316 | 153 | 92 | | 940 | 148 | 1,840 | 140 | 48 | 354 | 1,448 | 622 | 191 | 174 | 1,243 | 848 | 8,555 |
| Germany - Northwest | | 52 | | | 1,844 | | 220 | 3,683 | 52 | | 416 | 799 | 1,027 | | 63 | 3,097 | 1,425 | 12,677 |
| Irish Republic | | 13 | 322 | 13 | 220 | 216 | | 159 | 19 | 33 | 100 | 72 | 56 | 47 | 0 | | | 1,271 |
| Italy | | | 3,238 | 232 | 3,016 | 3,429 | 159 | | 2 | 204 | | | | 487 | | 2,503 | 1,614 | 14,884 |
| Morocco | | | 0 | 2 | 176 | 81 | 4 | | | 2 | | | | 3 | | 135 | 63 | 465 |
| Norway | | 0 | | | 86 | | 120 | 151 | 6 | | 171 | 135 | 64 | | 1 | 1,603 | 365 | 2,704 |
| Portugal | | | 58 | 25 | 378 | 290 | 30 | | | 36 | | | | 50 | | 279 | 167 | 1,313 |
| Spain - Atlantic | | | 122 | 59 | 1,420 | 593 | 83 | | | 165 | | | | 87 | | 494 | 409 | 3,432 |
| Spain - Mediterranean | | | 265 | 285 | 1,199 | 1,275 | 84 | | | 212 | | | | 258 | | 1,043 | 873 | 5,494 |
| Sweden | | 11 | | | 345 | | 48 | 437 | 191 | | 47 | 127 | 102 | | 14 | 775 | 360 | 2,457 |
| Tunisia | | | 0 | 0 | 131 | 24 | 4 | | | 8 | | | | 1 | | 16 | 7 | 192 |
| UK - North | | 20 | 509 | 223 | 1,204 | 1,590 | | 1,160 | 38 | 443 | 193 | 460 | 434 | 597 | 15 | | | 6,885 |
| UK - South | | 6 | 98 | 84 | 436 | 592 | | 325 | 9 | 91 | 72 | 158 | 190 | 139 | 5 | | | 2,204 |
| Total | | 452 | 4,763 | 1,015 | 11,012 | 9,030 | 964 | 8,535 | 477 | 1,243 | 1,466 | 3,498 | 2,736 | 1,859 | 278 | 12,765 | 6,694 | 66,790 |

(excludes intra-Mediterranean flows)

Table 6 Examples of the estimated savings by switching to long distance ro-ro from overland road haulage: illustrations for flows shown in table 5

| Origin | Destination | Km saved | Cost saved per unit | '000s tonnes |
|----------------|----------------|----------|---------------------|--------------|
| Sweden | Atlantic Spain | 2874 | €658 | 214 |
| Southern UK | Italy | 1325 | (€409) | 1939 |
| N.W.France | NW Germany | 319 | (€277) | 2784 |
| Denmark | NW France | 1350 | €138 | 404 |
| Morocco | Finland | 4304 | €2130 | 19 |
| Atlantic Spain | Northern UK | 1257 | €430 | 954 |

Table 7 Summary for all traffics shown in table 5

| | |
|---|------------------------------------|
| Origin – destination pairs cheaper by sea: | 63/120 (52%) |
| Millions tonnes moved cheaper by sea (if unsubsidised): | 31.8/66.8m (48%) |
| Therefore estimated trailers and container p.a. cheaper by sea: | <u>2.54 million (@12.5 t/unit)</u> |
| For the mean trip for which ro-ro shipping is cheaper: | |
| Door-door cost by sea: | €1175 |
| Door-door cost by road: | €1575 |
| Potential saving per unit moved: | €400 (given volume and frequency) |
| Potential cost savings by sea (12.5 tonnes per unit): | €1.015 billion (2.54m @ €400) |
| Saving in road km: | 3.05 billion tonne km |
| Saving per truck switched to sea: | 1200 km |
| Marco Polo potential contribution per unit : | €30 (1200 km @ €0.025/lorry km) |
| Minimum 'Sensitive lorry mile' contribution per unit: | €470 (1200 km @ €0.39/lorry km) |

The exercise has been deliberately kept simple so that it can be explained in the context of a short paper; data is available to conduct a more elaborate and sophisticated exercise. However, the lesson is clear. There appears potentially, a total market of 2.5 million freight units which could move more cheaply by sea than road along this corridor if shipload quantities were available on a sufficiently frequent basis. Only a fraction of this traffic currently moves by sea. Switching this traffic to sea would save 3 billion vehicle kilometres per annum of international traffic.

