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TO THE COUNCIL, THE EUROPEAN PARLIAMENT,
THE ECONOMIC AND SOCIAL COMMITTEE
AND THE COMMITTEE OF THE REGIONS

The Development of Short Sea Shipping in Europe:

A Dynamic Alternative in a Sustainable Transport Chain

Second Two-yearly Progress Report

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EXECUTIVE SUMMARY

The Commission presented a Communication on short sea shipping in 1995 and a progress report in 1997. It submits now a further Communication that incorporates a progress report in response to the Council's invitation to produce such reports at two-yearly intervals. This Communication examines the potential of short sea shipping in the framework of sustainable and safe mobility, its integration in European logistic transport chains, its image and existing barriers to the development of short sea shipping. It also recommends further action.

There are three main reasons for promoting short sea shipping in the Community:

- (i) To promote the general sustainability of transport. Short sea shipping should be emphasised in this context as an environmentally friendly and safe alternative, in particular, to congested road transport;
- (ii) To strengthen the cohesion of the Community, to facilitate connections between the Member States and between regions in Europe and to revitalise peripheral regions;
- (iii) To increase the efficiency of transport in order to meet current and future demands arising from economic growth. For this purpose, short sea shipping should become an integral part of the logistic transport chain and a genuine door-to-door service.

It should be remembered that the promotion of short sea shipping is a long-term exercise and the impact of the ongoing work can be properly evaluated on a Europe-wide scale only over a considerably long time perspective. The Commission will continue to review developments and promote short sea shipping and it intends to present a further progress report in 2001.

Short Sea Shipping Has Grown Steadily

In spite of the current lack of sufficiently reliable and detailed Europe-wide statistics on short sea shipping, available data indicates that short sea shipping grew considerably between 1990 and 1997 (by 23% in tonne-kilometres). Road transport, however, increased even more during the same period (by 26% in tonne-kilometres).

Growth in the carriage of containers by short sea shipping has been particularly strong. Though this growth may be due mainly to growth in short sea feeder traffic, the situation looks promising also for more new and existing cargo being carried by sea. However, comparable origin/destination statistics and intermodal data will be required to analyse the trends more thoroughly.

Short Sea Shipping Contributes to Sustainable and Safe Mobility

Short sea shipping can be considered a most environmentally friendly mode of transport, in particular, because of its comparatively low external costs and high energy efficiency. Making more use of short sea shipping could help the Community to reach its CO₂-target under the Kyoto Protocol.

This being said, the environmental performance of short sea shipping can still be improved. Nitrogen oxide (NO_x) emissions from short sea shipping are actually lower - by tonne-kilometre - than those from other modes, but these could be further decreased. However, sulphur dioxide (SO₂) emissions from shipping are too high and should be

reduced as a matter of urgency. More ecologically sound transport solutions would further improve the sustainability of short sea shipping and they could also increase the use of the mode, as customers are becoming increasingly conscious of the environment.

Shipping – in addition to its environmental advantages – is also a comparatively safe mode of transport. However, specific statistics on casualties and accidents at sea in European waters and on their causes will be required to prove the relative safety of short sea shipping. Such statistics could also help the Union to make more reliable analysis of the effects of its safety legislation and to assess whether new measures are required.

Short Sea Shipping Needs to Become an Intermodal Door-to-Door Concept

Short sea shipping should be fully integrated into door-to-door transport services. The further development of freight intermodality should have beneficial effects on the mode. However, integration of this type is only possible when the individual modes, such as shipping, are constantly developing to meet the service requirements of the customers. Short sea shipping should become part of comprehensive intermodal approaches, create networks to attract cargo volumes and actively look for co-operation with other modes and other parties in the supply chain. Apart from putting in place the framework conditions, moves in this direction are primarily for the industries themselves to develop.

The considerable difference between the average distances of a tonne carried by short sea shipping (1385 km) and by road (100 km) leads to the conclusion that the markets for short sea shipping and road are partly separate. About 90% of the tonnes are carried over short distances, mainly in domestic transport. Nevertheless, short sea shipping can still be competitive within a considerable market segment. That segment would increase proportionally if transport users could - through logistic solutions - be attracted to using short sea shipping for shorter distances.

Overcoming Certain Obstacles to the Development of Short Sea Shipping

Improving the Image of Short Sea Shipping

The perception of short sea shipping must be changed from its current image of a somewhat old-fashioned, slow and complex mode of transport to a modern dynamic element in the logistic door-to-door transport chain. Shipping should offer - and it should be perceived to offer - speed, reliability, flexibility, regularity, frequency and cargo safety to the highest degree. The Member States, the maritime industries and the Commission can contribute to increasing the awareness of short sea shipping, *inter alia*, by maintaining it on the political agenda and by actively providing and disseminating information on its potential.

Do Documentation and Administrative Procedures Constitute a Barrier?

The documentary and administrative procedures in short sea shipping have raised some concern and have been considered by many as an obstacle to the further development of the mode. To examine this issue, a comparative study of those procedures in short sea shipping and road transport was carried out on the Commission's initiative.

The study identified the flows of documentation and the procedures on several trade corridors in Europe. It concludes that the documentation required in road transport was in all cases less than in short sea shipping. The study recognises that the requirements cannot be the same for the two modes and that certain documents in short sea shipping

have both an administrative and commercial role. Nevertheless, the study suggests that further standardisation of documentation and procedures should be possible.

Based on the available evidence in the study, documentary and administrative procedures do not appear to influence modal choice or to create frequent delays. Short sea shipping is an administratively complex mode, but the required documentation and procedures appear to be part of a routine which involves limited costs and is usually handled by an intermediary – often the ship's agent – to ensure uninterrupted operation of the ship.

Although documentation and procedures as such do not seem to create a major obstacle, there is certainly scope for improvement. According to the study, the requirements and procedures vary significantly in the EU. Individual Member States can act directly on a voluntary basis to make procedures more uniform and thereby promote short sea shipping. Based on the findings in the study, the Commission recommends, in particular, more uniform acceptance of certain IMO FAL forms, the delegation of tasks to only one authority or to a third party, the grant of permission to start unloading the ship before reporting procedures have been finalised, increased use of Electronic Data Interchange (EDI), and the facilitation of the requirement to report when only transiting on a river. The industry should also consider ways to burden transport users less with formalities.

Tackling Problems in Ports

Turnaround delays, infrastructure constraints and non-transparent charges in some ports are a problem for short sea shipping that needs to be addressed. Ports should operate on a commercial basis in a liberalised environment and offer the required service levels to all users. Within their overall commercial strategies, they should consider ways of promoting short sea shipping. They could, in particular, examine the possibility of setting up dedicated short sea terminals in larger ports and providing other specialised services to short sea shipping. The obligation in some ports to use separate pilots could also be re-examined especially in cases when the ship's master is certified to carry out the pilotage on his own. In addition, the ports should consider setting up a framework of learning from best practices.

The Commission Green Paper on ports should contribute to the efficiency of ports. It aims to guarantee free and fair competition in ports on equal grounds, for example, through the introduction of the 'user pays' principle. In addition, ports should become intermodal connection points as the Commission has suggested in its proposal to amend the Trans-European Transport Network Guidelines.

Short Sea Shipping Should Be Promoted at All Levels

Work at National and Regional Levels

Short sea roundtables or corresponding consultative structures have been set up in most Member States. They constitute fora in which practical solutions can be found to problems affecting short sea shipping and port operations. They should be set up in all maritime Member States, and a framework for their regular meetings should be established or maintained. The Commission supports the efforts of the maritime industries, in particular within the Short Sea Panel of the Maritime Industries Forum, to further develop these roundtables.

All maritime Member States have nominated contact persons in their administrations who are, in particular, responsible for contacts with the roundtables. The contact persons should also constitute a network of information at Community level.

The Commission supports regional co-operation on matters relating to short sea shipping. For example, a consultative Euro-Mediterranean Transport Forum has recently been set up to exchange information and discuss transport issues in the Mediterranean. There are groups encompassing all the countries on the Baltic Sea discussing the development of ports and waterborne transport. Port and customs issues have been discussed within the framework of the Black Sea Pan-European Transport Area.

Projects Supported by the Community

The Commission has supported a considerable number of projects relating to short sea shipping and ports under the 4th Framework Programme for Research and Development. Of these projects, the Concerted Action on Short Sea Shipping is particularly important because it aims at co-ordinating this work and making the results of individual projects available to all interested parties.

Short sea projects have been supported under the Community Pilot Actions for Combined Transport (PACT), and port-related projects have been carried out under the Trans-European Network financing. The Commission has also co-financed feasibility studies under the general transport budget lines. Under MEDA, the Community financial instrument for the Mediterranean region, a package of regional maritime projects has qualified for financing. Specific short sea projects can also be financed under the European Regional Development Fund (ERDF).

The Commission Recommends Further Action

This Communication includes a number of recommendations for action by the Member States, the industries concerned and by the Commission. Those recommendations are summarised in Annex I.

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1. BACKGROUND

The Commission presented in 1995 a Communication on the Development of Short Sea Shipping in Europe¹. The Communication examined the potential contribution of short sea shipping to the achievement of sustainable mobility as outlined in the Commission's White Paper on the Future Development of the Common Transport Policy² from 1992.

The Communication was positively received by the European Parliament³, the Council⁴, the Economic and Social Committee⁵ and the Committee of the Regions⁶ as well as by the maritime industries.

The Commission produced a progress report⁷ in 1997 following the Council Resolution of 11 March 1996. The Council responded to the progress report in the Council Conclusions of 18 June 1997 on short sea shipping. In those Conclusions, the Council invited the Commission to "submit progress reports at two-yearly intervals, which should include an evaluation of the results of the actions undertaken in order to promote short sea shipping". This Communication incorporates a second two-yearly progress report. However, it is also addressed to the other institutions and it raises some broader issues.

2. INTRODUCTION

Since 1970 European freight transport has increased more than 70% and passenger transport about 110%. Annual growth of about 2% is expected to continue in both sectors. Some 12 billion tonnes of goods - constituting around 2600 billion tonne-kilometres - were moved in 1996 in the EU. Ninety percent of the tonnes involved and fifty percent of the tonne-kilometres was transported within one single Member State.⁸

This Communication examines the potential of short sea shipping in the framework of sustainable and safe mobility together with its image and its integration in European logistic transport chains and existing barriers to the development of short sea shipping. It also includes some recommendations for future actions to develop short sea shipping.

¹ Communication from the Commission on the Development of Short Sea Shipping in Europe - Prospects and Challenges, COM(95)317 final, 05.07.1995.

