

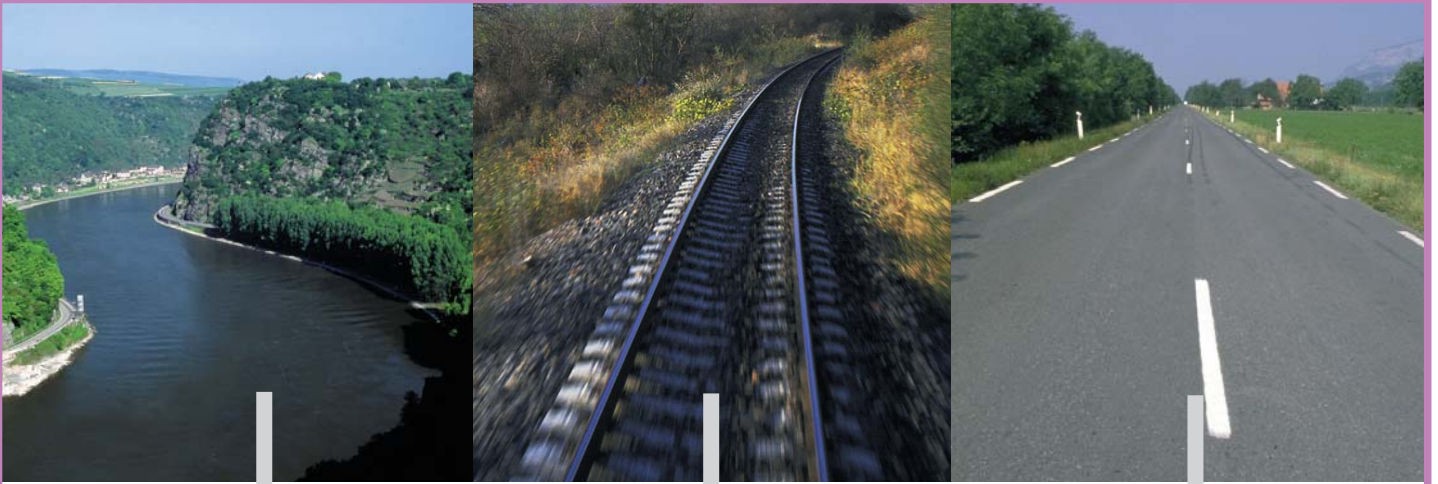


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Barging, Inland Waterways, Short Sea Shipping

Booklet N° 2
May 1998



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EUROPEAN
FREIGHT & LOGISTICS
LEADERS CLUB

Barging, Inland Waterways, Short Sea Shipping

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Executive Summary

The constitution of a working group on the subject of 'Barging, Inland Waterways and short sea shipping' was suggested during the F&L Annual Meeting on November 15th/16th, 1996. The objective was to take advantage of having shippers and operators in the same forum and seek an answer to the following questions:

- *To which extent and how can barging and/or Inland Waterways and/or short sea shipping contribute to taking cargo off the road?*

and

- *What needs to be done to maintain cargo on these transport modes?*

The economic growth throughout Europe leads us to expect that the traffic volume will be doubled in the year 2010 compared to the volumes in the middle of the 1990-ies. Unless waterborne transport is taking the opportunity of increasing their market share of the transport volume, Continental Europe may face severe congestion. Now that the cabotage restrictions in the EU/EEA have been changed, a significant potential for growth for waterborne transport is opening up, particularly if new services are established with intermodal operations in mind.

During its work, the group identified a significant, under-utilised capacity in the waterborne sector. Along the inland waterways, a very large number of ports and transport services are available. Vessel- and port/terminal operators indicate that there is sufficient spare capacity available to absorb additional traffic. There are more than 700 ferry links and 650 scheduled short sea links identified. Hence, the basis should be there for facilitating a significant growth in waterborne traffic volumes.

Why then are not these opportunities fully exploited? There are many reasons, divided into the following categories:

- ❖ Legislation etc. causes unfair competition between land-based and waterborne transport. Examples are custom procedures, port cost, pilotage services, and labour rules.

- ❖ Visibility and image. The members of the working group spent a significant effort in identifying the available services. Today, one has to be very motivated to find the relevant waterborne alternatives. Furthermore, an old-fashioned image, related to inexpensive transport for mass cargo only, inhibits the full use of the capacity.
- ❖ Quality of operations. Previously, the focus has been on keeping the cost for waterborne transport as low as possible. Consequently, the commercial strength of the individual operators has become limited. As a result, a significant part of the European fleet for short sea shipping has grown to be quite old, and not fitted to interact with land based transport in modern, efficient intermodal chains.

To help improve this situation, the Working Group proposes the following actions:

1. Visualise the potential of waterborne transport in Europe and bridge the current information gap between shippers and operators. One element in achieving this is to establish an Internet web site that provides the operators with a common platform to offer their services, and makes the information on available services easily accessible for shippers.

Easy access to an up-dated database containing all relevant and useful information would considerably reduce the current barriers for shippers to evaluate alternative transport methods, thus generating much more specific sales contacts with motivated shippers.

2. Obtain increased commitment by shippers to use the waterborne transport opportunities available. Shippers can play a key role in ensuring the modal shift from road to waterborne transportation. They have the cargo, and they select the logistic service providers for moving cargo to their customers. Increased commitment may be achieved by increasing the awareness of the fact that logistics is of strategic importance and may become a competitive tool.

Support the continuous development of new mechanisms for linking waterborne transport into efficient inter-modal transport chains. Such projects are already well under way in the projects funded by the European Commission under the Transport RTD programme of the 4th Framework programme. However, increased involvement of the companies that have members in F&L in the 5th Framework Programme about to start, would help bring the valuable results of these projects into the true, commercial world.

3. The working group should continue. The discussions within the working group very clearly demonstrated the considerable potential for moving cargo from the road to inland waterways or short sea shipping. To help trigger actions in this direction, the working group will continue its work.

The future focus will be to

- ❖ Initiate studies of present cargo flows and the practical know-how of the F&L members, and launch specific, concrete and direct studies between potential partners while the proposed Web site is being established. Keep close contact with the EU Commission in their efforts to establishing clusters of companies to ensure exploitation of R&D results in the waterborne sector.
- ❖ Identify potential pilot projects among F&L member companies that could demonstrate how the different transport modes could operate together to form new, efficient intermodal transport chains.
- ❖ Currently tax-free sales are an important source of income for European ferries. It is, therefore, very likely that the decision to abandon tax-free sales on ferries between EU countries will impact the economy of the operators.