On the basis of the environmental exercises conducted by the UK Government and approved by the Commission, the environmental cost of that traffic, even using the least congested motorways, is some €470 per lorry (€1.2m p.a. based on 2.54m units @ €470/unit). The public interest value of such a transfer from road appears based upon the enormous values that Government have used to assist the railway industry. It is therefore worth the public sector offering at least €470, less the fuel tax currently paid by hauliers. If the routes followed are at all congested, the justifiable amount rises considerably. The rate which the Marco Polo scheme would offer is only €30. Such a sum is unlikely to make sufficient impact.

Summary

We now return to the original question; how can politicians' dreams be realised. It may be that those dreams may be based upon regional advantage and the opportunity to exert

political patronage on local ports rather than the wider dream of reducing the environmental impact of road haulage. Political dreams may be driven by increasing one's influence over State budgets. The most straightforward means of reducing the environmental impact of road haulage is, of course, already being pursued by some Member states in their planning for road pricing. The quicker that is introduced, and introduced at a level which does fairly reflect the environmental damage caused by road haulage, the better. Then the issue of subsidy would disappear and it would be up to the market to produce solutions based on rates offered in the market place.

Meanwhile, perhaps as a transitional scheme while that process is underway, the mechanism that has already been agreed by the EC for a scheme funding rail operators in the UK could be used to avoid distorting competition between shipping operators (i.e. 'Company Neutral').

The approach which the 'Motorways of the Sea' approach adopts may well not succeed. It certainly runs the risk of legal challenge unless the routes chosen are highly 'peripheral' and therefore not addressing major cargo flows. There is bound to be overlap with existing services. The idea of defining routes as part of the TEN-T threatens to put a straightjacket on the maritime industry, blighting those ports which are not 'chosen'. It is in any event crucial to emphasise that an effective short sea shipping (SSS) strategy should NOT be based upon the attributes of a motorway which allows road hauliers to 'turn up and go' with consignments of 10 or 20 tonnes. SSS should be about consolidating large volumes of cargo moving between regional logistics hubs. Successful short sea shipping should not be based upon catering for the impatient road haulier but upon delivering sustainable supply chain solutions to shippers.

The agreement in April 2004 reached between the Council of Ministers and the European parliament that public funding of shipping lines should not interfere with established routes is to be welcomed. How that objective is to be achieved without simultaneously abandoning political interest in short sea shipping is yet to be revealed. The challenge for the industry is to ensure that this does not lead to an end of these political dreams. The industry needs to propose a mechanism to put in its place, so that the politicians' aspirations can be met. The means of achieving those aspirations is not to create artificial, hypothetical or proxy lines across the sea that can be designated as links in the Trans-European network. It is, I suggest, to develop a mechanism whereby the shipping industry is paid by the container or truck transported over longer distances a rate which reflects the environmental cost which the Member States believe lorries already impose; the same mechanism which is used, quite justifiably, to support the rail freight industry. It would help if the contribution which the shipping industry already makes towards combined transport; some 550 ships, 3700 sailings per week and the equivalent of 15 million unit loads of capacity per year along the Western seaboard of the Continent alone was properly appreciated.

My conclusion is, therefore, that there are means whereby the wider political dream of switching goods from road to sea can be achieved by developing and extending the existing network of services, creating logistical and transshipment hubs through the detailed co-operation of ports and shipping lines, backed by Pan European incentives which are available as a right to be paid on results. Unfortunately, that will mean convincing politicians that the market is best at determining of how resources should be allocated, a challenge that is not limited to the ro-ro shipping industry!