² Communication from the Commission on the Future Development of the Common Transport Policy: A Global Approach to the Construction of a Community Framework for Sustainable Mobility, COM(92)494 final, 02.12.1992.

³ Resolution A4-0167/96 of 18 June 1996, OJ C 198, 08.07.1996, p.44.

⁴ Council Resolution of 11 March 1996 on short sea shipping, OJ C 099, 02.04.1996, p.1.

⁵ Opinion of 31 January 1996, OJ C 097, 01.04.1996, p.15.

⁶ Opinion of 18 January 1996, OJ C 129, 02.05.1996, p.28.

⁷ Commission Staff Working Paper: Progress Report from the Commission Services following the Council Resolution on Short Sea Shipping of 11 March 1996, SEC(97)877, 06.05.1997.

⁸ European Transport in Figures, February 1999 (update), DG VII E-1 (RD).

Within the basic concept of users' free choice of the transport mode, the main emphasis on promoting short sea shipping should be put on offering a sustainable and safe alternative to those products and loading units which can be carried by various modes. This is particularly important from the point of view of relieving pressure and congestion from the European transport system, especially from road transport.

Shipping is also an important mode of transport in Europe linking countries and regions with each other and strengthening cohesion. It can also help revitalise ports in peripheral regions and promote their modernisation.

A further consideration is that high-standard services, speed and efficiency in the movement of goods and people are important elements in increasing the competitiveness of companies in the EU and enabling them to compete in the European and global markets. Shipping is also a vehicle for creating employment opportunities.

This Communication concentrates on goods transport. However, passenger transport is also an important part of short sea shipping and it will be examined more in detail in future Communications.

While preparing this Communication, the Commission requested contributions from the persons responsible for short sea shipping in the administrations of the Member States. A number of observations in their contributions have been included in the text.

3. WORKING DEFINITION OF SHORT SEA SHIPPING

The Commission suggested a working definition of short sea shipping for the purposes of its Communication in 1995⁹. Following the Communication, the Commission felt that a more precise definition concentrating on Europe would be useful. Therefore, for the purposes of this Communication, the following working definition is suggested:

'Short sea shipping' means the movement of cargo and passengers by sea between ports situated in geographical Europe or between those ports and ports situated in non-European countries having a coastline on the enclosed seas bordering Europe.

Short sea shipping includes domestic and international maritime transport, including feeder services¹⁰, along the coast and to and from the islands, rivers and lakes. The concept of short sea shipping also extends to maritime transport between the Member States of the Union and Norway and Iceland and other States on the Baltic Sea, the Black Sea and the Mediterranean.

⁹ In that Communication short sea shipping was understood to 'cover maritime transport services which do not involve an ocean crossing'.

¹⁰ Feeder services form a short sea network between ports in order for the freight (usually containers) to be consolidated or redistributed to or from a deep-sea service in one of these ports (hub-port).

4. REGULATORY FRAMEWORK

4.1. Freedom to Provide Maritime Services

The freedom to provide international maritime transport services in the Community is laid down in Article 1 of Council Regulation (EEC) 4055/86.¹¹

The principle of free maritime cabotage has been in force in the Community since 1 January 1993. Council Regulation (EEC) 3577/92¹² removes legal constraints which have prevented competition for maritime transport services within EEA States. The temporary derogations provided for in the Regulation have expired with the exception of a specific temporary derogation for certain island services granted to Greece until 1 January 2004.

4.2. Community Customs Transit

The Community customs regime for goods carried by sea changed on 1 July 1998¹³.

Under these new rules, the basic principle is that goods moving by sea are deemed to be non-Community goods and consequently are subject to customs control. If they are Community goods, proof of this status has to be provided to customs (usually by a form T2L or an annotated manifest). Then they can move freely in accordance with Single Market rules.

However, for ships that call exclusively at Community ports the status of a so-called 'regular shipping service' can be granted by customs. In that case, the goods on board are deemed to be Community goods and, when unloaded, can move freely as if crossing an internal EC land boarder. For non-Community goods carried on such a service, the rules of the Community transit regime apply, i.e. they must be covered by a T1 declaration and a guarantee for customs duties and other charges must be provided (except if a simplified procedure is used). This procedure is used mainly by regular short sea ferries and liner services in the Community.

5. A REVIEW OF PROGRESS MADE TO DATE

In its progress report on short sea shipping in 1997¹⁴, the Commission presented a number of measures undertaken and planned. Instead of including a separate progress

¹¹ Council Regulation (EEC) No 4055/86 of 22 December 1986 applying the principle of freedom to provide services to maritime transport between Member States and between Member States and third countries, OJ L 378, 31.12.1986, p.1 as corrected in OJ L 030, 31.01.1987, p.87, OJ L 093, 07.04.1987, p.17 and OJ L 117, 05.05.1988, p.33.

¹² Council Regulation (EEC) No 3577/92 of 7 December 1992 applying the principle of freedom to provide services to maritime transport within Member States (maritime cabotage), OJ L 364, 12.12.1992, p.7 as corrected in OJ L 072, 25.03.1993 p.36 and OJ L 187, 01.07.1998 p.56. The Regulation was extended to cover the EEA States Norway and Iceland by the Decision of the EEA Joint Committee No 70/97 of 4 October 1997, OJ L 030, 05.02.1998, p.42.

¹³ Commission Regulation (EC) No 75/98 of 12 January 1998 amending Regulation (EEC) No 2454/93 laying down provisions for the implementation of Council Regulation (EEC) No 2913/92 establishing the Community Customs Code, OJ L 007, 13.01.1998, p.3 as corrected in OJ L 087, 21.03.1998, p.32.

¹⁴ SEC(97)877, 06.05.1997.

report, this Communication reviews in its individual chapters the progress made as regards those and other measures.

Work on statistics during the last year now allows us to present certain comparative trends in short sea shipping and other modes (cf. Chapter 6). As promised in 1997, the Commission has also examined the documentary and administrative procedures in short sea shipping (cf. Section 9.2). As the Commission recommended in 1997, more short sea roundtables and corresponding consultative structures have been set up in Member States and the relevant national administrations now have short sea shipping contact persons (cf. Section 10.1). In addition, a number of short sea projects and studies have been carried out under various Community instruments and the results of certain projects presented in the 1997 progress report have become available (cf. Section 10.2 and Annexes III - V).

The promotion of short sea shipping is a long-term exercise and the impact of the ongoing work on a Europe-wide scale can be properly evaluated only over a considerably longer time perspective. The Commission will continue to review developments and it intends to present a further progress report on short sea shipping in 2001.

6. EVOLUTION OF SHORT SEA SHIPPING – STATISTICAL OVERVIEW

Existing statistical information at Member State or Community level has so far not provided a sufficiently reliable basis to adequately estimate the volume or tonne-kilometre performance in short sea shipping at a European level or to compare short sea shipping in this respect with other modes. To this end, a study on certain freight flows in the Union¹⁵ was carried out on the Commission's initiative to provide comparable data.

To acquire more detailed statistics, the Council adopted in 1995 a Directive on maritime statistics¹⁶. The directive will have full effect once all the derogations granted to the Member States have ceased to apply in 2000.

6.1. Short Sea Shipping Has Grown Steadily

Based on the information available¹⁷, short sea shipping has increased considerably from 1990 to 1997 (by 17% in tonnes and 23% in tonne-kilometres¹⁸), but the performance of road has increased even more (by around 26% in tonne-kilometres).

¹⁵ Transport Demand of Certain Freight Flows, January 1999, NEA, the Netherlands.

¹⁶ Council Directive 95/64/EC of 8 December 1995 on statistical returns in respect of carriage of goods and passengers by sea, OJ L 320, 30.12.1995, p.25, as implemented by Commission Decision 98/385/EC of 13 May 1998, OJ L 174, 18.06.1998, p.1.

¹⁷ Unless otherwise stated in the text, the statistical data presented in this Chapter is derived from 'Transport Demand of Certain Freight Flows', January 1999, NEA, the Netherlands. Year 1997 is an estimate that for short sea shipping is based on data provided to the Commission by 15 ports and confirmed by data on sea-river transport. For the other modes, the estimate is based on data available in April 1999 from Eurostat, ECMT, UIC and national statistics.

The Commission thanks the following 15 ports for providing statistical information for this Communication: Antwerp, Bilbao, Bremen, Dublin, Dunkerque, Genoa, Gothenburg, Hamburg, Helsinki, Lisbon, Lübeck, Oslo, Piraeus, Rotterdam and Valencia. It is also grateful to the European Sea Ports Organisation (ESPO) for co-ordinating the collection of this data.

The tonne-kilometre performance of inland waterway transport grew by 10% between 1990 and 1997, and rail had a negative growth of 7%.

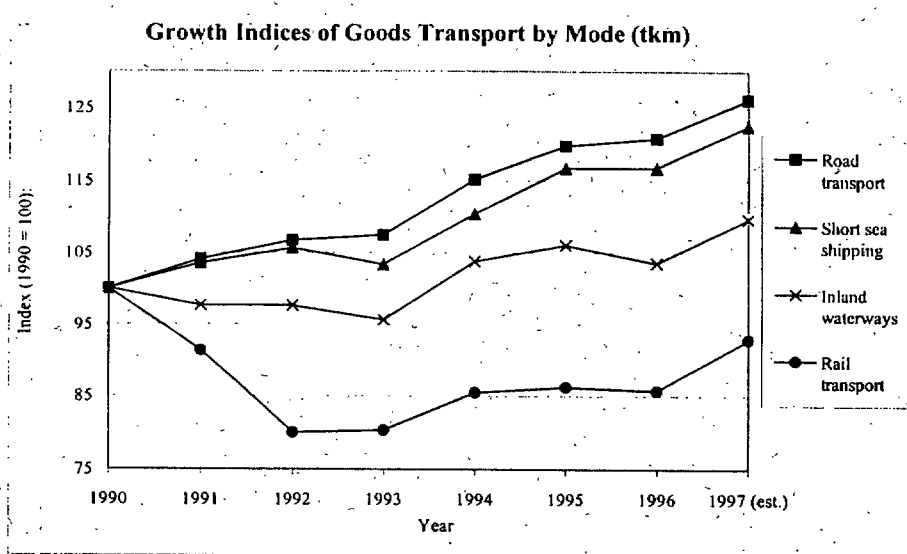
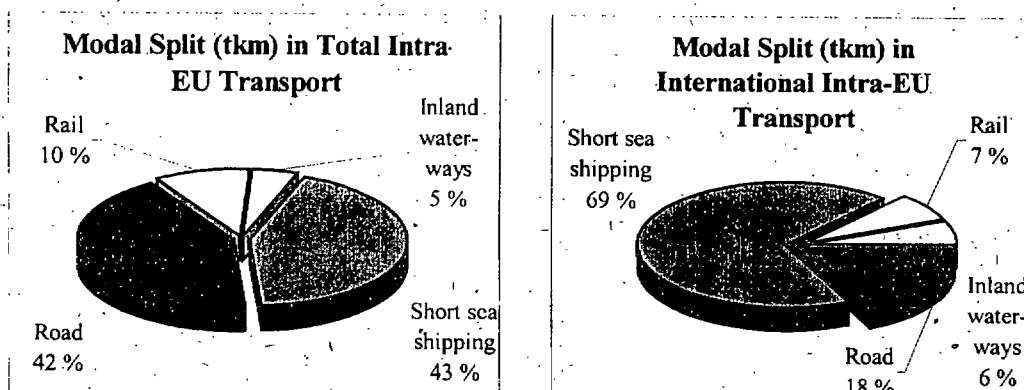


Table 1. Growth indices of goods transport by mode in EU-15 between 1990 and 1997.