The WG should study the effect of this decision on the waterborne transport sector in Europe.



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Foreword

The constitution of a working group on the subject of 'Barging, Inland Waterways and short sea shipping' had been suggested during the F&L Annual Meeting on November 15th/16th, 1996.

The objective was to take advantage of having shippers and operators in the same forum and seek an answer to the following questions:

- ❖ To which extent and how can Barging and/or Inland Waterways and/or Short Sea shipping contribute to taking cargo off the road?
- ❖ What needs to be done to maintain cargo on these transport modes?

1.1

1 Introduction

History, background

1.2

The continuing economic growth throughout Europe invokes a steady increase in the movement of goods within, to and from the area of the European Union. This trend is expected to increase within the near future under the influence of the establishment of the 'open market' and the access to the economies of Eastern Europe. Generally speaking, the traffic volume is expected to double its current volume around the year 2010 (see Figures 1 and 2). These developments are considered as a major challenge to the transport system, which is vital to a well spread economic development within the Union.

The Figures 1 and 2 illustrate the projected growth in transport (in volume and ton-kilometres), divided into road, rail and Inland Waterways. Statistics regarding Short Sea Shipping has been impossible to obtain, but the message remains the same: Unless waterborne transport is taking the opportunity of increasing its share of the transport volume, Continental Europe may face severe congestion.

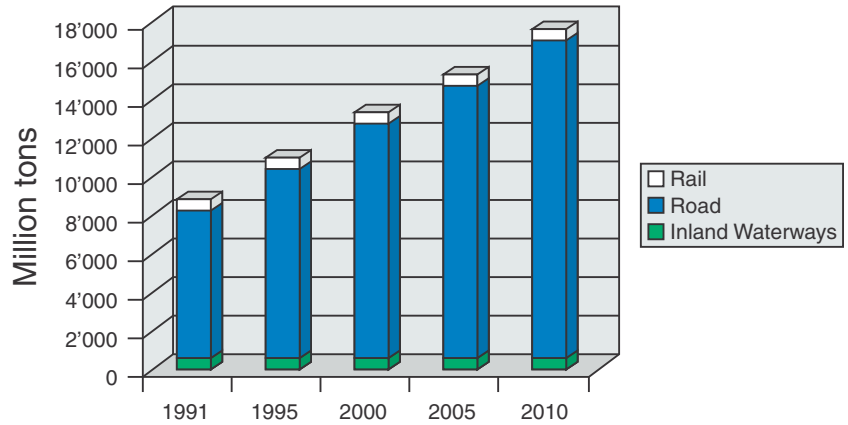


Figure 1. European transport volume (Source: EU)

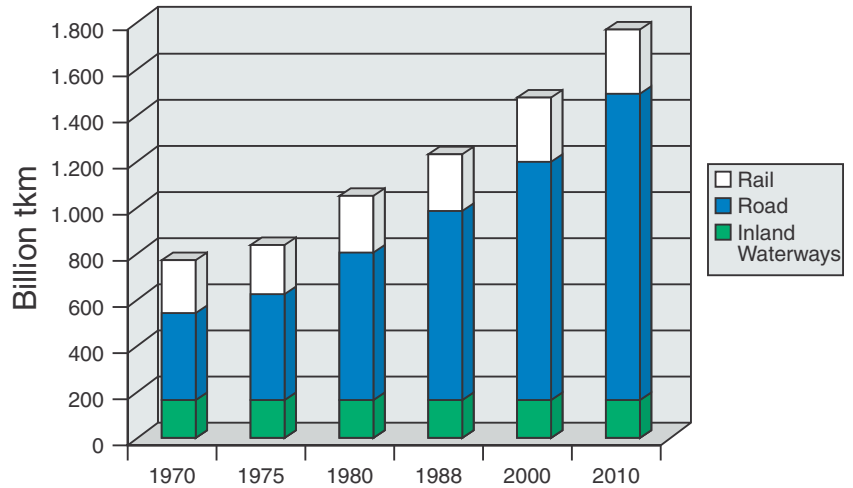


Figure 2. Transport-growth forecasted in ECMT countries (Source: ECMT)

EU, national authorities and organisations have undertaken a number of studies and research projects with the intent to promote the movement of goods transport from land to sea. Hence, the availability of documentation on this subject is significant.

Important EU initiatives and documents are shown in the appendix.

With a view to facilitating the understanding of the subject, the working group has based its search, discussions and conclusion on the following definitions:

2 Definitions

2.1 Barging _____ 2.1

Barging is the transport mode which is using National or Regional canal networks. It also includes the short distance movements of containers on canal systems from ports to inland destinations or from major to smaller ports.

2.2 Inland Waterways _____ 2.2

Inland Waterways are rivers, lakes or major international canals establishing the links between these rivers. The cargo is transported on vessels which are either self-propelled or on push-convoys composed of several barges.

2.3 Short Sea _____ 2.3

Short Sea shipping can be either short or long distance. Both types have their specific advantages and inconveniences. For the sake of the study we have clearly separated between ferry services (ro/ro) and feeding or specialised short sea shipping (lo/lo)

2.3.1 *Ferry services (ro/ro)*

Shuttle services between two ports with vessels that can load rolling cargo (Road or rail) have been considered as ferry services within the study. Although one might argue that ferries carrying trucks between the UK and the Continent are not likely to contribute to taking cargo off the road, an important number of other ferry-services can contribute to reducing the total distance driven by offering short cuts by sea. For this reason ferry services were maintained in the study.

2.3.2 *Feeder or specialised short sea shipping (lo/lo)*

This transportation mode needs to be seen separated as per the type of operator. Whereas deep sea shipping companies operate feeder services (i.e. shuttle services with smaller vessels linking



smaller ports with main ports) with the objective of connecting as many ports as possible to their main trade routes, there are also many specialised short sea operators that offer regular and scheduled services between European ports. (cabotage)

The cabotage restrictions in the EU/EEA have been changed. Any EU/EEA ship that is allowed to trade in her own country may also trade in any other EU/EEA country. This change has opened up a significant potential for growth for this transport mode, particularly if new services are established with intermodal operations in mind.



Availability of services 3.1

**3 Findings/
conclusions**

The working group attempted in a first phase to establish an inventory of the existing services for the three transport modes under discussion. However, overwhelmed by the important amount of information, which needs to be treated and structured this attempt had to be given up.

3.1.1 Barging/Inland Waterways

Along the existing navigable waterways, be it canals or rivers, a very important number of big to tiny ports exist and are served either regularly by scheduled services or 'on request'. Many also lie idle and have been abandoned due to lack of demand. Generally speaking, both, the operators as well as the terminal/port operators indicate having sufficient spare capacities available to absorb additional traffic.

