



***intra* sea**

INland TRAnsport on
SEA routes – Final report



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INTRASEA – VISION 2020+ for the Baltic Sea Region

The land and seaborne cargo-flows have gone through a remarkable change during the last ten years, not least in the Baltic Sea Region, where the quantities have doubled. The economic growth in the Baltic Sea Region will continue and transports will increase even more. The potential of waterborne transport for inland markets and linking the economic macro-regions to supplying regions has been underestimated. There are additional sustainable transport solutions in the Baltic Sea Region to explore and exploit. The INTRASEA Vision 2020+ sets up seven areas demonstrating the expected state of art in the Baltic Sea Region by 2020 as a result of increased use of inland waterway transports, combined, or not, with other modes of transport.

- The growth of the Baltic Sea Region market has significantly increased transport volumes (passenger & goods) within the area.
- The logistical strategies of global industries have become established regionally covering the whole Baltic Sea Region without national boundaries.
- All year round short sea shipping has become the main mode of transportation in the whole Baltic Sea Region.
- Inland navigation within the Baltic Sea Region including western part of Russia is commonplace.
- Goods terminals are ports located at river/rail/road crossings.
- The road safety and environmental targets have been met thanks to increased inland waterway shipments.
- IT supported logistical systems are “waterproof”.



INTRASEA – INland TRANsport on SEA Routes

Increased utilisation and sustainable development of waterborne transport to inland markets in the Baltic Sea region

The importance of developing sustainable transport solutions in the Baltic Sea Region...

It is a fact that the Baltic Sea Region is forecasted to face a far-reaching growth of land- and seaborne cargo flows. In the last decade only, the freight volumes handled in the area have more than doubled, and this tendency is even expected to accelerate on account of the enlarged EU and the increased Russian trade. Russian trade has a substantial impact on the Baltic Sea Region which emphasizes the need to ensure an extension of transport links to Russia in the context of the Northern Dimension. The new market situation in the Baltic Sea Region has emphasized aggravated demand for transport capacity where the inland shipping can be used to a much higher extent than today and also for creating sustainable communication links for improved spatial integration. Inland shipping plays an important role in providing safe year-round transport, preventing bottlenecks in the European land transport system and to developing sustainable environmentally friendly transport solutions.

The focus of the INTRASEA project has been to promote and to develop the waterborne transport for inland markets and to come up with ideas for solutions to deal with the growing land- and seaborne cargo flows in the Baltic Sea Region. One of the premises for this work has been the EU White Paper on Transport Policy 2010 “Time to decide”, where inland shipping and sea transports are predicted to play a more important role for transports in the future than today. The increasing congestion of main roads and associated disadvantages are the basic starting points for



The Steering Committee of the INTRASEA project. From the left; Pekka Nikkilä, Vadim Klyuev, Willand Ringborg, Heiner Hautau, Igor Jagniszczak, Algirdas Sakalys.

the White Paper. In the White Paper the EU Commission outlines the advantage of using inland waterways primarily as means to reduce traffic on roads. The INTRASEA Vision 2020 + and the strategy to reach the vision have been the results within the project to deal with this matter.

The importance of the Trans-European Transport Network (TEN-T) is also emphasized in the project. Inland shipping is also mentioned on the list of TEN-T priority projects. There are a number of activities taking place from the European Commission's side in the field of inland shipping. The European Commission is preparing a communication which will set out an integrated action programme between 2006–2013, focusing on specific actions which are needed to fully exploit the market potential of inland navigation and to make its use more attractive. Also the European Commission's programme Marco Polo II will deal with the shift from land transport to waterborne transport.

Parallel to the EU policies, a major

change in Russian transport policy is underway. For the Baltic Sea region this is of prime interest. The recently issued Transport strategy – aiming at the same target year 2010 as the EU – does emphasise better utilisation and up-grading of the giant waterway network in Russia.

One main issue is to give inland shipping as well-functioning infrastructure as possible. Bottlenecks and other obstructions should be removed. Inland shipping is an environmentally friendly mode of transport with low fuel consumption compared to other transport modes.