Of the total tonne-kilometres in the EU, the shares of short sea shipping and road are almost equal. In terms of international tonne-kilometres¹⁹, short sea shipping has by far the largest share.



Tables 2 and 3: Modal split in intra-EU tonne-kilometres (total and international).

6.2. Container Traffic Has Increased Fast

The statistics provided by the 15 European ports mentioned in Section 6.1 clearly show that the fastest growing segment of short sea shipping from 1993 to 1997 was

The Commission also thanks the European Federation of Inland Ports (EFIP) for providing data on sea transport from and to river or lake ports in Germany, Belgium, Finland, France, Italy, the Netherlands and Sweden.

¹⁸ The total of tonnes carried in short sea shipping in 1996 was 757 million. That volume corresponded to 1070 billion tonne-kilometres.

¹⁹ The tonne-kilometre performance of short sea shipping in international intra-EU transport was 914 billion tkm in 1996.

containerised cargo which rose in tonnes by 44%. That growth was considerably more than the general growth of the volume of short sea shipping (16%) in the same ports.

Growth Indices in Short Sea Shipping Volumes in Total and by Commodity Group in 15 Ports

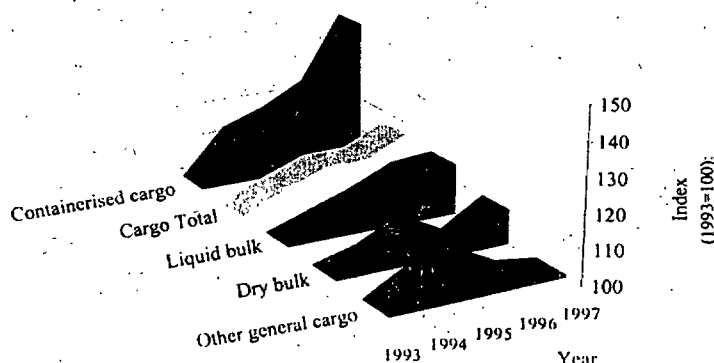


Table 4: Growth indices in short sea shipping volumes in total and by Commodity Group in 15 European ports.

The study on certain freight flows estimates that short sea container traffic grew by around 70% between 1990 and 1996²⁰. This growth may depend on several factors. The main factor has probably been growth in sea-to-sea feeder traffic because deep-sea container traffic has grown considerable throughout the 1990's. In addition, deep-sea vessels seem to make less port calls. Nevertheless, the trend looks promising also for more new and existing cargo being carried by short sea shipping instead of land transport.

6.3. Average Distance of a Tonne Transported by Sea

Average distance of a tonne transported in the 1990's has been 100 km for road, 270 km for inland waterways, 300 km for rail, and 1385 km for short sea shipping.

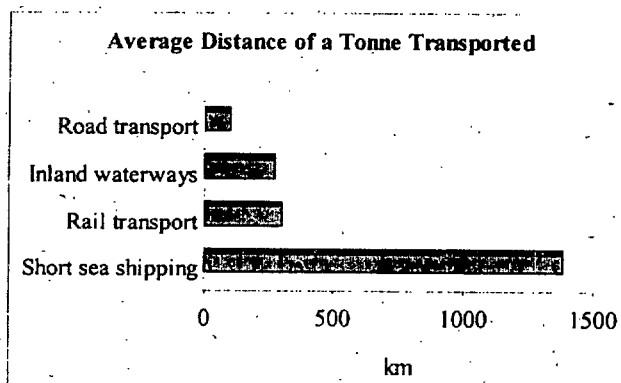


Table 5: Average distance of a tonne transported by different modes in the EU.²¹

²⁰ The study estimates that in 1994 the total European container port transshipment was 30 million TEU. Of this number feeder traffic accounted for 21% and other short sea shipping 23%.

²¹ Average distances for road, rail and inland waterways are extracted from 'European Transport in Figures', February 1999 (update), DG VII E-1 (RD).

Road transport has a short-distance market of its own in which shipping cannot compete. Short sea shipping is more competitive on longer distances. Only 6% of the total tonnes transported in the EU (domestic and international) are carried by short sea shipping while road transport carries over 80%, mostly over short distances in domestic transport. With respect to tonnes carried in international transport, short sea shipping has a considerably larger share of the market (about 40% while road has a share of above 30%).

6.4. Further Action

The Commission and Eurostat in co-operation with the Member States, in particular in the framework of Research and Development activities, will continue to develop suitable origin/destination matrices and comparable intermodal land/sea statistics for short sea shipping, including specific trade corridors. The aims will be to establish an instrument to monitor the shift of goods and passengers from land to sea and to have more reliable data on feeder traffic.

7. SHORT SEA SHIPPING CONTRIBUTES TO SUSTAINABLE AND SAFE MOBILITY

7.1. Environmental Benefits and Deficiencies²²

7.1.1. Carbon Dioxide (CO₂), Carbon Monoxide (CO), Hydrocarbon (HC) and Particulate Emissions

Maritime transport has a much higher energy-efficiency than other modes of transport. Consequently, shipping produces less CO₂ than other modes of transport per tonne or passenger carried. A modal shift to short sea shipping could therefore constitute an important element in the Community strategy to fulfil the Kyoto obligations²³.

Also in relation to carbon monoxide (CO), hydrocarbon (HC) and particulate emissions, a tonne or passenger carried one kilometre by shipping affects the environment less than that carried by any other mode of transport.

7.1.2. Nitrogen Oxides (NO_x) and Sulphur Dioxide (SO₂)

On the other hand, nitrogen oxide (NO_x) emissions from shipping have raised some concerns²⁴. There is undoubtedly room for improvement of the NO_x performance of shipping. Nevertheless, shipping appears also in this respect to be relatively environmentally friendly. The NO_x emissions from short sea shipping are lower per tonne-kilometre than those from rail transport and considerably lower than those from

²² Comparative emission estimates by Eurostat can be found in Annex II.

²³ The Kyoto Protocol to the 1992 United Nations Framework Convention on Climate Change was concluded in December 1997. The target fixed at Kyoto was an 8% reduction of certain emissions - including carbon dioxide (CO₂) - in all sectors of the economy compared to 1990 levels by 2008-2012.

²⁴ Cf. Commission White Paper on Fair Payment for Infrastructure Use: A Phased Approach to a Common Transport Infrastructure Charging Framework in the EU, COM(98)466 final, 22.07.1998.

road transport. Of the total NO_x emission in the Community, 51% derive from road vehicles and 12% from other transport²⁵.

The good environmental performance of shipping is unfortunately hampered by sulphur dioxide emissions (SO₂) which are significantly higher than in other modes. However, of the total SO₂ emissions in the Community, road emissions constitute 3% and other transport modes together 2%²⁶.

The IMO Conference in September 1997 adopted new measures to reduce sulphur oxide²⁷ and nitrogen oxide emissions from ship exhausts (new Annex VI to MARPOL 73/78). Conference also adopted provisions allowing the establishment of special 'SO_x Emission Control Areas' where lower emission levels would apply. The Baltic Sea has been designated as such an area²⁸. The ratification process of the new Annex has not been completed yet, and the new measures have not entered into force.

7.1.3. Recommended Further Action

The parties concerned should work actively towards even more environmentally friendly shipping in order to be able to benefit fully from sustainability in short sea shipping.²⁹

Reduction of emissions from shipping should be an urgent target for the Community and the Member States. In the case of SO₂ emissions, this can be achieved by lowering the sulphur content in bunker fuel oils or by equipping the ships with exhaust gas cleaning systems. Measures to reduce emissions of NO_x include the use of catalytic converters, exhaust gas re-circulation, water/fuel emulsion and low NO_x nozzle. In addition, one further line of action, which can be explored in the context of the 'user pays' principle, is the use of environmentally differentiated shipping dues in the framework of public regulations. Further, the Member States should ratify the new Annex VI to 1997 MARPOL as soon as possible.

7.2. Safety Benefits

The Commission has examined the relative safety of shipping compared to other modes of transport.³⁰ The examination revealed that data on shipping accidents is to some extent

²⁵ Communication from the Commission on a Community Strategy to Combat Acidification, COM(97)88 final, 12.03.1997.

²⁶ Idem.

²⁷ The sulphur content of fuel oil used on board ships must not exceed 4,5% m/m.

²⁸ The sulphur content of fuel oil used on board ships must not exceed 1,5% m/m. Alternatively, ships must use other technological methods to limit SO_x emissions.

²⁹ An independently assessed system, such as the ISO 14001 environmental certificate, can bring operational benefits. These may include direct financial savings by reducing energy consumption, minimising waste and encouraging more efficient use of materials and resources. Such a certificate could constitute part of the marketing strategies of shipping companies to show that the potential for environmental risks is being managed.

³⁰ The Relative Safety of Maritime Transport, December 1998. Analysis by ARTEMIS Information Management S.arl. (Luxembourg) for Eurostat and Directorate-General for Transport.(DG VII).

available on an international level, but data on accidents and their causes in European waters is insufficient.

According to the European Transport Safety Council, 96% percent of all transport fatalities occur in road accidents. While the fatalities in road transport in the EU currently amount to around 40.000 lives lost a year and the number of train passengers killed each year is around 115 (average of 1990-96), the COST 301 study and the European Safety Council have estimated that the number of lives lost at sea in European waters is in average 140 persons a year³¹.