In addition, particularly within the dense canal system in Northern Europe, many factories have direct access to canals on their premises and could use these waterways for their arriving or departing cargo. Barging services can be set up provided there is sufficient demand.

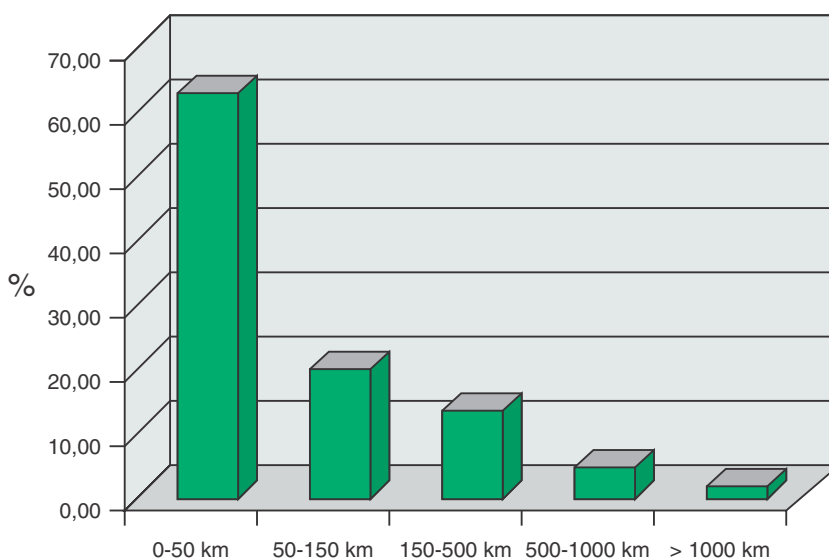


Figure 3. Distances over which goods are transported by road.
(Source: NEA 1992)

① (See paragraph 5 for example of practical realisation)

Note:

Considering that more than 80 % of the lorry transports in Europe are made over distances of <150 km (see Figure 3), this type of barging can substantially contribute to ease traffic problems in urban or industrial areas.

Inland movements of containers arriving from or departing to overseas locations are also contributing largely to road congestion. According to ECT, for the port of Rotterdam, the shares by transport mode for container feeding have developed as illustrated in Figure 4.

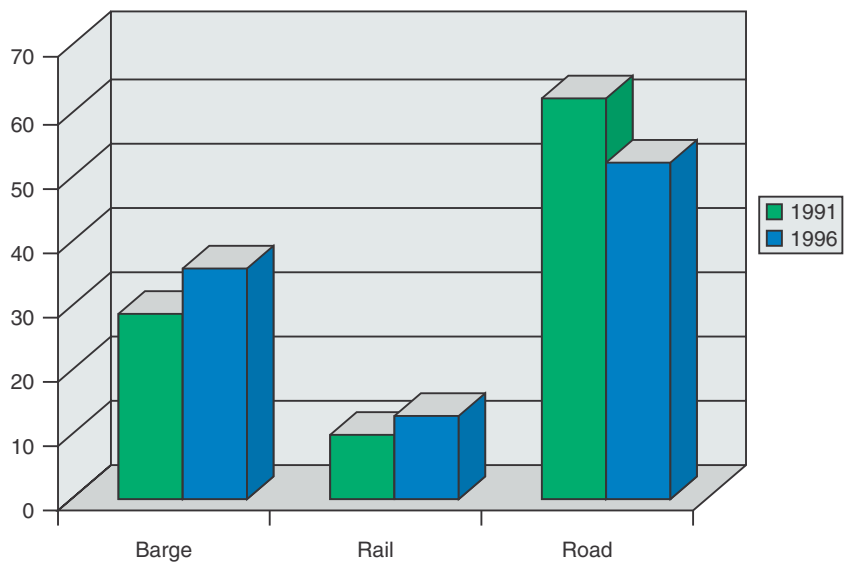


Figure 4. Inland movement of containers from the port of Rotterdam (Source: ECT)

This shows a very positive development but there is still a lot of room for improvement with the existing services available.

3.1.2 Ferries

The limited investigation carried out by the members of the working group leads to the conclusion that there are more than 700 ferry links available in Europe.

The map of the European network of ports shown in Figure 5 is taken from the EU project Improved Port/Ship Interface (IPSI) and indicates a potential future network for short sea shipping services that could contribute to the objective of further reducing road traffic. The map is the result of a study where ports for Short Sea Shipping must meet criteria like:

- Efficient access to road, rail, and inland waterway.
- Availability of cargo volumes.
- Closeness to industrial zones.
- Interfaces free of congestion.

The map is only meant to be a starting point for discussions regarding the establishment of efficient intermodal terminals - linking land and waterborne transport.

3.1.3 *Short sea*

The working group's investigation with a few specialised cabotage carriers and some deep sea shipping lines demonstrated more than 650 scheduled short sea links between the numerous European ports.

The continued increase in size of deep-sea container ships, which can berth in major ports only, is likely to lead to a further increase of feeder operations. With a view to covering as many small ports as possible, deep sea carriers will either deploy their own dedicated feeder vessels on scheduled routes (i.e. additional capacity would become available) or charter space on existing, specialised vessels. The increasing feeder volume may be considered an interesting starting-point for establishing a new set of general short sea links, which then again may attract more cargo to the sea.

The liberalisation of cabotage in Europe should also result in a number of new, additional entrants thus even expanding the services available.



Figure 5. Ports in a potential European Short Sea Shipping Network. (Source: the EU IPSI project)

The increasing feeder volume may be considered an interesting starting point for establishing a new set of general short sea links, which then again may attract more cargo to the sea.

Reasons for which the opportunities available are not fully exploited 3.2

In principle, considering that there are sufficient services available in all three transport modes under examination and that all these modes have spare capacities, it would be very logical for shippers to give them preference. However, a number of reasons have been identified which make the change difficult if not impossible.

The main reasons for which this change-over does not take place or happens very slowly only, can be summarised from the different perspectives as follows:

- ❖ Operators
- ❖ Ports, port operation
- ❖ Cost, competitiveness
- ❖ Shipper

3.2.1 Operators' perspective

One of the major constraints put forward by both types of operators (Barging/Inland waterways and Short Sea) is that this industry has a very low lobbying level and, as a consequence, public funds made available to optimise the infrastructure are completely insufficient. Regional initiatives find it difficult to get the necessary support at the decision level.