The problems caused by congestion in the growing transports and transport needs in the Baltic Sea Region are requiring a solution that will benefit the whole region. The opportunities provided by short-distance sea transportation and inland shipping can be used to a higher extent than today so the problems caused by road congestion and deficiencies in rail transport can be solved.

...and the waterborne response in the Baltic Sea Region

The amounts of both passenger and goods traffic are increasing continuously in the Baltic Sea Region. The inland shipping and the use of waterborne transport to inland markets has a significant development potential in the Baltic Sea Region. It can help to hold back the forecasted considerable increase in heavy trucking, rebalance the modal shares, bypass land bottlenecks, and it is safe and sustainable. The demand for inland waterway transport is triggered from a promise of better performance using inland waterways than other transport modes. One of the main interests for the industry that use sea transport for the supply of raw materials is the cost of shipping. This requires a modern and well functioning infrastructure using inland shipping with transport cost reductions, transport time reductions, reduced maintenance cost, reliability of transport time, safety, low accident cost/risk cost and environmental impacts.

A future scenario where logistic strategies of global industries become regional covering the whole Baltic Sea Region without national boundaries is to be foreseen. It is also to be anticipated that new technologies for IT and logistics will develop and become more efficient. The Baltic Sea Region have large lake areas and river networks connected with open sea where new potential goods terminals and logistics centres can be relocated not only in coastal ports but also in inland waterway ports and railway connections.

Another challenge for the sea and river systems in the Baltic Sea Region is to expand tourism and recreation. Tourism related to archipelago, rivers and lakes has a high potential when it comes to sustainability of ecological values and also regional development values. The inland waterway areas can offer tourism related high quality services, meet the demand for experience travelling, adventure and qui-



The transport volume in the Baltic Sea Region have more than doubled during the last decade.

eness in less populated areas. The important networking and cooperation between the countries in the Baltic Sea Region has been initiated and developed within the framework of this project.

The INTRASEA database on www.intrasea.org invites you to take part of the today existing infrastructure and routes for both commercial traffic and tourism in the Baltic Sea Region.

It is indeed true that the challenge of increased transport quantities in the Baltic Sea Region has to be dealt with. Shipborne trade to inland markets can be used to a higher extent than today, provided all-

year-round shipping and sustainable environmental friendly transport solutions. It is already now high time to prepare for a strategic shift – from land to waterborne transport!


Willand Ringborg
Project Coordinator INTRASEA/
Chairman of the Steering Committee of the
INTRASEA Project
Swedish Maritime Administration

The importance of developing sustainable transport solutions in the Baltic Sea Region...

The INTRASEA project (INland TRAnsports on SEA Routes) focuses on development of waterborne transport for inland markets in the Baltic Sea Region and adjacent areas. The project is a part of EU Regional Development Fund portfolio approved and monitored by the Interreg programme IIB for the Baltic Sea and adjacent areas.

The substantial increase of traffic in the Baltic Sea Region – doubled in a decade – demands alternative transport solutions. The situation with the increased traffic movements concerns all the countries around the Baltic Sea Region. INTRASEA partners from Germany, Poland, Lithuania, Russia, Finland and Sweden have taken an active part in the project work from a regional, national and transnational perspective on how to create sustainable transport solutions in the Baltic Sea Region.

Waterborne transport is an important option to control undesired growth of road transport and a step to a sustainable transport society. It is necessary to increase the use of inland shipping to discharge roads from heavy transport. The INTRASEA project has explored the use of waterborne transport to inland markets as an environmentally friendly and sustainable transport solution.

...and how the waterborne transports can respond

Inland shipping and the use of waterborne transport to inland markets has a significant development potential in the Baltic Sea Region. It can help to bypass land transport bottlenecks. It is energy efficient, safe and sustainable. The demand for inland waterway transports is triggered from a demand for better performance and lower external costs. The external costs created



The map of the Baltic Sea Region encompassed by the INTRASEA project.

by transport activity are noise, accidents, congestion, emissions plus the need to extend the infrastructure causing land take and land barriers. The future growth of traffic requires a modern, predictable and well functioning infrastructure. Using inland shipping and sea transports enables cost reductions, by-passing congestions, reliable transport time, safe shipments with low risk of accidents and environmental impact.