APPENDIX 1 Intra European ro-ro and lo-lo services corresponding to combined transport criteria

INTRA EUROPEAN SERVICES

| | Container services | | | Ro-ro services | | |
|-------------------------|--------------------|-------------------|------------------------------|-----------------|-------------------|-----------------------------|
| | Number of ships | Sailings per week | Capacity - one way (000 TEU) | Number of ships | Sailings per week | Capacity - one way (000 LM) |
| IRELAND | | | | | | |
| Dublin | 25 | 21 | 571.7 | 10 | 88 | 9290.7 |
| Drogheda | 4 | 5 | 30.2 | | | |
| Waterford | 3 | 4 | 96.9 | | | |
| Cork | 7 | 7 | 189.1 | 1 | 6 | 215.9 |
| Dun Laoghaire | | | | 1 | 21 | 821.3 |
| Rosslare | | | | 4 | 35 | 2696.3 |
| TOTAL | 39 | 37 | 887.8 | 16 | 150 | 13024.1 |
| NORTHERN IRELAND | | | | | | |
| Belfast | 17 | 15 | 319.8 | 5 | 30 | 2704.4 |
| Warrenpoint | 1 | 1 | 16.9 | 2 | 12 | 549.1 |
| Larne | | | | 3 | 19 | 1477.1 |
| TOTAL | 18 | 16 | 336.7 | 10 | 61 | 4730.6 |
| GREAT BRITAIN | | | | | | |
| Greenock | 4 | 5 | 77.2 | | | |
| Heysham | | | | 7 | 42 | 2348.7 |
| Fleetwood | | | | 3 | 19 | 1477.1 |
| Liverpool | 10 | 10 | 237.4 | 6 | 38 | 4242.3 |
| Holyhead | | | | 4 | 70 | 6764.7 |
| Pembroke | | | | 1 | 14 | 1503.8 |
| Fishguard | | | | 1 | 14 | 655.2 |
| Swansea | | | | 1 | 6 | 215.9 |
| Cardiff | 2 | 2 | 19.2 | | | |
| Bristol | 6 | 5 | 133.1 | | | |
| Plymouth | | | | 2 | 12 | 580.1 |
| Poole | | | | 2 | 33 | 2218.8 |
| Portsmouth | | | | 8 | 70 | 6442.0 |
| Southampton | 7 | 5 | 94.4 | 3 | 8 | 497.2 |
| Newhaven | | | | 2 | 19 | 1086.8 |
| Ramsgate | | | | 6 | 56 | 2553.8 |
| London | 11 | 20 | 280.3 | 21 | 92 | 8990.4 |
| Thamesport | 6 | 6 | 95.4 | | | |
| Felixstowe | 25 | 20 | 468.7 | 10 | 32 | 2736.6 |
| Harwich | | | | 10 | 45 | 5471.2 |
| Ipswich | 9 | 4 | 44.4 | 4 | 28 | 1600.2 |
| Lowestoft | 2 | 1 | 6.9 | | | |
| Boston | 1 | 1 | 9.6 | | | |
| Hull | 13 | 12 | 248.6 | 7 | 20 | 3218.3 |
| Goole | 5 | 16 | 64.9 | | | |
| Grimsby | 3 | 2 | 3.4 | | | |
| Killingholme | | | | 6 | 23 | 1903.4 |
| Immingham | 22 | 16 | 320.7 | 18 | 47 | 5970.9 |
| Tees | 9 | 11 | 204.7 | 4 | 11 | 1357.2 |
| Tyne | 5 | 5 | 116.0 | 4 | 12 | 476.2 |
| Blyth | 1 | 2 | 21.3 | | | |
| Rosyth | | | | 2 | 6 | 594.4 |
| Grangemouth | 10 | 17 | 278.1 | | | |
| TOTAL | 151 | 160 | 2724.2 | 132 | 717 | 62905.1 |
| PORTUGAL | | | | | | |
| Lisbon | 17 | 10 | 293.9 | 1 | 1 | 46.6 |
| Leixoes | 19 | 12 | 337.4 | 1 | 1 | 46.6 |
| TOTAL | 36 | 22 | 631.3 | 2 | 2 | 93.2 |