Furthermore, many shippers are focusing on keeping the cost of waterborne transport (from quay to quay) to a minimum. Consequently, the commercial strength of the individual operators has become limited. As a result, a significant part of the European fleet for short sea shipping has grown to be quite old. In some areas the average fleet is above 35 years (Source: Norwegian Ship-owners Association), making the vessels unfit for modern, intermodal transport. The current state of economic

affairs with the operators also indicates inability to renew the fleet, unless new business opportunities emerge from the shippers.

As far as marketing of services is concerned, the operators face specific individual problems:

❖ Barging, Inland waterways

In particular barging and inland waterways do have an old fashioned image and are generally viewed as the transportation mode for mass cargo only. Each operator markets his services individually and can reach a limited number of potential customers only; i.e. the actual impact is very limited and largely depends on the initiative of the individual operator. Marketing of services appears also to be concentrated on forwarders and a few direct customers (mainly for mass/bulk cargo) but very, very little is done to reach major shippers directly.

❖ Short sea

The current National restrictions on Domestic cabotage traffics, which will disappear for EU/EEA flags, have made it difficult to fully utilise the capacities that are actually available. A certain improvement can now be expected - although foreign flag carriers, even if they would have sufficient volumes to fill own feeder vessels, will continue to be obliged to seek either alliances with their EU competitors or use specialised EU operators. This protection of EU operators, although it has certainly its merits, limits competition and results in a lack of interest on the deep-sea operator's side to efficiently operate, sell and develop services further.

3.2.2 *Discrimination of waterborne cargo vs. land transportation in certain countries.*

In a number of countries, waterborne cargo is taxed differently than land transportation modes. These additional fees unnecessarily increase the cost of short sea operations.

Example:

Waterborne transport has to pay cargo-, quay, and port dues based on the volume and frequency of traffic in order to utilise public ports, while road transporters are limited to paying road tax and toll.

3.2.3 *Port handling cost*

Port handling cost is excessively high in a number of seaports in comparison with the services provided. This can be applicable on the vessel operating side but has been noticed in container handling. Lack of transparency in the structure of port dues is frequent and does not encourage the development of short sea operations. It should be noted that when a vessel calls upon a port to discharge only a fraction of its cargo, port dues are frequently calculated on the basis of the vessel's total cargo volume, not limited to the volume to be discharged.

3.2.4 *Customs procedures*

Trucks moving from one EU country to another have to comply with very simple customs procedures, if they have to clear customs at all. Ships, however, moving from one EU port to another, have to comply with full customs procedures as if it came from an intercontinental port.

The EU Commission has taken the initiative to develop what may be called a "cargo black box" (CBB). The CBB is similar to the voyage recorders used in aeroplanes in that it records every movement of the ship while at sea. When a vessel carrying a CBB arrives at a port, the customs authorities will inspect the CBB to verify if the vessel really arrives from another EU port and that she has not made any improper stops on route. If this inspection is satisfactory, the intention is that only simplified customs procedures should apply. This is a very important initiative on behalf of the EU Commission, to make it easier for waterborne transport to compete with trucks on equal terms.

3.2.5 *Port policies*

Port policies may vary significantly with geography. A Norwegian study, made by the Institute for Transport Economics, shows a difference in port cost such that the highest level was twice that of the lowest.

3.2.6 *Individual operation of sea terminals by carriers*

In major ports, deep-sea shipping companies operate their own terminals thus leading to many pick-up or drop off points for the shippers in the same port.

As a consequence, moving containers with barges from inland points on inland waterways meets an additional complication, i.e. either the barging operator establishes his own terminal in the port and works his fine distribution to the sea operator's terminals by truck (thus generating additional short distance lorry traffic in the port area) or he calls with the barges at the individual terminals thus increasing transit time and cost.

The common operation of terminals by global alliances should rationalise this issue to some extent. Organisational measures such as closer co-operation between deep-sea carriers and inland waterway operators could help to reach the necessary critical mass per terminal.

3.2.7 *National legislation*

National legislation treats waterborne cargo often very differently from the other transport modes. Whereas land transportation formalities are becoming more and more simplified, cargo leaving a country by sea undergoes full export formalities and the related complications. E.g. T3 tax in Spain.

Example:

There is a difference between ADR and HAZMAT (IMO) regarding transport of dangerous goods. The rules for waterborne transport are stricter than for road transport, enabling transport of such goods in cities and populated areas.

3.2.8 *Railway connections*

Railway connections are available in most of the ports. However, the corresponding infrastructure is often limited to installations built for bulk cargo handling. As a consequence, containerised cargo is generally delivered by truck or additional cost is incurred for port internal handling.

3.2.9 *Pre- and on-carriage*

Pre- and on-carriage cost to/from ports can represent a major share in the total transportation cost due to minimum tariffs which are applied in certain countries, i.e. local legislation can penalise efficiency.

Example:

For a certain trade, sea freights from Nordic countries to Italy are less expensive than on-carriage cost from Italian ports to final destination in Italy.

3.2.10 *Pilot Services*

Pilot services are often inadequate and overprotected in a number of EU countries. The corresponding taxes are high, set locally and are not in line with actual services provided.

Example:

The lake Saimaa area and its canal system provide a very important waterway system for Finnish industry. The total length of fairways (deeper than 4.2 m) is 778 km. For navigation in the Saimaa region, pilotage is compulsory. The average pilot distance in the region is 280 km, while the average distance of harbour pilotage (in coastal waters) is approximately 33 km. The pilotage fee is paid per kilometre. From 1988 the pilotage fee has been increased annually. In 1997 it was more than doubled compared to 1988. This hits very hard on the inland waterway transportation, where pilotage fees comprises approximately 2/3 of the overall port disbursements.

3.2.11 *National labour rules*

Differences in National labour rules/working hours

often lead to considerable waiting times, which the operator has to include in its schedules and cost. Here again, the operational efficiency is being penalised.

Example:

In Nordic ports, there are practically no night- or weekend shifts. Furthermore, operators are to pay for full shifts in port, even if the loading or unloading operations are stopped due to weather conditions.

3.2.12 High passage rates

High passage rates through Kieler canal discourage the shorter routing from/to the Baltic Sea thus increasing transit time unnecessarily.

3.2.13 Cost perspective, competitiveness

The fierce competition on the road, immediately after the liberalisation, led to very low transport prices for transports by truck. The present concentration and consolidation phase is not terminated yet and it is unlikely that road freights increase in the near future. Another advantage of the road over the inland Waterways/short Sea is its ability to cover door to door services.

For both, inland waterways and short sea, handling of containers/transhipments are generally required due to pre- and on-carriage.