Access inland waterway information on the Internet

The INTRASEA-database provides key information on strategic inland waterways and routes in the Baltic Sea Region. The database consists of two parts, one for commercial fairways – goods transport – and one for tourism. The overall and nation-specific maps guide the users on the fairway and port resources in the region. A user friendly manual makes it

simple to understand the application. The database and the user manual are available online at www.intrasea.org. The database is accessible for the public and industry free of charge.

Regional development and the role of inland waterways

The INTRASEA project is based on the EU policy; “White Paper, European transport policy 2010: time to decide”. The policy states that inland navigation and short sea transport have to play a more important role in the future. INTRASEA indicates that the importance and capacity of inland waterways, now and in the future, gives a rationale to reconsider river-sea solutions as a realistic transport alternative. Inland waterway transport solutions are sometimes not considered as productive and cost efficient. In some countries this view is based on insufficient infrastructure capacity. Ships and barges

can not be used because of too low bridges or too shallow water to allow for navigation. It is a major challenge – for both the infrastructure planners and for the ship design industry – to overcome such built-in restrictions and overcome these historical bottlenecks.

The coming years will probably lead to a change and re-assessment of alternative transport modes. This is due to new regulations, road tolls, energy prices, the increased transport demand in the west-east link of the Baltic Sea Region. To prepare for this future transport demand, time has come to plan for an upgrading of and investments in sustainable infrastructure, - the waterborne alternative for increasing inland markets.

The structure and location of the industry are crucial when discussing the dependence on transport options to other markets. One the one hand- the globalisation of nearly all markets makes the industry more dependent on logistics. It has been a predominant view that the “new economics”, the growth of the service sector, the access to new means of communication and the IT revolution all together have created a wider and more differentiated industry sector, and thus reduced the dependence of individual regions on

transport intensive industries. From this follows that the dependence of classic, traditional transport infrastructure as localisation factor and argument has decreased.

This has not become reality. Few new industries, except smaller ones without strong regional development impact, locate to areas outside the attractive magnets of the dense urbanised areas. The communication society has not become a distributed industrial driving force for even regional development. The opposite has rather been the case: raw-material based industry in the Baltic Sea Region has maintained its markets and decentralised geographical pattern close to the supply base and not seldom up-streams inland waters.

The INTRASEA project has presented a vision – Vision 2020 + that depicts a future inland waterway system of higher utilisation in the Baltic Sea Region by 2020 and onwards and thus contributing to widen pan-European markets. The INTRASEA Vision 2020 + and the strategy to reach the vision, are substantial results of the INTRASEA project. They can easily be transformed into plans for common action and measures in the Baltic Sea Region. They are also a direct appeal to stakeholders and the industry to join

efforts in a call for development of regional infrastructure and services to meet future transport requirements in a cost efficient and productive way.

Potential for modal shift

Transport on inland waterways is one of the most environmentally friendly and cheapest way to transport goods. The Baltic Sea Region studies performed within the INTRASEA project show that only 5 % of all goods transported are shipped on inland waterways. The potential of short sea and inland shipping can be developed to a much higher extent than today. Integrated transport solutions connecting the areas in the Baltic Sea Region by sea, using waterborne transport are a resource not to be overlooked. Transport chain studies carried out by the INTRASEA project further describe the main transport axis in the Baltic Sea Region. Germany shows the highest population density and the highest trading figure within the Baltic Sea Region, while the inland waterway traffic for example on the river Odra is the lowest in the whole region. One reason is the insufficient infrastructure along the Berlin – Szczecin/Swinoujscie route.

The Motorways of the Sea concept for



To prepare for future transport demands waterway infrastructure investments are needed.

the Baltic Sea Region will be supported by the development of attractive plans and pilot projects for port hinterland solutions, which make use of the inland waterways' potential as a genuine alternative to road transport.