SPAIN

| | | | | | | |
|-----------|----|----|-------|---|---|-------|
| Vigo | 17 | 6 | 182.3 | | | |
| Santander | | | | 4 | 4 | 298.9 |
| Bilbao | 13 | 11 | 265.5 | 5 | 4 | 204.5 |
| TOTAL | 30 | 17 | 447.8 | 9 | 8 | 503.4 |

FRANCE

| | | | | | | |
|-------------|----|----|-------|----|-----|---------|
| Bordeaux | 2 | 2 | 87.9 | | | |
| Montoir | 4 | 4 | 153.8 | | | |
| La Rochelle | 1 | 1 | 29.0 | | | |
| Brest | 1 | 1 | 42.6 | | | |
| Roscoff | | | | 3 | 12 | 518.8 |
| St Malo | | | | 2 | 10 | 1169.3 |
| Cherbourg | | | | 6 | 55 | 4181.8 |
| Caen | | | | 2 | 20 | 2064.4 |
| Dieppe | | | | 2 | 19 | 1086.8 |
| Le Havre | 24 | 16 | 469.1 | 2 | 21 | 1572.5 |
| Radicatel | 1 | 1 | 16.9 | 2 | 7 | 422.3 |
| Dunkirk | 1 | 3 | 37.8 | 1 | 7 | 447.1 |
| TOTAL | 34 | 28 | 837.1 | 20 | 151 | 11463.0 |

BELGIUM

| | | | | | | |
|-----------|----|----|-------|----|-----|---------|
| Ostend | | | | 12 | 90 | 4567.3 |
| Antwerp | 44 | 27 | 880.1 | 11 | 8 | 707.4 |
| Zeebrugge | 2 | 2 | 35.5 | 23 | 83 | 9571.4 |
| Ghent | 2 | 2 | 11.4 | 5 | 7 | 951.9 |
| TOTAL | 48 | 31 | 927.0 | 51 | 188 | 15798.0 |

NETHERLANDS

| | | | | | | |
|-----------------|-----|-----|--------|----|-----|---------|
| Vlissingen | 1 | 0.5 | 4.6 | 6 | 32 | 2458.2 |
| Amsterdam | 1 | 0.5 | 7.3 | 7 | 10 | 454.5 |
| Terneuzen | 1 | 1 | 13.8 | | | |
| Hook of Holland | | | | 2 | 28 | 3519.0 |
| Scheveningen | | | | 4 | 28 | 2331.6 |
| Moerdijk | 2 | 1 | 8.6 | | | |
| Rotterdam | 100 | 95 | 2180.8 | 19 | 54 | 7440.0 |
| TOTAL | 105 | 98 | 2215.1 | 38 | 152 | 16203.3 |

GERMANY

| | | | | | | |
|---------------|-----|-----|--------|----|-----|---------|
| Bremerhaven | 74 | 85 | 2286.5 | 1 | 1 | 118.0 |
| Hamburg | 93 | 98 | 2527.5 | | | |
| Cuxhaven | 2 | 1 | 36.6 | 5 | 13 | 1143.0 |
| Wilhelmshaven | 3 | 5 | 47.1 | | | |
| Brunsbüttel | 2 | 3 | 25.0 | | | |
| Kiel | 3 | 6 | 222.1 | 8 | 25 | 2371.2 |
| Travemünde | | | | 24 | 93 | 11504.2 |
| Lubeck | | | | 17 | 24 | 2807.3 |
| Rostock | | | | 11 | 62 | 7551.6 |
| Sassnitz | | | | 3 | 7 | 690.4 |
| TOTAL | 177 | 198 | 5144.7 | 69 | 225 | 26185.7 |