According to a survey made in the EU project IPSI, shippers choose truck transport for the following reasons.

Availability. Trucks may arrive and leave at any time, are easy accessible and offer door-to-door logistics

Flexibility. Trucks are not dependent upon specific routes and the drivers may adapt to varying traffic conditions as they occur. Further, the capacity supplied can easily be adapted to demand.

Speed. Truck transport is fast, at least in principle.

In order to be competitive, Short Sea shipping services must compete on this basis. Furthermore, regularity of service is a significant requirement.

The distances to be covered for pre- and on-carriage are often short and minimum freights apply. These minimum amounts can represent an important share in the overall transportation cost, as they are often time-based and inefficient port operations slow down the process.

Transit time is longer for inland waterways and short sea shipments than for trucking. In a Norwegian study related to export of fresh salmon, currently being transported by truck from the West Coast of Norway to the continent (Paris) by truck, it is shown that transit times can be met by waterborne transport even at speeds well below 30 knots on the vessel.

However, well-planned and co-ordinated operations can overcome this problem if transit stock is included in the overall planning process. On a corporate level, lead times are under constant monitoring. The main focus is the time during which the goods remain in warehouses. By looking further, one will find that the goods are efficiently, quickly, and expensively transported to the warehouses, which act as distribution centres. There, the goods may remain for weeks or months. Hence, the speed and efficiency of the transport is in vain.

Overall planning and operations control can be used to overcome this unbalanced situation. One way of doing this is to regard goods in transit as if it was staying in the warehouse. The time spent in transport would then become part of the lead-time. Such planning should allow for slower and more economical transport, opening up the possibilities for increased use of inland waterways and short sea shipping. Urgent call-off orders could use the old-fashioned quick transport method, while the bulk of the orders would arrive in transit stock.

The recently decided discontinuation of 'tax free business' to be effective by July 1., 1999, which, for ferries, is an important source of income, will increase current ro/ro rates, i.e. will result in an even less competitive situation.

3.2.14 Shipper's perspective

The general belief is that shippers have cargo control and therefore can select the transport mode in line with their own requirements and preferences. However, the degree to which a shipper can take influence on the transportation mode largely depends on the extent to which a company values and includes transportation in its total supply chain.

Political, strategic decisions of concentrating a company's activities on core functions such as research, manufacturing and sales generally lead to a change in cargo control, i.e. either the customer arranges transportation (sales terms: ex factory or FOB) or the transportation function as a whole is outsourced. In both cases, someone else - but no longer the shipper - will decide on the transportation mode. This will make co-ordination more difficult and the current transport patterns will, most likely, be maintained.

Another phenomenon with an impact on the selection of the transportation mode and which has considerably gained in importance in the last years, is the general reduction in working capital. Stock levels are reduced to the strict minimum at both ends and any disturbance (e.g. planning errors, misunderstandings, strikes etc.) in the supply chain leads to urgent deliveries. Considering that much higher cost would result from an interruption of the supply chain and/or to satisfy the customer, the fastest transport method (even at higher cost) is selected and environmental considerations get low priority, if any.

Rationalisation of corporate organisation structures which have been very frequent in the past years

have lead to absolute minimum staffing of transport departments at factories or head offices. The head count in transport departments is frequently determined by a historic number of orders handled and is just sufficient to cover the basic needs within routine functions. Time pressure to cope with the current workload combined with the natural human reluctance to change, result in another important element, which hinders the possible shift to alternative transportation methods.

Note:

These rather discouraging findings are not meant to say that the shippers have no possibility of switching to alternative transportation methods but they are facts of life and reflect some of the day-to-day issues shippers are confronted with.

4 Recommendations

The following recommendations have been established by the working group based on the findings and, if implemented, are expected to contribute to facilitating modal shifts.

Other improvements, mainly in the areas of ports/port operation and cost perspective will need to materialise as well. Here the authorities have a specific responsibility in assisting to transform the ports into very efficient, cost-effective intermodal transport terminals. However, the working group refrained from trying to investigate all detailed, often regional issues, as the scope would be far beyond the working group's possibilities.

4.1 Visualise potential of waterborne transport in Europe and bridge current information gaps between shippers and operators

4.1.1 Issue

As outlined above, certain difficulties by the individual operators to sell their services to individual customers and the lack of awareness re. the actual availability of the many services by the shipper is one of the main reasons for not exploiting the opportunities available.

4.1.2 Proposal

The WG proposes to establish an Internet web site that

- ❖ provides the operators with a common platform to offer their services and
- ❖ makes the information on existing services easily available to shippers

which would not only visualise the full potential of waterborne transport in Europe but at the same time bridge information gaps between shippers and operators.

Easy access to an up-dated database containing all useful information would considerably reduce the current barriers for shippers to evaluate alterna-

tive transportation methods thus generating much more specific sales contacts with motivated shippers. (Pull)

4.1.3 *Contents of the Web site*

The Web site should contain all relevant information that is necessary for operators as well as for potential shippers to establish contact rapidly and to generate freight requests.

The working group came to the conclusion that freight rates should not be included in the data base as this would reveal confidential information and could disturb the supplier/customer relationship.

In particular, the Web site should contain a database permitting the following inter-active consultation:

- ❖ Port of departure
- ❖ Port of arrival
- ❖ Operators
 - ❖ Company profile
 - ❖ Equipment
 - ❖ Local representatives
 - ❖ Inland - terminals, container depots
 - ❖ E-Mail link for freight inquiries, containing minimum information for the operator to establish adequate freight offers
- ❖ Links to operator's company web sites for
 - ❖ Electronic booking, equipment reservation
 - ❖ EDI
 - ❖ Cargo tracking
 - ❖ Sailing frequency
 - ❖ Transit time
 - ❖ Vessel type

A first rough idea (simplified) of the organisation of such a Web site is shown in the pictures below: (For demonstration purposes we show the sequence of screens for short sea)