The European Transport Safety Council has also estimated that the death rate in sea transport (including crew) is 1,4 deaths per 100 million passenger kilometres. The corresponding figures for road are 100 persons killed and for rail 40 persons killed.³²

7.2.1. Further Action

The European Transport Safety Council and the Commission's examination have identified a need for better statistical information on maritime casualties including an EU-wide database. Specific statistical information on lives and ships lost at sea and causes for those losses in European waters would help to monitor the effectiveness of existing safety measures and to judge whether new measures would be needed. In addition, it would help promote the safe image of short sea shipping. The Commission will examine whether the existing EU legislation should be amended to cater for these needs.

8. IMPROVING THE INTEGRATION OF SHORT SEA SHIPPING INTO INTERMODAL TRANSPORT CHAINS

Sea transport is generally not considered to be a transport mode which is well-integrated into the overall transport chain within Europe apart from certain European countries or regions, including islands, which constitute a captive market for short sea shipping primarily because of their geographical location.

8.1. Short Sea Shipping Needs to Become Part of Intermodal Thinking

The Commission adopted in 1997 a Communication on intermodality³³. The Communication aims at developing a framework for combining and integrating the strengths of different modes into seamless, customer-orientated door-to-door services. Intermodality aims also at better integrating transport in logistics and supply chain.

³¹ World-wide 709 lives were lost in average each year between 1990-96 (Source: 'World Casualty Statistics' published by Lloyds Register).

³² The estimate for sea transport is based on 100 million passengers embarking in European ports for an average trip length of 100 km. The road and rail figures are derived from 'EU Transport in Figures, Statistical Pocketbook', October 1998, DG VII and Eurostat.

³³ Communication from the Commission on Intermodality and Intermodal Freight Transport in the European Union - A Systems Approach to Freight Transport - Strategies and Actions to Enhance Efficiency, Services and Sustainability, COM(97)243 final, 29.05.1997.

management. Interconnectivity and interoperability are essential concepts in intermodality because they establish the prerequisites for smooth logistic operations.

For a regular short sea shipping service to be viable, a considerable volume is needed to allow profitable capacity utilisation³⁴. Short sea shipping needs to attract volumes through better logistics organisation, service level, frequency³⁵, regularity³⁶, networking³⁷ and one-stop shops for the management and pricing of the whole transport chain from door-to-door as in road transport. Short sea shipping cannot do this alone, but needs partners who can carry out the land legs or who are ready to use short sea shipping for a considerable part of their journeys instead of using land.

Individual logistics solutions are generally case-by-case specific, but the framework conditions remain the same. New logistics concepts can be developed under Research and Development and through feasibility studies and company strategies. In this way, a large variety of models can be made available for individual short sea companies to study and apply to their own needs.

Even if the markets for short sea shipping and road are partly separate, short sea shipping can still be competitive within a considerable market segment. That segment should also increase, if the attractiveness of the mode in transport over shorter distances could be enhanced. Unfortunately, the trend has been quite the opposite and the average distance of a tonne transported by short sea shipping has increased by 65 km from 1990 to 1996. Lowering the threshold distance over which short sea shipping is competitive, for example by integrating the mode more efficiently into the door-to-door logistic transport chains, should, among other factors, become an objective in the development of short sea shipping.

Further it could be noted that short sea shipping and its intermodal integration may require new or specially adapted vessels and advanced and flexible ship designs that are still a domain for European shipyards. Consequently, short sea shipping and European shipbuilding can provide each other with new market opportunities.

³⁴ According to a recent feasibility study, an average capacity utilisation of 51% on a 4000 tdwt ro-ro vessel could be the break-even point for profitability of a regular weekly ro-ro service between northern Sweden and Germany. However, the break-even point depends on several factors, such as the cargo price, fixed and variable costs. The cargo price in the study was set considerably lower than the corresponding road transport price. The variable costs included land legs between land terminals and ports (SeaCombi - A Feasibility Study in Combined Transport between EU Arctic and Continent, INGUN AB, Malmö, December 1998).

³⁵ Market research on the Atlantic Arc by MDS France suggests that only a minority of shippers would use a weekly frequency, but that a majority could use a three times weekly frequency (The Development of Short Sea Liner Services: Constraints, Draft for DG VII by MDS France, May 1998).

³⁶ According to the SeaCombi study, strict demands must be put on the timetables and sailing lists. In comparison with the trucking industry's daily frequencies and large flexibility, it is very important that the liner trade keeps to its frequency in a regular schedule and operates at stipulated times.

³⁷ According to MDS France, individual region-to-region flows may not always be able to support frequent services. However, the combination of a number of regions through networking could offer viable opportunities (ATNET - Development of Short Sea Liner Services, Final Report by MDS France, December 1998).

8.2. Recommended Further Action

One essential aspect in promoting short sea shipping is its better integration in intermodal transport chains. In addition, the mode itself needs to be a viable alternative to the users by providing door-to-door package solutions with a high level of service, regularity and frequency in a just-in-time logistic environment and with attractive cost levels³⁸. It is primarily up to the industries themselves to consider ways to accomplish this.

Co-operation with other modes in the logistic chain and with shippers and forwarders are also essential in order to be able to offer comprehensive networking and door-to-door services at competitive prices. Therefore, the industries concerned should actively work for such co-operation. One possible approach in this context could be the introduction of key performance indicators or best practices involving the needs of all parties concerned.

When assessing the sustainability of short sea shipping referred to in Chapter 6 above, the environmental effects of the initial and final land legs of the journey should also be considered and, when feasible, priority could be given to intermodal co-operation with other environmentally benign modes - such as rail and inland waterways.

9. OVERCOMING CERTAIN OBSTACLES TO THE DEVELOPMENT OF SHORT SEA SHIPPING

9.1. Does the Image of Short Sea Shipping Correspond to Reality?

One of the main barriers to the development of short sea shipping appears to be the perception or image of sea transport as a somewhat old-fashioned, slow and complex mode of transport that can mainly be used for large bulk operations.

According to a recent survey among shippers on the dominant carrier selection criteria (service parameters)³⁹, road transport is perceived to fulfil the requirements of transit time, reliability, flexibility, frequency and cargo safety to a high degree. Rail meets all the requirements to a medium degree with the exception of reliability where the ability of the mode to meet the requirement is considered low. As to short sea shipping, only cargo safety requirement is perceived to be met to a high degree. The requirements of transit time, flexibility and frequency are perceived to be met to a low degree and reliability to a medium degree.

Short sea shipping needs to become a feasible alternative. It is primarily up to the industries to prove that the reality of short sea shipping does not any more correspond to the old image. Short sea shipping must fulfil - and be perceived to fulfil - the user requirements in terms of speed (including speed at sea), reliability, flexibility, regularity, frequency, cargo safety and attractive cost levels. It should acquire a new, modern

³⁸ The PACT study ATNET by MDS France on short sea shipping opportunities on the Atlantic Arc suggests that short sea shipping offers cost advantages over road in container and trailer transport. This was the case in 11 out of the 12 case studies carried out. On longer distances the cost advantages seem to increase. The study also suggests that in terms of speed short sea shipping can be competitive (e.g. North Spain to the UK in 24 hours at 22 knots). According to the SeaCombi study, short sea shipping between northern Sweden and Germany can be 50% cheaper per TEU (land terminal to land terminal) than road transport.

³⁹ PLS Consult, Denmark.

dynamic image fulfilling service parameters and offering door-to-door service, and that image should be conveyed to the transport users so that they can make reasoned choices of the transport mode based on facts instead of an image of the past.

In two EU Member States (the Netherlands and Greece) short sea shipping information bureaux have been set up to disseminate more publicity information on available services. Similar actions are currently under consideration in two other Member States (Belgium and Germany).

9.1.1. Recommended Further Action

In addition to the need to maintain short sea shipping on the political agenda, more publicity information needs to be disseminated on it and its potential. Campaigns promoting greater awareness of short sea shipping can make a significant contribution. One option to consider could be the setting up of an online information service providing up-to-date information on short sea services all over Europe so that any potential users could easily find information on available services.

9.2. Documentation and Administrative Procedures - A Study

Following the 1997 progress report on short sea shipping⁴⁰, a comparative study of documentary and administrative procedures in short sea shipping and road transport⁴¹ was carried out on the Commission's initiative. The study aimed to identify whether the required documentation and procedures create a burden for short sea shipping, whether they affect modal choice, and to identify any appropriate facilitation measures.

9.2.1. Findings of the Study

The study identified the flows of documentation and the procedures on several trade corridors in Europe. In all cases the documentation required in road transport was less than in short sea shipping, where a considerable number of documents are processed on each voyage for the ships to report in and clear outward, to establish the safety of the ship, and to declare and clear cargo. The study, however, states that the documentation and procedures for short sea shipping cannot be exactly the same as for road transport. This is primarily due to the inherent differences between the modes, for example because ships frequently carry multiple consignments requiring separate documentation while road transport usually carries a single consignment. Some of the documents have a dual commercial and authority role such as the manifest or bill of lading, so that not all documentation requirements can be attributed to the authorities alone. Nevertheless, according to the study, it should be possible to further standardise documents and procedures.

The shipping documentation is often handled by an intermediary specialised in documents and procedures, i.e. by the ship's agent or, in specific cases, by a specialist customs clearer. Those services aim to ensure that shippers need not be inconvenienced by any additional burden and that the documentary and administrative procedures are

⁴⁰ SEC(97)877, 06.05.1997.

⁴¹ Comparison of Documentation in Short Sea Shipping and Road Transport ('CODISSART'), November 1998, Maritime Research Centre, Southampton Institute, the United Kingdom.

handled during the ship's routine movements or stay in port as the cases examined in the study suggest.

The case studies also suggest that the forms of documents required and the procedures applied differ considerably between ports and Member States. For instance, in some Member States ships are not allowed to unload until the authorities have attended to the ship, in others unloading can start immediately. The number of customs offices seems to be declining and there are no customs offices in some ports, although certain documents need to be given in original to the customs. Some Member States require certain documents in a country-specific form. In some Member States the arrival and departure formalities are simplified for intra-EU shipping. Use of EDI (Electronic Data Interchange) was found to be limited.

The study recognises that the amount of documentation creates an inherent burden to short sea shipping as such and in comparison with road transport. There is an additional cost element in involving an intermediary to deal with routine procedures. The documentation and formalities create a potential for delay, but no such delays could be demonstrated to occur with any regularity.

The study concludes that no evidence could be found that documentation and administrative procedures in short sea shipping influence modal choice.