Today hardly anyone offers integrated services from door-to-door using inland waterway ships. To plan a single truck transport from Finland to Germany via Ro/Ro-ships is considerably simpler than to plan an intermodal transport chain with four different means of transportation and three handling processes in three different countries for more than one client. This need for complex planning could be one of the obstacles for a modal shift from road to inland waterway. For a successful modal shift an integrated logistics system is needed. This would comprise an international organisation and new IT-tools for planning and managing intermodal transport chains.

Recommendations for future actions are to promote the integration of inland navigation in a trans-Baltic multimodal transport strategy. This concerns a better integration of inland shipping into multimodal trans-national transport chains and the general use of inland navigation in a national and trans-national context. It will also include the combination of inland waterways and short sea shipping. To encourage a trans-national work in the Baltic Sea Region where administrators, stakeholders, users and the industry participate to promote and develop the use of inland shipping in a multi-modal environment would increase the viability. By doing so the realistic potential of this mode is employed to meet future challenges for the transport sector.

Investments in infrastructure

– a condition for better performance

The inland waterways in the Baltic Sea wider region together with the short navi-



Typical inland waterway port operation.

gation distance over the Baltic Sea constitute a substantial resource of future traffic capacity. The studies carried out within the project show that investments in inland waterways are needed to establish the quality needed to become a viable modern transport mode. The need for better control of rivers, canalised rivers and canals as regards flooding is also identified in the studies. The approach to evaluation and assessment of investments differs between the countries. In Finland the assessment of an infrastructure investment is based on a number of effects but in the final cost benefit calculation only the traffic impacts are considered e.g. transport cost savings for the users and changes in the external costs. The same basic method is also applied in Sweden but only the direct cost/savings and external costs of emissions are considered. Germany, on the other hand, opens up a wider perspective where also the employment effect of the investment, the benefit for the region and other socially beneficial factors are considered.

Regional effects have to be taken into consideration for future analysis. The reason is that an investment in one country may not have the largest positive effect in its own country but in the neighbouring country. For example, investments in the Polish waterways could provide significant environmental effects in the Berlin area if seagoing ships could proceed all the way to Berlin. The high cost of upgrading the systems is difficult to justify using the applied models of assessing the benefit to cover for the costs.

To prepare for future transport demands and a sustainable infrastructure in the region, waterway infrastructure investments are needed not only from a transport point of view but also to safeguard flood mitigation. These two issues interact. A study within the project has indicated that the tremendous restoring costs after a flooding, and the awareness that the frequency of such damages is increasing, justify a recalculation of combined transport and flood control projects.