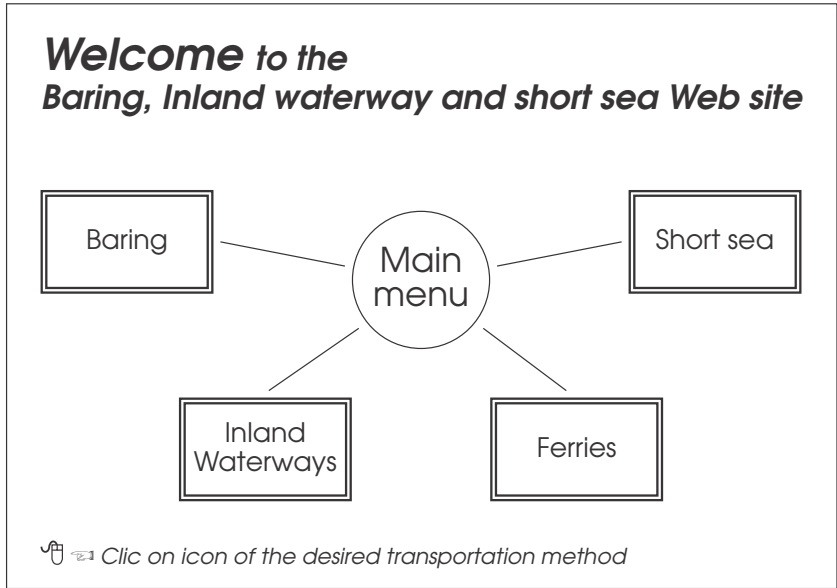


Figure 6, Welcome screen, main menu

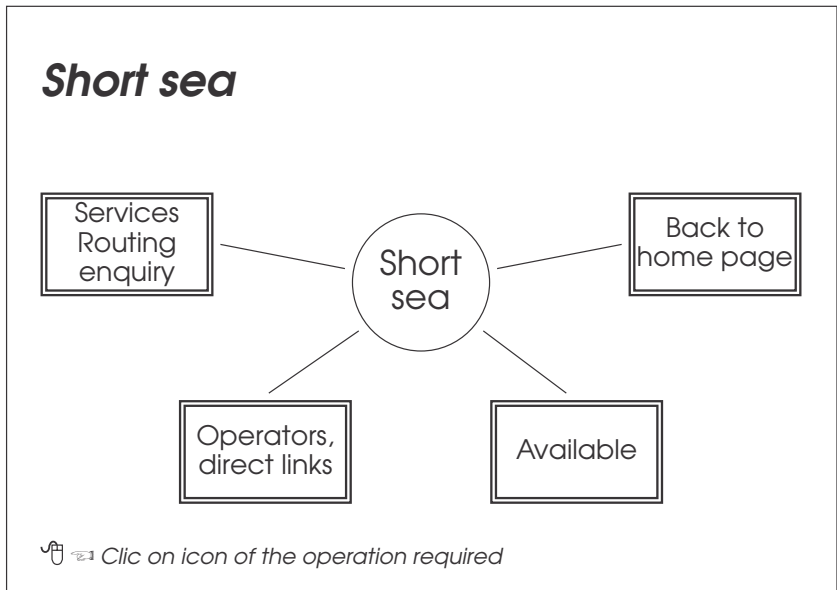


Figure 7, Main screen Short Sea

Short sea services, routing enquiry

From:

To:

Equipment required:

Max. transit time:
 days

[Back to home page](#)

[Complete the questions above](#)

Figure 8, Routing enquiry, short sea

Note:

For shippers to trust the information in this system, information should be given about the validity of the information. Either the period for which the information is valid should be indicated or the date of the latest updating of the information should be shown on screen.

Short sea services, routing enquiry

Your enquiry from:

to:

[Back to home page](#)

Can be satisfied by the following services:

Operator	Via	Sailing frequency	Transit time days	Service details	Link to operator
Carrier XY	Direct service	3/week	2 days		Click here
Carrier XYZ	Direct service	5/week	2 days		Click here
Carrier XXX	Via Rotterdam - Algeciras	daily	4 days		Click here
Carrier YYYY	Via Felixstowe	1/week	3 days		Click here
Carrier ZZZ	Via Bremerhaven	2/week	5 days		Click here
Carrier XYYZ	Via ???	??/week	? days		Click here

[Click here for more details](#)

Figure 9, Result screen in response to the enquiry

In a final specification, the users should be able to determine route alternatives, not only between ports, but for the total transport chain, from door-to-door.

4.1.4 *Practical realisation*

Ownership and operation of the WEB site (WS) is recommended to be assured by a neutral body who has neither shipper nor operator interest.

Ideally, the site could be included in DG VII's existing Internet site (<http://www.europa.eu.int/en/comm/dg07/index.htm>) under a separate chapter. However, it would be conceivable that one or a consortium of the interested professional association(s) of operators is officially entrusted with the realisation and the operation of the site.

The practical realisation of the WS could be included in the current MARFRET program and be financed within the same framework. However, the success of the proposal will largely depend on the 'user friendliness' on both the input side and on the final user's side. For this reason, we strongly recommend that the site and the necessary programs be developed in close co-operation with interested operators and shippers.

The primarily interested parties of the proposed application are the operators because they obtain an additional marketing tool at very little or no cost. Therefore it makes sense to put the unavoidable workload of the basic input as well as the necessary updating of the information (which is compulsory to ensure mid and long term success) on the shoulders of the operators. It is also the operators who are the first to know about and who have a direct influence on the service patterns, the agents and reliable contact addresses.

For such an information system to be useful and relevant, it must be kept updated at all times. In order to encourage frequent updating and to reduce the

related workload related to this to the strict minimum, the basic concept of the database should foresee an electronic, structured transmission of the necessary information from the operators to the webmaster. This would also ensure that the updating of the WS can be handled easily and give some guarantee of an accurate and reliable database that serves the intended purpose.

4.1.5 *Future extension*

Once established, such a system could be expanded (or a similar system be established with links to the waterborne site) to also contain routes for land-based transport. If complete, the system could be used to find the best combination of land-based and waterborne transport in each specific case. The specifications for such an extended system have been documented in the EU-project IPSI.

Obtain increased commitment by shippers to use the waterborne transport opportunities available _____ 4.2

As outlined above, shippers can play a key role in ensuring the modal shift from road to waterborne transportation as they have the cargo and select the logistic service providers to move the cargo to their customers. Critical Success Factors (CSF's) for shippers, able to initiate and develop/support new existing competitive waterborne transportation (be it containers, *liquid* bulk or conventional dry bulk) are:

1. The Corporate-wide recognition that Logistics is of strategic importance and a competitive tool.
2. The quality and clout of the Logistics Function in the overall organisation.
3. Capability to bundle cargo of shippers
4. The true behaviour of the shipper (walk like you talk).

4.2.1 *Corporate-wide recognition that Logistics is of strategic importance and a competitive tool*

Some Shippers still consider transportation as a separate cost item with a certain lead-time and flexibil-

ity rather than as an integral part of a customer supply chain.