9.2.2. Assessment of the Findings of the Study

The Commission accepts the finding of the study that documents and procedures do not appear, on the basis of the available evidence, to influence modal choice or create frequent delays. While any documentation or procedures create extra work, this work in shipping seems to relate mainly to the inherent aspects of the mode (such as ship safety, control of movements). Short sea shipping is an administratively complex mode, but the documentation and administrative procedures are part of a routine. The specific profession of intermediaries (agents) has evolved, *inter alia*, to deal with the documentation and procedures on behalf of the customers and to avoid any unnecessary delays. A more difficult question to solve is the apparently widespread subjective perception of short sea shipping as a mode that involves excessive bureaucracy.

Nevertheless, according to the study, documentation requirements and administrative procedures seem to vary significantly in the EU. Member States can act directly on a voluntary basis to produce more harmonisation. The Commission has accepted some of the recommendations suggested in the study and, consequently, forwards them below to the parties concerned.

The findings of the documentation study are being discussed within the Commission and with the maritime industries and the Member States. As this was the first study of its kind, the Commission will, in the light of the comments of the interested parties, consider whether a second such study, more detailed and targeted on specific issues or geographical areas would be useful.

9.2.3. Recommended Further Action

A number of EU Member States do not accept all the IMO FAL⁴² forms for ships arrival and departure but require national forms, sometimes similar to FAL, to be completed. EU Member States should consider accepting a uniform set of ship arrival and departure forms based on IMO FAL forms 1, 3, 4 and 5⁴³ when those forms are applicable.

In some Member States several authorities board every ship, in others this task is delegated to one authority or the port authority or the ship's agent. Member States are encouraged to consider whether it would be possible and practicable that only one authority should attend on board and whether certain tasks could be delegated to the port authority or ship's agent.

In some ports the reporting procedures have to be completed before the unloading of the ship can commence. To save time in port and to speed up discharging, the Member States concerned could reconsider such procedures.

EDI could shift a lot of paperwork to electronic form with adjusted and harmonised procedures. The use of EDI should be extended. The Community will also continue to promote EDI through Research and Development activities, Trans-European Networks and other actions.

The parties concerned might wish to consider how to convey a new, more flexible image of short sea shipping to the customers, in particular, by not burdening the ultimate transport user with bureaucracy.

In certain cases, the ship is required to stop and report to the authorities even when only in transit along a river thus increasing transit time and creating additional costs⁴⁴. The Commission invites the Member States concerned to promote river-sea transport by reconsidering this reporting procedure.

9.3. Port Infrastructure and Port Efficiency

Turnaround delays in ports are mostly created by lack of suitable infrastructure, lack of suitable land connections and inefficiencies in handling the goods (e.g. handling speeds vary considerably between ports). Port costs can in some instances be disproportionately high and they are not always transparent. In some cases payment is obligatory for services that are not used nor needed (e.g. in some cases pilotage or towing). In addition, the use of pilots is obligatory in some ports even if the ship's master would be certified and able to carry out the pilotage on his own.

⁴² IMO Convention on Facilitation of International Maritime Traffic (FAL), 1965.

⁴³ General declaration (form 1), ship's stores declaration (form 3), crew's effects declaration (form 4) and crew list (form 5).

⁴⁴ For example, sea-river vessels en route to or from German Rhine ports have to stop at Dutch ports to complete certain customs formalities even when they are only transiting the Dutch territory. This procedure involves delays and additional charges (e.g. port fees). The Dutch authorities have recently informed the Commission that they are willing to test simplified reporting to facilitate this procedure.

The Commission adopted in 1997 a Green Paper on Sea Ports and Maritime Infrastructure⁴⁵. The Paper does not aim at creating a harmonised port policy in the EU but aims primarily at better integrating ports in the intermodal transport chain. It also aims at guaranteeing free and fair competition in ports and between ports on equal grounds and in a competitive, commercial and liberalised environment.

Ports should provide a corresponding level of service on commercial basis to all users without discrimination. In some ports systems have been developed to accommodate better the needs of short sea services, for example the crucial need for shorter turn-around times. These systems include, in particular, separate terminals for short sea shipping but also other dedicated services based on commercial considerations in ports. However, in other ports, short sea shipping has to compete for port facilities with priority given to ocean shipping and it faces uncertainties that can be detrimental to the overall quality of just-in-time transport services.

The establishment of a framework of best practices could help ports to increase their efficiency. Under such a framework, well-functioning technical and operational solutions could be identified and information on them could be exchanged between ports and with their customers, such as short sea shipping.

Ports should be seen as intermodal connection points in the same way as land terminals. The Commission made a proposal in 1997 to amend the Trans-European Transport (TEN) Guidelines to this effect⁴⁶. This amendment would give a specific status to inland and seaports as well as to intermodal terminals as connection points between the modes. The proposed amendment would also emphasise the status of short sea shipping as a main criterion for the selection of TEN actions to be supported by the Community. The revised criteria and specifications for seaports specifically state, *inter alia*, that "special attention shall be given to [...] the development of short sea and sea-river shipping including the necessary infrastructure".

9.3.1. Recommended Further Action

Within the framework of their commercial principles, ports should actively consider how the needs of short sea services can best be accommodated in port services. This could be accomplished, in particular, by providing dedicated short sea shipping terminals and services. The ports should also consider how their efficiency could be enhanced to deal with the modern just-in-time logistics in short sea shipping.

The ports should also consider whether they could improve their performance by studying efficient operations or management systems in other ports and by establishing a framework to collect information on best practices and share it between themselves and their customers.

The obligation in some ports to use pilots in all cases should be re-examined especially when the ship's master is certified to carry out the pilotage on his own.

⁴⁵ COM(97)678 final, 10.12.1997.

⁴⁶ Proposal for a European Parliament and Council Decision amending Decision No 1692/96/EC as regards seaports, inland ports and intermodal terminals as well as project No 8 in Annex III. COM(97)681 final, 10.12.1997.

10. SHORT SEA SHIPPING SHOULD BE PROMOTED AT ALL LEVELS

10.1. Work at National and Regional Levels

10.1.1. Roundtables and Short Sea Shipping Focal Points

Short sea roundtables or corresponding consultative structures have been or are about to be set up in most Member States having a coastline. They constitute fora in which practical problems affecting short sea shipping and ports can be identified, addressed and solved. The meeting frequency differs from monthly to biannual or annual meetings. The Commission supports the efforts of the maritime industries, in particular within the structure of the Short Sea Panel of the Maritime Industries Forum (MIF)⁴⁷, to further develop these roundtables.

All maritime Member States and Norway⁴⁸ have nominated contact persons ('short sea shipping focal points') in their national administrations. These focal points work with the roundtables, they promote short sea shipping at national level and create contact points for the Commission.

A workshop was organised jointly by the MIF Short Sea Panel and the Commission services in February 1999 in Bilbao. The workshop contributed to co-ordinating the work of the roundtables and it addressed practical initiatives to promote short sea shipping. A first informal meeting of the focal points took place in the context of the workshop.

10.1.1.1. Recommended Further Action

The round-tables should meet regularly in order for the arrangements to benefit all the parties concerned. In addition to being sources of information in their own Member States and for the Commission, the focal points should constitute a network of contacts between the national authorities to discuss ideas, exchange information on best practices and find ways to promote short sea shipping. The Commission intends to develop this network approach together with the focal points and the MIF Short Sea Panel, and intends to organise further meetings of the focal points to develop co-operation.

10.1.2. Regional Co-operation

The Euro-Mediterranean Partnership was adopted at a Conference in Barcelona in November 1995. The work programme attached to the Barcelona Declaration states that co-operation in the field of transport will concentrate on the creation of an efficient air-sea multimodal transport system in the Mediterranean. To implement the programme, the Commission adopted in January 1998 a Communication on the Euro-Mediterranean

⁴⁷ The Maritime Industries Forum (MIF), set up in 1992, brings together representatives from all sectors of the European maritime industries and policy makers from the Member States, the European Commission and the European Parliament. It provides a forum for the development of a strategic maritime agenda and is supported by Specialist Panels. The Short Sea Panel of the MIF deals with all pertinent questions and develops strategic initiatives in co-operation with the European Commission and the industries themselves.

⁴⁸ Decision No 35/98 of the EEA Joint Committee of 30 April 1998 adds the Council Resolution of 11 March 1996 on short sea shipping to the EEA Agreement, OJ L 310, 19.11.1998, p.22.

Partnership in the Transport Sector⁴⁹. The Communication provides for the setting up of a Working Group, the 'Euro-Mediterranean Transport Forum', to discuss issues relating to the Mediterranean pan-European transport area. Short sea shipping is included in the work of the Forum that had its first meeting in March 1999.

In the Baltic Sea area there are, for example, two groups⁵⁰, co-ordinated by the Commission, consisting of representatives from all the countries on the Baltic Sea discussing the development of ports and waterborne transport.

The Vienna European Council in December 1998 welcomed an interim report by the Commission on the 'Northern Dimension' of the European Union. The report sets out certain recommendations, *inter alia*, on the development of transport infrastructure through the Trans-European Networks (TENs) in the North within the framework of existing contractual relations, financial instruments and regional organisations.

In December 1998 the Commission organised a workshop in Brussels on port formalities and customs procedures in the Black Sea region in order to clarify the situation of passenger and goods traffic in the ports of the Black Sea pan-European transport area.

10.2. Projects Supported by the Community

10.2.1. Research and Technological Development (4th Framework Programme)

Short sea shipping was one of the main themes in the waterborne part of the specific Transport Research Programme under the 4th Framework Programme on Research and Technological Development⁵¹.

The implementation of RTD projects has been overseen by a Concerted Action on Short Sea Shipping (SSS-CA). The ultimate goal of the action has been to contribute to improved co-ordination between national and EU research through transparency and dissemination of RTD results. It has provided a platform for the establishment of networks between Member States, researchers and the industry.

In addition to the inventory on national and EU research in the field of short sea shipping, the Concerted Action has provided information on existing RTD needs. A recent development has been the establishment of a working group on statistics in order to establish the basis for a better common assessment of multimodal trade flows in Europe.

During the last few years, major emphasis has been put on wider publicising of RTD results. The intention has been to facilitate the exploitation, transfer and dissemination of available technologies, techniques and tools to as many parties and potential end users as

⁴⁹ Communication from the Commission on the Euro-Mediterranean Partnership in the Transport Sector, COM(98)7 final, 16.01.1998.

⁵⁰ Co-ordination Committee for the Memorandum of Understanding on Information and Studies Relating to the Development and Operations of Baltic Ports and Co-ordination Committee for the Guidelines for a Common Work Programme Concerning Waterborne Transport in the Baltic Sea Region.