DENMARK

| | | | | | | |
|----------------|----|----|-------|----|-----|---------|
| Copenhagen | 10 | 10 | 274.8 | 6 | 17 | 1366.9 |
| Aarhus | 23 | 18 | 584.7 | 5 | 8 | 641.7 |
| Fredericia | 2 | 2 | 38.9 | 1 | 2 | 163.8 |
| Esbjerg | 2 | 1 | 8.3 | 6 | 17 | 2042.6 |
| Grenaa | | | | 1 | 14 | 452.6 |
| Skagen | | | | 1 | 7 | 78.8 |
| Hanstholm | | | | 1 | 3 | 220.0 |
| Frederikshaven | | | | 3 | 42 | 4827.1 |
| Aabenraa | | | | 2 | 4 | 227.7 |
| Hirtshals | | | | 2 | 21 | 1007.4 |
| TOTAL | 37 | 31 | 906.7 | 28 | 135 | 11028.5 |

POLAND

| | | | | | | |
|-------------|----|----|-------|----|----|--------|
| Gdansk | 2 | 1 | 44.7 | 1 | 2 | 229.3 |
| Gdynia | 13 | 11 | 324.9 | 6 | 22 | 1777.0 |
| Szczecin | 2 | 2 | 36.1 | | | |
| Swinoujscie | | | | 4 | 12 | 622.8 |
| TOTAL | 17 | 14 | 405.8 | 11 | 36 | 2629.1 |

LITHUANIA

| | | | | | | |
|----------|----|----|-------|---|----|--------|
| Klaipeda | 16 | 12 | 370.5 | 8 | 20 | 1685.8 |
|----------|----|----|-------|---|----|--------|

LATVIA

| | | | | | | |
|-----------|----|----|-------|---|----|--------|
| Liepaja | 5 | 1 | 9.5 | 1 | 3 | 246.2 |
| Ventspils | 1 | 1 | 18.3 | 2 | 12 | 774.8 |
| Riga | 20 | 9 | 383.0 | 2 | 4 | 320.1 |
| TOTAL | 26 | 11 | 410.8 | 5 | 19 | 1341.1 |

ESTONIA

| | | | | | | |
|----------|----|----|-------|----|----|--------|
| Tallinn | 22 | 14 | 374.8 | 13 | 72 | 2952.5 |
| Paldiski | | | | 3 | 9 | 382.6 |
| TOTAL | 22 | 14 | 374.8 | 16 | 81 | 3335.1 |

RUSSIA

| | | | | | | |
|---------------|----|------|-------|---|---|-------|
| Kaliningrad | 1 | 1 | 17.0 | | | |
| St Petersburg | 41 | 28 | 823.3 | 5 | 8 | 589.9 |
| Vyborg | 1 | 0.5 | 3.3 | | | |
| TOTAL | 43 | 29.5 | 843.6 | 5 | 8 | 589.9 |

FINLAND

| | | | | | | |
|--------------|----|----|--------|-----|-----|---------|
| Rauma | 5 | 3 | 99.9 | 12 | 10 | 962.9 |
| Hanko | 1 | 1 | 18.7 | 12 | 20 | 2171.8 |
| Mantyluoto | 2 | 2 | 53.8 | | | |
| Turku | 2 | 2 | 22.6 | 12 | 38 | 2528.2 |
| Helsinki | 30 | 27 | 827.7 | 37 | 104 | 7524.9 |
| Kotka | 19 | 18 | 629.2 | 5 | 4 | 578.8 |
| Hamina | 9 | 8 | 309.9 | 11 | 8 | 691.6 |
| Mariehamn | | | | 10 | 56 | 3448.9 |
| Uusikaupunki | | | | 1 | 1 | 108.7 |
| Vaasa | | | | 1 | 7 | 164.3 |
| Eckero | | | | 2 | 35 | 748.3 |
| Naantali | | | | 3 | 14 | 1926.5 |
| Kemi | | | | 4 | 3 | 266.2 |
| Oulu | | | | 4 | 3 | 266.2 |
| TOTAL | 68 | 61 | 1961.8 | 110 | 300 | 21120.8 |