These shippers do not know the true cost of logistics or have other priorities only when logistics is considered of strategic importance is it possible to:

- ❖ Get the modal shift issue on the agenda of the decision-makers.
- ❖ Staff the Contracting (Logistics) department with professionals that meet the 2nd CSF
- ❖ Add Performance Indicators on the (better) utilisation of waterborne transportation as a business Performance Indicator.

Some leading companies have started to measure the volume of intermodal transportation vs. road transportation with clear targets to increase annually the percentage of intermodal transportation. The underlying reasons to do this can be:

- green label (responsible care beyond battery limits of shipper or customer) or
 - strategic recognition that without modal shifts transportation costs will unduly increase.
- ❖ Think in terms of total supply chain costs
 - Transportation by waterborne vessels requires better planning, since barges (like trains) have fixed departure schedules or trigger bigger demurrage rates than trucks. The cost of poor planning is part of the chain
 - Waterborne transport (especially container barging) allows for certain activities to be integrated with the terminal's function, thus eliminating certain activities in the chain e.g.
 - ◆ The transportation of empty and full containers between terminal and shipper is not needed if containers are stuffed/destuffed at the terminal.

- ◆ The container depot function of an inland container terminal precludes ordering containers from the deep-sea ports. Repositioning of empty containers can be done by efficient barging even for containers that are eventually trucked

4.2.2 *The Quality and clout of the Logistics Function in the organisation of the shipper.*

Moving transportation from the road to water is sometimes a matter of breaking conventional practices. The logistics organisation needs to have authority (recognised by the business management) as the professionals in their field in order to make long term commitment needed for successful modal-shift projects. This recognition, giving them the necessary clout must be earned by the quality of their work. This means the Shipper Organisation must include employees capable to develop along with innovative logistic service providers' new methods to demonstrate things can be done, which traditional people have advised cannot be done.

Putting creative and self-propelling people to accomplish these things in the Physical Distribution Department of large manufacturing companies contracting is very rewarding.

4.2.3 *Capability to bundle cargo*

Only few shippers have production sites big enough to generate the volume of cargo needed for competitive inland-water shipping routes. Therefore bundling of cargo among shippers in regions is important even if shipper's own cargo were sufficient to justify a new initiative, as it allows also the modal shift for smaller shippers. Shipper's should therefore bundle their cargo flows, forming platforms in their region where new initiatives can be reviewed (preferably with local authorities, port authorities, governments and logistic service providers), giving entrepreneurial logistic service providers an opportunity to start new waterborne transportation routes or to improve existing ones.

The bigger shipper should take the initiative in the various regions as he has also the capability to act as the 'Flywheel' for the region.

② + ③ + ④ See paragraph 5 for examples on cargo bundling

4.2.4 *The true behaviour of the Shipper*

The commitment of shippers to move transportation from road to water must be evident from real practice over an extended period of time. The following list gives very concrete examples for shippers to demonstrate commitment to shifting cargo from road to water. The list is of particular importance for starting (new) routes. Again the bigger the shipper the bigger the impact:

- ❖ Thorough evaluation of the LT. benefits for the Shipper.
A good analysis or business plan, demonstrating that Short Term Costs are justified by Long Term Benefits must be the basis for a broad commitment at the highest level in the shipper's organisation.

The LT. perspective of new waterborne transportation initiatives must be competitive with transportation by road,
- ❖ Volume Commitment
This is the most obvious contribution the shipper can make and moreover easy to measure.
- ❖ Payment of a (temporary) premium for the initially higher transportation cost.
Less obvious but very effective when entering a partnership relationship, where the initial contribution can yield long lasting benefits, This is true when it takes time for the new route to attract sufficient cargo,
- ❖ Influencing various parties involved:
 - Waterborne transportation can be declared the preferred method of transport by the ship-

per for certain flows. Commitments can go as far as having to meet certain percentage targets

- Working constructively in regional platforms, stimulating waterborne transportation initiatives with good potential.
- Influencing regional, national and international policy makers on transportation. Those policy makers are sometimes desperate for concrete examples of modal shift projects the shipper can suggest and participate in. These proposals, when implemented by shippers should be rewarded by policy makers with incentives, based on output (e.g. proportional with cargo actually taken off the road as a direct result of the project) rather than input (promises, plans, consulting work)
- Ordering normal market trees to the extent that water and rail transportation are used in an optimum way (avoid sub-optimum competition between these 2 alternatives, when there is only a sound economic basis for one of these two transportation modes.)

Continuation of the working group _____ 4.3

The discussion within the working group demonstrated very clearly the considerable potential for switching cargo from the road to inland waterways or short sea. The recommendations made in this report are not likely to be sufficient to trigger real action in the wide field of opportunities.

For this reason, the working group concluded that it would be indicated to pursue its work, perhaps in a slightly different composition (e.g. balanced operators and shippers), with a view to identifying potential partners and to initiating direct contacts between them.

The working group could also be very useful when it comes to the practical realisation of the recommendations made under paragraph 4.1.

4.3.1 *Identification of partners*

Through the more detailed analysis of present cargo flows and the practical know-how of the WG members, the WG could launch specific, concrete and direct studies between potential partners while the proposed Web site (as per 4.1) is being established.

Motivated shippers could also take the initiative, contact the new WG and draw on the important knowledge, which has been accumulated on the subject.

The European Commission is currently taking initiatives to establishing clusters of companies in order to ensure exploitation of R&D results in the waterborne sector. The WG should keep close contact with the Commission in these matters.

4.3.2 *Project opportunities*

4.3.2.1 GERMANY

Rather than fight the railway community, Volkswagens transport of cars and car parts between Spain and Germany could be the basis for a combined sea-rail transport from Barcelona via Genoa to Wolfsburg. By using a ro/ro solution, the base volume (equivalent to two block-trains per day), it may be possible to establish a service that could move a significant amount of trailers from the coastal highway out to sea.

4.3.2.2 CO-OPERATION WITH OTHER F&L WORKING GROUP

The conclusions by the F&L Working Group on 'Road Transport for the Future' are:

- ❖ Creating more efficient transport chains by combining all transport modes
- ❖ From competition to co-operation, i.e. from competition between transport modes to co-operation between transport systems
- ❖ Combining the latest technologies for a better utilisation of equipment and implementing new information technologies

- ❖ Standardisation of equipment
- ❖ Harmonisation of European legislation
- ❖ Intermodalisation combining the advantages of road, rail, inland waterways and short sea shipping

In essence, the road transportation working group of F&L invite co-operation with people involved in waterborne transport. This invitation must be acted upon.

4.3.3 *Study the effect of abandoning tax-free sales on ferries*

Currently tax-free sales are an important source of income for European ferries. It is, therefore, very likely that the decision to abandon tax-free sales on ferries between EU countries will impact the economy of the operators.