⁵¹ Decision No 1110/94/EC of the European Parliament and of the Council of 26 April 1994 concerning the fourth framework programme of the European Community activities in the field of research and technological development and demonstration (1994-1998), OJ L 126, 18.05.1994, p.1.

possible by using modern facilities like the Internet, Thematic Networks, workshops and publications.

The main areas of RTD work and achievements so far relating to short sea shipping under the 4th Framework Programme are further detailed in Annex III.

The 5th Framework Programme is already in place. It includes two specific key actions relating to short sea shipping: 'Sustainable Mobility and Intermodality' and 'Land Transport and Marine Technologies'.⁵²

10.2.2. Short Sea Shipping Projects in PACT

Projects relating to short sea shipping have been supported in the years 1995 to 1998 under the Pilot Actions for Combined Transport (PACT), a Community programme to foster innovative actions which improve the competitiveness of combined transport. These projects are described in Annex IV. The rules governing the operation of PACT were changed in 1997 and now allow that projects including a maritime transport leg can be supported on the same basis as projects including other modes⁵³. PACT will continue to support short sea shipping projects.

10.2.3. Port Projects in the Trans-European Transport Networks

Decision N° 1692/96/EC⁵⁴ by the Council and the European Parliament established the Guidelines for the development of the Trans-European Transport Network (TEN-T). The guidelines include criteria for the development of ports and for the selection and support of ports and port-related projects of common interest. The objective of promoting short sea shipping is as one of the criteria to be used in this process. In 1997 and 1998 TEN-T supported 18 studies related to port projects benefiting also short sea shipping.

10.2.4. Feasibility Studies in Co-financing

The Commission has supported, on a case-by-case basis, under the general transport budget lines a number of short sea shipping feasibility studies, with a contribution not exceeding 50% of the total cost of each study. Annex V includes a summary table of such studies. This type of support by the Commission was earlier motivated by the restrictions in the original PACT programme as regards financing short sea shipping projects. However, as the PACT rules have changed, feasibility studies are nowadays normally co-financed under PACT.

⁵² Decision No 182/1999/EC of the European Parliament and of the Council of 22 December 1998 concerning the fifth framework programme of the European Community for research, technological development and demonstration activities (1998 to 2002), OJ L 026, 01.02.1999, p.1.

⁵³ Cf. Council Regulation (EC) No 2196/98 of 1 October 1998 concerning the granting of Community financial assistance for actions of an innovative nature to promote combined transport, OJ L 277, 14.10.1998, p.1.

⁵⁴ OJ L 228, 09.09.1996, p.1 as corrected in OJ L 015, 17.01.1997, p.1.

10.2.5. MEDA

Because of the vital importance of maritime transport, and especially short sea shipping, in the Euro-Mediterranean Partnership, the MED Committee approved in November 1997 eleven regional maritime projects for financing under the Community financial instrument MEDA⁵⁵. The objectives of the package of projects are to develop waterborne transport and ports, on the one hand, and to improve maritime safety and protection of the environment, on the other. The package relates closely to short sea shipping.

10.2.6. European Regional Development Fund and INTERREG II C

The Commission Communication on Cohesion and Transport⁵⁶ suggests that the European Regional Development Fund (ERDF) and the Cohesion Fund could promote increased investments in maritime transport in order to take account of environmental concerns. This objective has also been incorporated in the recent guidelines for the preparation of future ERDF programmes⁵⁷.

Furthermore, the European Spatial Development Perspective – being elaborated jointly by the Member States and the Commission - highlights the possibilities offered by short sea shipping as well as by intermodal and combined transport.

The ERDF - through its initiative INTERREG II C⁵⁸ - promotes inter-regional and trans-national co-operation in order to achieve more sustainable and efficient transport systems. Some programmes under INTERREG II C finance specific projects for the development of short sea shipping in the regions of the European Union. This should be continued with the future initiative INTERREG III for the period 2000-2006.

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⁵⁵ Council Regulation (EC) No. 1488/96 of 23 July 1996 on financial and technical measures to accompany (MEDA) the reform of economic and social structures in the framework of the Euro-Mediterranean partnership, OJ L 189, 30.07.1996, p.1 as corrected in OJ L 255, 09.10.1996, p.24 and OJ L 187, 01.07.1998, p.56.

⁵⁶ Communication from the Commission on Cohesion and Transport, COM(98)806 final, 14.01.1999.

⁵⁷ Working Paper of the Commission: The Structural Funds and Their Co-ordination with the Cohesion Fund - Draft Guidance for Programmes in the Period 2000-06, 03.02.1999.

⁵⁸ The Community Interreg initiative concerning trans-national co-operation on spatial planning.

ANNEX I: SUMMARY OF RECOMMENDED FURTHER ACTION

- 1) To work actively towards more environmentally friendly and safer shipping in order to benefit from sustainability and safety and to be able to utilise them as criteria in company strategies. Further, the Member States should ratify the new Annex VI to 1997 MARPOL as soon as possible.

Responsibility for action: All parties concerned.

- 2) To work actively towards integrating short sea shipping in intermodal transport chains. To make the mode itself a viable alternative to the users by providing customer-orientated door-to-door package solutions with a high level of service, regularity and frequency in a just-in-time logistic environment.

Responsibility for action: Primarily the industries, but, for putting up the framework conditions, also the Member States and the Commission.

- 3) To look actively for co-operation between modes and different players in logistic management of supply chains to be able to offer comprehensive door-to-door services with one-stop-shops. One possible initial approach could be the introduction of key performance indicators or best practices involving the needs of all parties concerned.

Responsibility for action: The industries concerned.

- 4) When feasible, short sea shipping could consider giving priority to co-operation with environmentally more benign modes in the intermodal chain.

Responsibility for action: The industries concerned.

- 5) To disseminate more information on short sea shipping and services it offers. To involve the existing and forthcoming round-tables and the focal points in the Member States in this exercise. To consider setting up an online information service, for example, on the Internet, providing up-to-date information on short sea services.

Responsibility for action: All parties concerned.

- 6) To pay more attention to the needs of short sea shipping when making commercial policy decisions in ports. Ports should in particular consider the setting-up of dedicated short sea shipping terminals with separate facilities and the provision of short-sea specific services.

Responsibility for action: Ports.

- 7) To enhance the efficiency of ports to take into consideration the modern just-in-time demands put on short sea shipping.

Responsibility for action: Ports in co-operation with the other parties concerned.

- 8) To establish a framework for identifying best practices in ports and making that information available to ports and their customers.

Responsibility for action: Ports.

- 9) To re-examine the obligation in some ports to use pilots in all cases.

Responsibility for action: Member States and ports.

- 10) To set up or actively continue the regular work of round-tables or corresponding arrangements on short sea shipping. The focal points in the Member States should constitute a network of information and a forum for co-operation in the Community.

Responsibility for action: All parties concerned.

- 11) To continue to study the calculation of infrastructure costs and the concept of cost coverage based on the same principles in all modes of transport, including short sea shipping (recommendation by a Member State as accepted by the Commission).⁵⁹

Responsibility for action: The Commission in co-operation with the Member States.

Specific Recommendations on Documentation and Administrative Procedures

- 12) To consider accepting a uniform set of ship arrival and departure forms based on IMO FAL forms 1, 3, 4 and 5 when applicable.

Responsibility for action: The Member States concerned.

- 13) To consider, where possible and practicable, that only one authority would attend on board a ship or whether certain tasks could be delegated to the port authority or ship's agent.

Responsibility for action: The Member States concerned.

- 14) To aim at allowing a ship to commence discharging immediately after arrival without a requirement to complete the reporting procedures first.

Responsibility for action: The Member States concerned.

- 15) To enhance the use of EDI in short sea shipping.

Responsibility for action: All parties concerned.

- 16) To consider actively ways not to burden transport users with the bureaucracy arising from the documentation and procedures inherent in short sea shipping.

Responsibility for action: All parties concerned.

- 17) To simplify or eliminate the obligation for a short sea ship to report when only in transit along a river.

Responsibility for action: The Member States concerned.

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⁵⁹ The examination could also include the short sea shipping chain door-to-door to assess whether the cost of the whole chain, including land legs, should reflect the low external costs of short sea services.

ANNEX II: ENVIRONMENTAL INDICATORS

The following estimates have been compiled⁶⁰ under the auspices of the Commission (Eurostat) and they are based on a number of assumptions that are detailed below.

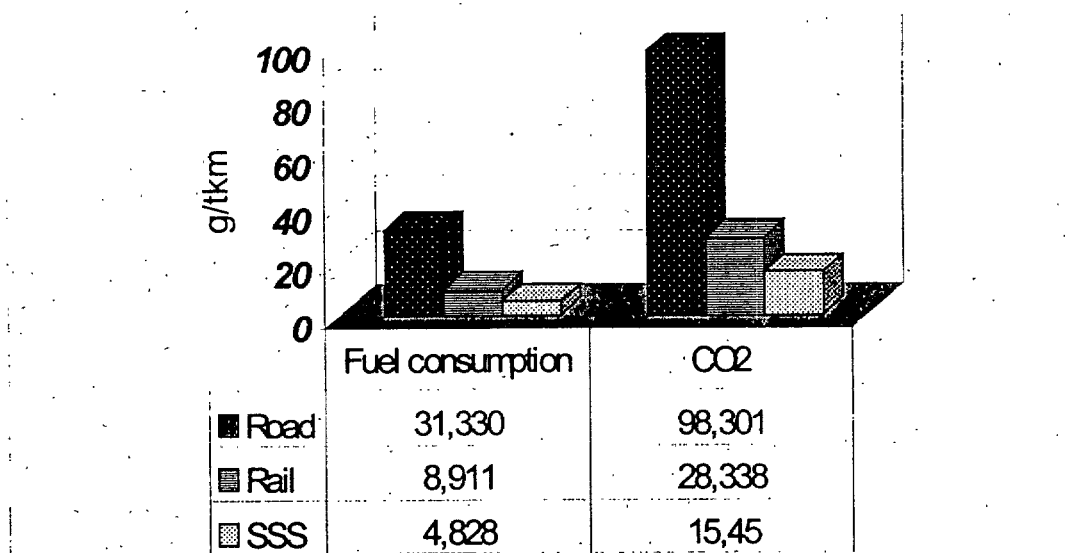


Figure 1: Estimated average fuel consumption and CO₂ emissions for road, rail and short sea shipping in grams/tonne-kilometre.