SWEDEN

| | | | | | | |
|-------------|----|----|--------|----|-----|---------|
| Helsingborg | 9 | 8 | 243.0 | 8 | 11 | 1267.5 |
| Malmö | 2 | 2 | 72.8 | 7 | 30 | 4254.9 |
| Gothenburg | 23 | 18 | 652.3 | 21 | 74 | 9469.7 |
| Ahus | 4 | 3 | 72.4 | | | |
| Stockholm | 2 | 2 | 76.3 | 14 | 70 | 4350.4 |
| Gävle | 2 | 2 | 76.3 | | | |
| Varberg | 2 | 1 | 36.6 | 2 | 21 | 1109.6 |
| Halmstad | 1 | 1 | 13.8 | 1 | 1 | 63.0 |
| Wallhamn | 1 | 1 | 13.8 | | | |
| Vasteras | 9 | 7 | 93.8 | | | |
| Sodertälje | 6 | 5 | 79.7 | | | |
| Norrköping | 4 | 3 | 59.6 | | | |
| Oxelösund | 4 | 2 | 38.9 | | | |
| Oskarshamn | 6 | 3 | 45.8 | | | |
| Trelleborg | | | | 10 | 88 | 10410.8 |
| Ystad | | | | 3 | 7 | 501.1 |
| Karlskrona | | | | 2 | 12 | 916.7 |
| Umeå | | | | 5 | 10 | 371.6 |
| Iggesund | | | | 3 | 2 | 197.6 |
| Kapellskar | | | | 5 | 35 | 2432.4 |
| Karlshamn | | | | 3 | 8 | 567.3 |
| Nynashamn | | | | 2 | 12 | 816.9 |
| Husum | | | | 3 | 2 | 197.6 |
| Sundsvall | | | | 3 | 2 | 197.6 |
| Stromstad | | | | 2 | 35 | 923.5 |
| Grisslehamn | | | | 2 | 35 | 748.3 |
| TOTAL | 75 | 58 | 1575.1 | 96 | 455 | 38796.3 |

NORWAY

| | | | | | | |
|--------------|-----|-----|--------|----|-----|--------|
| Bergen | 9 | 8 | 88.3 | 4 | 8 | 379.4 |
| Haugesund | 6 | 6 | 85.6 | 3 | 5 | 159.4 |
| Stavanger | 5 | 4 | 85.7 | 1 | 3 | 85.8 |
| Sandnes | 3 | 2 | 27.7 | | | |
| Kristiansand | 4 | 2 | 76.3 | 3 | 18 | 799.7 |
| Kristiansund | 2 | 2 | 62.8 | | | |
| Larvik | 10 | 8 | 202.0 | | | |
| Maaloy | 5 | 5 | 120.2 | | | |
| Aalesund | 11 | 9 | 153.3 | | | |
| Floro | 3 | 3 | 34.1 | | | |
| Fredrikstad | 5 | 4 | 150.9 | | | |
| Oslo | 18 | 16 | 366.3 | 9 | 36 | 2981.7 |
| Lys | 2 | 1 | 2.9 | | | |
| Hundestad | 2 | 1 | 2.9 | | | |
| Moss | 9 | 7 | 152.3 | 1 | 7 | 78.8 |
| Halden | 5 | 5 | 70.1 | | | |
| Skien | 3 | 3 | 28.8 | | | |
| Tromsø | 4 | 3 | 48.4 | | | |
| Molde | 3 | 2 | 3.4 | | | |
| Tananger | 3 | 3 | 32.1 | 2 | 3 | 91.7 |
| Svelgen | 2 | 2 | 15.3 | | | |
| Mosjøen | 2 | 1 | 18.1 | | | |
| Sanda | 2 | 1 | 23.9 | | | |
| Orkanger | 2 | 1 | 23.9 | | | |
| Bodo | 2 | 1 | 23.9 | | | |
| Brevik | 1 | 1 | 36.4 | 5 | 8 | 1056.3 |
| Sandefjord | | | | 2 | 35 | 923.5 |
| Egersund | | | | 1 | 3 | 220.0 |
| Odda | | | | 1 | 1 | 18.1 |
| TOTAL | 123 | 101 | 1935.5 | 32 | 127 | 6794.4 |

Source : MDS Transmodal - Containership Databank (April 2004)