The WG should study the effect of this decision on the waterborne transport sector in Europe.

4.3.4 *Examine possibilities for changing attitudes in transport and logistics*

During the work of the WG so far, it has become clear that selection of transport alternatives is based on tradition, established networks, and attitudes. It may be a fair assumption that the fact that the 700 ferries and 650 Short Sea Shipping lines have capacity available in a growing transport market, and that the growth still is on the road, is a result of attitudes against the use of waterborne transport.

The WG should verify this assumption, and contribute to finding ways of changing attitudes, if relevant.

5 Examples of realisations

- ① Example of successful cargo shift from road to barging
Nestlé Gorinchem/NL - Project of utilisation of canal system to forward export containers from the factory to the port(s) on barges. Scheduled for implementation in 1998. Approx. 2'000 trucks/trailers p.a. of short distance transportation (80 km) in an urban area are taken from the road. Further, a neighbouring company with an important number of import containers has shown interest in using the same transportation method thus lowering the total cost (in- and outbound traffic on barges) on top of reducing the number of lorries.

Examples cargo bundling (②, ③, ④)

- ② In Norway, bundling of cargo has become reality for a group of companies in the Grenland area, on the South Coast of Norway (See Figure 10).

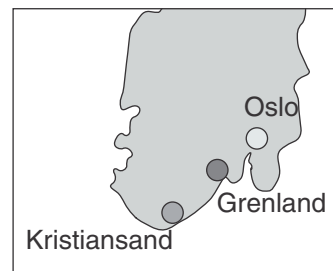


Figure 10. The Grenland area.

Union (paper), Borealis (petrochemicals), Elkem (metals), and Hydro (fertiliser, metals, chemical products). These companies are located such that the longest distance between two of the companies is approximately 20 km. After careful preparations, these companies contracted with a Norwegian ship-owner to transport unitised cargo to Zeebrügge. The decision to pool cargo in this way is purely based on commercial evaluations, and is the first step in setting up a common transport system. The next step is to organise distribution on the Continent.

The ambition of these companies is to increase their own volumes on this route over time, establishing a high frequency connection, and thereby attracting more cargo from other companies.

In the wake of this, commercially orientated project, three of the companies (Hydro, Elkem and Norske Skog - the Mother Company of Union) have started to evaluate the possibilities of pooling cargo on a corporate basis. In a project sponsored by the Norwegian Research Council (NRC), these companies are now compiling a detailed analysis of transport flows, with the intention of evaluating further, common routes.

On a more national level, NRC is using results from these projects, a project evaluating new logistics concepts for export of fish, and other similar projects to involve Norwegian ship-owners in developing new waterborne concepts for European transport.

- 3 In Sweden, Stora has teamed up with the Swedish Railway to develop an intermodal transport system. Stora's factories are located along the railway from Gävle to Gothenburg, See Figure 11.

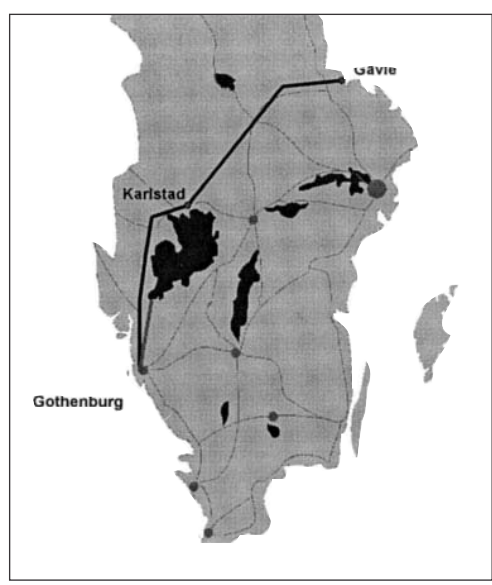


Figure 11. The Gävle - Gothenburg railway



Stora's intention is to load paper products into specially designed cargo containment units and bring them to Gothenburg by train, load on to ro/ro vessels designed for transport by sea to Zeebrügge, where there will be established a so called base port, including buffer storage. Distribution on the continent will be from the base port. Stora is also in discussion with companies like Avesta/Sheffield for using the same transport concept.

- ④ Similar concepts of cargo bundling have been initiated by the Swiss Shippers' Council and were successfully applied by the chemical industry.

Important EU initiatives/documents:

- ❖ Task Force Intermodality, resulting in the iCommunication from the Commission to the European Parliament and the Council: Intermodality and Intermodal Freight Transport in the European Union - A system Approach to Freight Transport. Strategies and actions to enhance sufficiency, services and sustainability.†
- ❖ Real-time Intermodal Information System on the Internet (INTRARTIP). A project proposal from a consortium lead by Euomar for the 3. Call of the 4th Framework Program is currently under negotiations. The project is estimated to start late in 1997.
- ❖ Improved Port/Ship Interface (IPSI). Kvaerner is leading a consortium developing new concepts and technology for handling cargo between ships and other means of transport. IPSI is a project funded by the European Commission under the Transport RTD Program of the 4th Framework Program.
Euroborder and Sphere are projects focussing on port efficiency. They are sister projects to IPSI.
- ❖ Council Directive 96/75 Inland Waterway Transport dated 19.11.96.
- ❖ Communication on a common policy on the organisation of the inland waterway transport market and supporting measures (COM (95) 199 final)
- ❖ The Development of Short Sea Shipping in Europe - Prospects and Challenges
Communication from the Commission to the European Parliament, the Council, the Economic and Social Committee and the Committee of the Regions
(COM(95) 317 final)

Other documents considered within this study:

- ❖ White paper on trends in and development of Inland Navigation and its infrastructure
Economic Commission for Europe Geneva, Inland Trans-

6 Reference List Appendix



port Committee - Principal Working Party on Inland Water Transport TRANS/SC.3/138 (96)

- ❖ Case study MARINTEK - July 97
Cost and environmental impact - multi-modal vs. road transport system
- ❖ Alliance of Maritime Regional Interests in Europe (AMRIE)
Documents issued during the conference in Pori/Finland, November 96
- ❖ The future of inland waterway transport
by Peter Hilferink, Director of Research, NEA
- ❖ River-Sea Shipping, Market structure and trends (940066/36160)
NEA in co-operation with MERC, Maritime Economic Research Centre, Rijswijk
- ❖ Mobility in Europe: Forging a Sustainable Intra-Community Transport Policy (prospectus for a CEPS Working Party), Centre for European Policy Studies, January 97

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