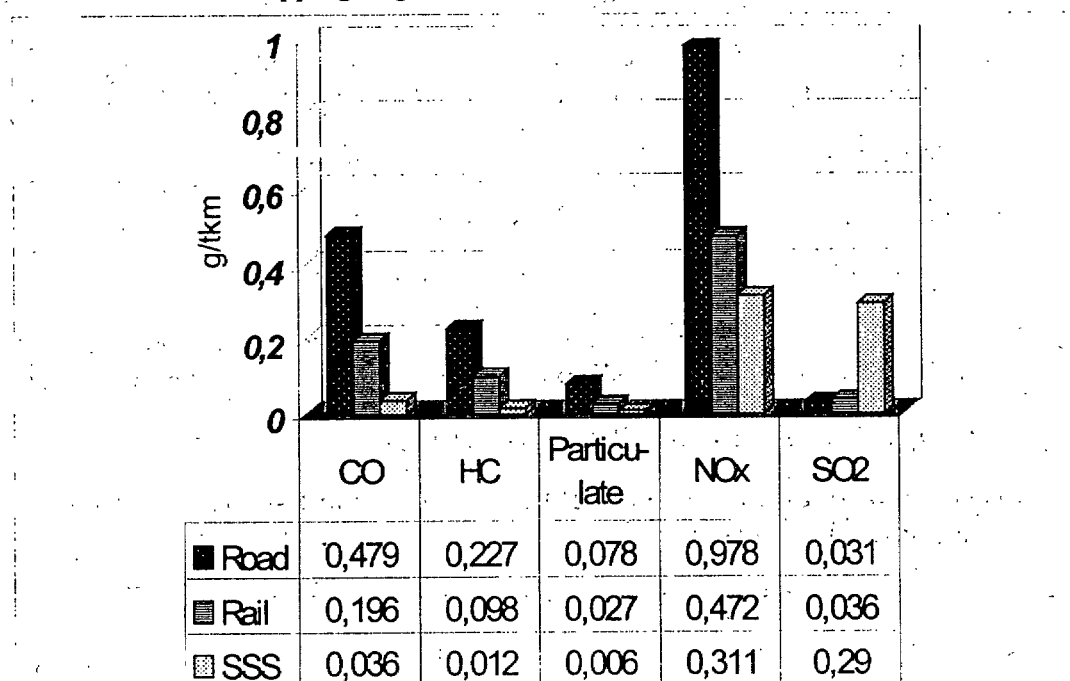


Figure 2: Estimated average CO, hydrocarbon, particulate, NO_x and SO₂ emissions from road transport, rail transport and short sea shipping in grams/tonne-kilometre.

⁶⁰ The Commission thanks the Institute for Energy Engineering at the Technical University of Denmark and the Laboratory of Applied Thermodynamics at the Aristotle University in Greece for providing the basic data and calculations.

The basic assumptions used in the calculations are as follows:

Road: Vehicle weight categories: 5,5-36 tonnes; Representative speeds: rural areas 50 km/h, highways 80 km/h (emission factors speed dependent); Load carrying capacity: (Gross vehicle weight-1,5921)/1,3228; Loading factors 50% and 100%; Lower heating value of diesel 42,5 MJ/kg; Sulphur content in diesel 0,0005 kg/kg. Emission factors for a 36 t vehicle loaded 100% (COPERT methodology): fuel consumption: 350,908; CO₂: 1101,007; CO: 2,151; VOC (HC): 0,858; Particulate: 0,564; NO_x: 13,590; and SO₂: 0,351 g/km.

Rail: Gross train weight: 250-2500 t; Proportion of train available for freight by mass: 0,6; Loading factors 65% and 100%; Lower heating value of diesel 42,5 MJ/kg; Energy consumption: $EC=15,313 \cdot \text{Gross weight}^{-0,6489}$ MJ/tkm. Emission factors: CO₂: 3,18; CO: 0,022; HC: 0,011; Particulate: 0,003; NO_x 0,053; and SO₂ 0,004 g/g diesel.

Short sea shipping: Container and bulk ships in categories 5000-10.000 gt; Average service speeds 19,09 (container carrier) and 14,32 (bulk carrier) knots; Fraction of dead weigh available for freight: 0,95; Typical loading factors 65% and 100% for container carriers and 50% and 100% for bulk carriers; Energy consumption (tonnes a day) for container carriers: $EC=8,0552+0,00235 \cdot GT$ and for bulk carriers $EC=0,9724+0,0019 \cdot GT$; Assumed energy consumption reduction factor when running in ballast condition: 0,8; sulphur content of fuel 3%. Emission factors: CO₂: 3,2; CO: 0,0074; HC: 0,0024; Particulate: 0,0012; NO_x: 0,0645 (assuming 50/50 split between medium and slow speed diesel engines); and SO₂: 0,06 g/g fuel consumed.

The Commission welcomes comments by the parties concerned on the methodology of calculating the environmental performance of shipping and on actual emission estimates.

ANNEX III

Part 1: **SHORT SEA SHIPPING IN THE SPECIFIC TRANSPORT RESEARCH PROGRAMME UNDER THE 4TH FRAMEWORK PROGRAMME FOR RESEARCH AND DEVELOPMENT**

A major aspect of the RTD projects relating to short sea shipping under the 4th Framework Programme was the improvement of direct information and communication links between the different participants in the transport chain (e.g. BOPCom, MARNET, 3SNET, PROSIT and INFOLOG). The main achievements to date have been the development of possibilities for the interconnection of different transport operator application systems in order to improve the flow and management of information and the efficiency of transport operations. The solutions developed have been demonstrated and validated for a number of applications (e.g. cargo booking, transport orders and hazardous cargo notification) in different European regions. Further developments under way are the development of decisions-support tools for the different transport actors (e.g. a short sea shipping brokerage system to better match and fine-tune the demand and supply side in transport) and the integration of information systems with AEI (Automatic Equipment Identification) and cargo tracking and tracing applications.

Another major aspect was the improvement of the efficiency of ports as interfaces between land and sea transport, through a thorough analysis of problems and bottlenecks in ports at administrative, organisational and information-based levels, and the development of new concepts to improve the port/ship interface (e.g. EUROBORDER, SPHERE, INTRASEAS and IPSI). The main achievements to date have been the structured mapping of ports procedures, including the development of simulation models and their testing for a number of European ports, in order to measure performance and also to assess potential scenarios for port organisation and operation. Further key achievements are the conceptual design of new cargo handling systems and vessel concepts and their integration into the overall operational context.

A further area of work considered the rapid developments in the area of fast waterborne transport. The projects EMMA and FASS addressed this subject, both from economic and safety angles. The achievements to date have been an in-depth analysis of market potential and requirements in terms of technology, infrastructure, service level and operating costs and the commercial viability of potential fast waterborne freight services. Achievements under way, are an initial assessment of emerging requirements for high speed vessels in terms of safety, navigation and operators education and training.

The investigation of new potential short sea trading routes and ways to improve links to European transport chains and markets (e.g. INSPIRE and ARCDEV) was another area of emphasis. The main achievement to date has been a full-scale exploratory voyage - in co-operation with the Russians - to the Arctic region in order to demonstrate the technical and economic feasibility of a year-round transportation system capable of linking the energy-rich Siberia to Europe and EU markets.

The development of the Cargo Black Box as a spin-off effect of the Maritime Black Box is a recent significant area of work. The cargo black box is planned to be used for the tracking and tracing of vessels and cargo and for the provision of comprehensive and secure information to facilitate administrative procedures in the future.

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Part 2: SHORT SEA SHIPPING IN OTHER COMMISSION RESEARCH PROGRAMMES UNDER THE 4TH FRAMEWORK PROGRAMME FOR RESEARCH AND DEVELOPMENT

At the end of the 3rd Framework Programme in 1994, the Commission - under the Brite/Euram programme (Industrial and Materials Technologies) - started the Targeted Research Action (TRA). The project TRA NESS - 'New Ship Concept in the Framework of Short Sea Shipping' - grouped seven Community-funded RTD projects. It was set up as objective-orientated interdisciplinary and multisectorial applied research for the short sea shipping market. The set of technologies for a fast and large twin-hull-surface-effect ship for passengers and goods is now available for exploitation in the growing sector of fast ferries.

The Brite/Euram programme in the 4th Framework Programme supported directly and indirectly RTD activities through financing shared-cost RTD projects and creating six Thematic Networks addressing issues relating to short sea shipping.

Among the projects relating to short sea shipping under the Brite/Euram programme are:

- The Kappel ship propulsion concept improving energy efficiency and reducing the environmental impact;
- Development of a computer-based system for enhanced sea-keeping and structural ship design;
- Advanced methods to predict wave induced loads for high-speed ships;
- Mustering and evacuation of passengers;
- Models for operational reliability, integrity and availability of ship's machinery systems;
- Wing-assisted hydrofoil-enabling technologies, hydrodynamics and aerodynamics;
- Improved ship design for marine safety: extreme-loads effects and hydro-elastic coupling;
- Design for structural safety under extreme loads;
- Common European inland vessel concept.

The six on-going Thematic Networks supported by the Community RTD Programmes are:

Thematic Network N°1: MARNET CFD - Computational Fluid Dynamics for the Marine Industry - aims at developing and integrating technologies specific to sea-based application providing appropriate tools for early design stage for the analysis of powering, propulsion, sea-keeping, wave loading, marine aerodynamics, and ship and off-shore safety.

Thematic Network N°2: PRODIS - Product Development and Innovation in Shipbuilding - aims at exploring viable technologies related both to deep sea and unrestricted waters in intercontinental and polar shipping and to coastal or limited waters in short sea shipping or inland navigation.

Thematic Network N° 3: MARPOWER - Concepts of Advanced Marine Machinery Systems with Low Pollution and High Efficiency - looks into new viable technological solutions and concepts for low-speed/medium-speed diesel engines and gas turbines as

prime movers for ships, to reduce drastically the overall engines emissions with particular attention to the NO_x emissions and particulates.

Thematic Network N°4: SAFER EURORO DESIGN FOR SAFETY - An Integrated Approach to Safe European RoRo Ferry Design – has the strategic objective to facilitate the development of formalised design methodologies for safer ships by promoting an integrated approach linking together the ‘behaviour prediction’, ‘risk assessment’ and different ‘design activities’.

Thematic Network N° 5: TRESHIP - Technologies for Reduced Environmental Impact from Ships - aims at promoting methods for life-cycle environmental impact assessment and designing methods to enhance environmentally friendly ship concepts.

Thematic Network N° 6: T- NETS - New Concept and Technologies for the Next Century Maritime Transport - aims at co-ordinating the following eight interrelated Community-funded projects in the field of design, production and operation for a safer, more efficient, environmentally friendly and user-friendly ships including advanced technologies for handling containers:

- Safe passage and navigation (SPAN);
- Computational fluid dynamic in the ship-design process (CALYPSO);
- Concept for transportation and loading of containers (CONTROL-C);
- Low impact urban transport water omnibus (LIUTO);
- Fatigue-based design rules for the application of high-tensile steels in ships (FATHTS);
- Formal safety assessment of high-speed craft (FSA-HSC);
- Environmentally compatible anti-fouling coatings (CAMELLIA);
- Adaptative control of marine engines (ACME).

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ANNEX IV: PROJECTS RELATING TO SHORT SEA SHIPPING SUPPORTED UNDER THE PILOT ACTIONS FOR COMBINED TRANSPORT (PACT) BETWEEN 1995 AND 1998

1. Completed Projects

Terminal Operations Project in the Seaport of Turku

The pilot action ran from 1996 to 1997 and aimed at improving multimodal terminal facilities in the port of Turku (Finland) for the operation of a rail ferry (by SeaRail) between Turku and Stockholm. The project also aimed at increasing the attractiveness of rail and multimodal transport in transit traffic to Russia.

The project included a new computer system, covering practically all operational tasks in the goods terminal and in handling the wagon fleet. With the computer system customers' stock balances and events can now be obtained directly and updated, and customers can be notified directly of cargo movements. Processing time dropped by 80% compared to the earlier manual method.

2. Ongoing Projects

a. Terminal Trailer Project

The first phase of the project involved the Port of Trelleborg and operators from Sweden, Germany and Italy. It aimed at increasing the intermodal market share between Norway/Sweden and Italy via the Trelleborg-Rostock ferry route by using innovative Terminal Trailers for more efficient handling of swap bodies and containers.

The first phase started in 1996 and ended in 1997. The project has increased flexibility, made handling easier, loading and unloading quicker, and it has improved manoeuvrability. The transport volumes of Terminal Trailers and the capacity utilisation of the ferries have increased.

In the second phase, the commercial viability will be further tested. The ports of Trelleborg, Rostock and Lübeck are transshipment points for a multimodal rail/ship service from Sweden to Germany and Italy which started in 1997 and makes use of these Terminal Trailers.

b. Port of Dunkirk

This project started in 1996 and is now in its second phase. It aims at developing a new combined transport service with the innovation of combining river and sea transport. Barge transport is used on the route from Lille to Dunkirk and a short-sea feeder on the route Dunkirk-Antwerp-Rotterdam-Felixstowe-Le Havre. Road and rail were also integrated into the concept.

In its first phase that ended in 1997 the project reached its objectives in the maritime part by exceeding the annual goal of 10.000 TEU transferred from road to maritime transport. One of the partners also established similar links on other routes and with other partners.

c. Intermodal Maritime Service between the Netherlands and Russia

The project involves the starting-up and operation of a ro-ro ferry route between Moerdijk (the Netherlands) and St. Petersburg (Russia) with two sailing per week. It is the initiative of Czár Peter Lines (NL) and started in 1997. The aim of the project is to offer a reliable and competitive door-to-door intermodal alternative to the transport of trailers and swap bodies from the Netherlands, Belgium and France to Russia. An innovative feature is the use of a newly developed 13,6m stackable swap body which is at present the largest intermodal unit in the container range. Project benefits include saving 2-3 days compared to road transport, reduction of transport costs and greater cargo safety.

d. Intermodal Maritime Service between La Rochelle/Le Havre/Rotterdam

This intermodal service was launched in October 1997 by European Feeder Lines. The volume potential of freight around La Rochelle is significant. Most of the traffic goes from or through Le Havre, Antwerp and Rotterdam. Maritime facilities on the French Atlantic coast connected with the efficient inland transport network offer a way to avoid long road transportation through congested areas in Northern Europe. The service did not quite achieve its target volume of around 10.000 TEU during the first operating year.

The operation has highlighted some of the obstacles projects of this kind meet, such as the facilities in main ports not being sufficiently adapted to short sea shipping in terms of both service and price.

e. Intermodal Service between Ireland and France with Rail Connection to Italy

The project started in 1997. It involves the transport of containers, swap bodies and semi-trailers between Ireland and Italy. P&O Transcontinental is the leading partner with other Irish and UK companies involved. Operational measures include the development of a railway shuttle service between Cherbourg and Novara and a maritime service connecting Rosslare or Dublin to Cherbourg. Innovative aspects include the creation of an integrated intermodal transport chain. The project also provides the clients with real-time information on the location of the cargo units. By 1999, the service aims at moving 75% of the annual number of intermodal units between Ireland and Italy.

3. Projects Selected in 1998

The PACT 1998 selection procedure included several new maritime projects. These are an intermodal short sea service Italy-France-Ireland-Denmark with fast ro-ro ships, a sea-river container service by low airdraft coaster from Zeebrugge to Duisburg and a maritime-rail service from Central Spain through the Port of Bilbao to Germany.

Feasibility studies selected include a road/sea service from Scotland to the Netherlands, a road/sea service Portugal-Netherlands, and an inland waterway/maritime transport of paper rolls in cassettes between Sweden/Finland and Germany/UK.

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ANNEX V: SHORT SEA SHIPPING FEASIBILITY STUDIES SUPPORTED WITH DG VII CO-FINANCING
(generally 50% of the total cost of the study).

Project	Main contractor/ associated partners	Objectives	Results	Start date/ end date
<p>Project N° 1 Establishment of sea-river links between Portuguese seaports and Duisburg</p>	<p>European Development Centre for Inland Navigation, Duisburg (EBD) / Portuguese Institute for Maritime Research (IPIMAR)</p>	<p>The study aimed at analysing the structure of sea-river transport links between Portugal (the port of Setúbal) and Germany (inland port of Duisburg) and at estimating the potentially shiftable cargo. It examined transport forecasts and the competitive position of waterway transport on the above route. It included a market analysis and the analysis of all possibilities for improving the attractiveness of sea-river shipping, e.g. the use of faster ships or adaptations of containers and ship equipment.</p>	<p>The report concluded that there was, under present market conditions, insufficient potential cargo to justify a large sea-river vessel, the only type of vessel which would be viable in time and cost terms. This was still true even if the service was expanded to include calls in Spanish ports. However, as a substantial increase in cargo volume was forecast for the year 2010, it was suggested that such a service might be viable in the longer term.</p> <p>Detailed comparisons showed that sea-river compared well with road in cost terms but badly in time terms.</p>	<p>February 1996 / September 1997.</p>
<p>Project N° 2 Integrated short sea traffic chain between the ports of Antwerp, Rouen & Tilbury</p>	<p>Westerlund Corporation</p>	<p>The project examined the potential viability of a new ro-ro service transporting forest products between the ports.</p>	<p>The study found that there was insufficient potential cargo to justify a new service under present market conditions. Important considerations were the relatively short road distances involved and the low cost of road transport.</p>	<p>May 1996/June 1997.</p>

<p>Project N° 3</p> <p>Improvement of short sea services between the ports of Bilbao and Rotterdam</p>	<p>Bilbao Port Community / Basque public authorities, Rotterdam Port Authority, Dutch Government, Rotterdam Port Industries Association and Rotterdam private companies.</p>	<p>The study was a follow-up to an agreement signed in May 1995 between the two port communities with the aim of improving short sea links between the ports and to promote the exchange of know-how. The objectives of the study were: to achieve a sustainable growth of short sea shipping between Rotterdam and Bilbao; to get the industries involved in order to set up a competitive short sea service; analyse critical aspects, identify necessary actions and promote their implementation.</p>	<p>The very comprehensive market analysis done showed the following main conclusions:</p> <ul style="list-style-type: none"> - a potential 3.100.349 tonnes, could, under present conditions, be carried by short sea shipping: a maximum of 10% of this amount would already be going by sea; - short sea shipping is at present more cost competitive than road within a radius of 170 km of both Bilbao and Rotterdam for 40ft containers and within a radius of 250 km for 20ft containers; - there are opportunities in the medium term to reduce the cost of the total short sea shipping chain by 14.5%; this could more than double the area within which short sea shipping is more competitive; - the main scope for reducing costs is in the present inefficient organisation of inland haulage to and from the port of Bilbao. 	<p>August 1996/ October 1997.</p>
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<p>Project N° 4</p> <p>Investigation into market potential on short sea routes "German North Sea-Nordic countries/Western and Southern Europe"</p>	<p>Intermodal Centre / Lower Saxony Institute of Shipping Logistics, and several EC shipping companies.</p> <p>European Logistic Centre / Lower Saxony government, Institute of Shipping economy and Logistics, and several EC shipping companies.</p>	<p>The objective was to reduce the market share of long distance road haulage crossing Central Europe. It focused on three major routes: traffic between Scandinavia and Germany; transit traffic between Scandinavia and Western/Southern Europe; and traffic between North Germany and Western/Southern Europe. The project was to be carried out by means of the operation of an integrated transport service using modern systems of logistics and telecommunications.</p>	<p>The ultimate objective of establishing an intermodal logistics service was not attained, despite contacts with industry via workshops, surveys, supply of relevant cost data to potential clients etc. It was found that there was a potential shiftable cargo of 1,7 million tonnes between Northern Germany and Spain, 535.000 tonnes between Northern Germany and Belgium, 600.000 tonnes between Northern Germany and France and 135.000 tonnes between Northern Germany and Portugal.</p> <p>A survey indicated that the time taken by maritime transport was identified by shippers as the main obstacle.</p>	<p>October 1995/ July 1997.</p>
<p>Project N° 5</p> <p>Feasibility study into the establishment of a Baltic short sea freight network (Balt-Net)</p>	<p>Padborg Transport Centre/Port of Vaasa (Finland), Port of Pärnu (Estonia), Voru County Government (Estonia), Baltic fish processing plant (Kolobrzeg, Poland), Port of Aabenraa (Denmark), Port of Karlskrona (Sweden), Port of Karlshamn (Sweden).</p>	<p>The objective of the project is to establish a network of partners in the Baltic Sea area who share the interest of setting up a joint freight-handling network. Market surveys will identify the main markets for the services. The aim is to attract new customers/users to existing ferry connections and freight routes and to develop new connections. The project will also identify the necessary investments in the ports concerned with a view to making them more efficient.</p>	<p>A network has been established linking most of the original partners. This co-operation and the market analyses undertaken have facilitated the starting-up of two new lines, an increase in capacity on two existing lines and the commencement of new infrastructure development in four of the ports involved.</p>	<p>November 1996/ May 1998.</p>

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