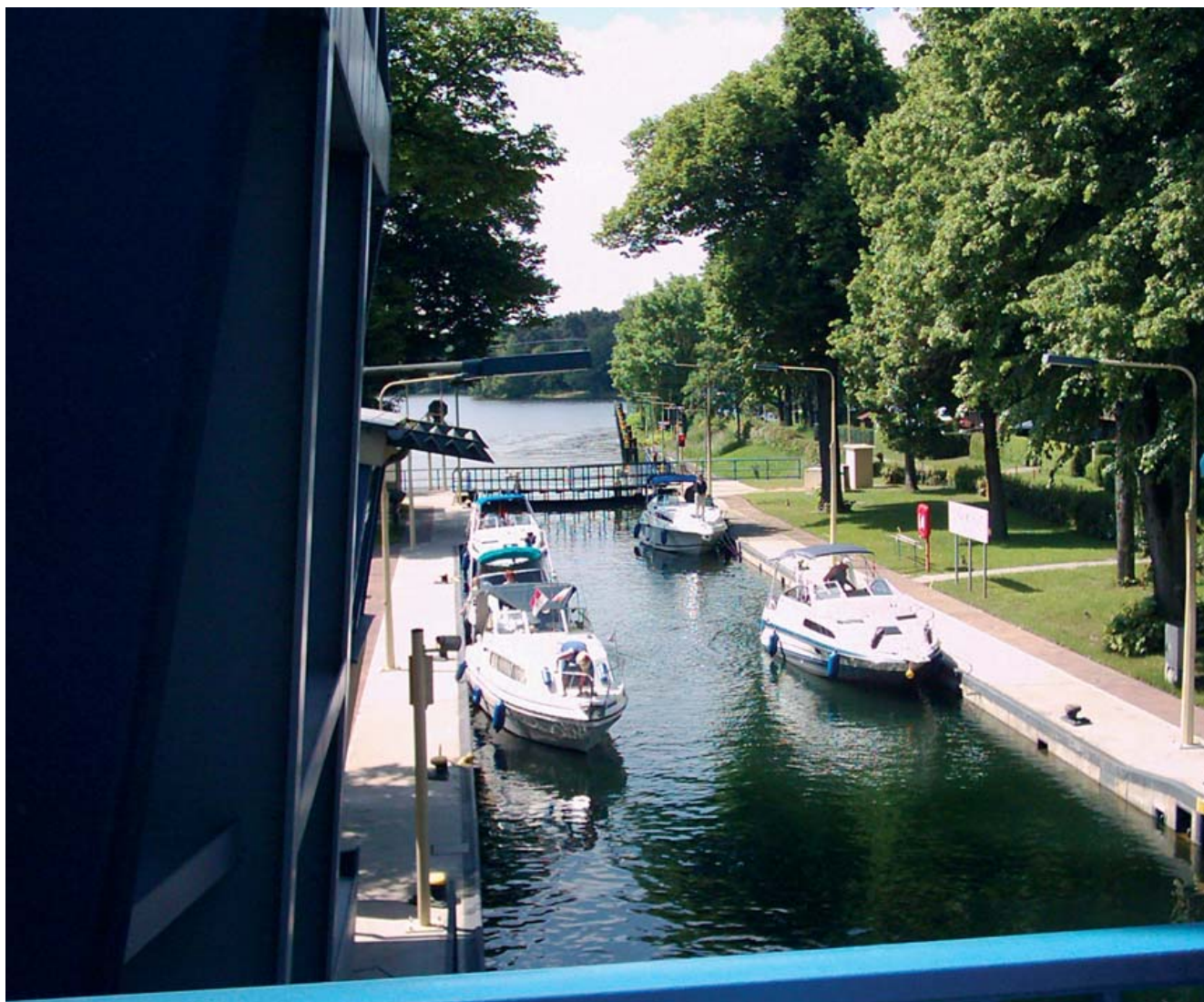
Inland waterway potential for tourism and recreation

Beyond the transportation of cargo, the inland waterways offer an attractive potential for tourism and recreation in the Baltic Sea Region. Picturesque shores around the waterways with near access to nature or towns are today providing tourist experiences of recreation combined with sailing, sports as well as monuments of history and architecture. The Baltic Sea Region countries are of exceptional tourist value and the regional development is directly influenced by more tourists in the Baltic Sea Region countries. More and

more people are spending their vacation and recreation time in the region and the future tourist industry is expected to grow. An effective infrastructure, corresponding to the demand of the tourists, as well as smoothly functioning services at the harbours and jetties are a precondition to further develop and increase the usage of inland waterways for tourism. The contemporary tourist often prefers individual exploration to package travels. The former can certainly be provided by the possibilities of the inland waterways in the Baltic Sea Region. The situation today is that a small number of tourists choose inland

waterways for their destinations. This is mainly caused by the present lack of information and cooperation between different agents of the inland waterways tourism industry, but also poor accessibility. Now all this is slowly taking a turn for the better as this kind of tourism is becoming a more and more fashionable.

The key to success to make more people choose the inland waterways, instead of other kind of tourism in the Baltic Sea Region, is a better promotion and to cooperate actively in interregional organisations to identify the advantages that develop the tourism on inland waterways.



The INTRASEA database provides easily accessible information on both tourism routes and routes for commercial shipping.

An introduction to the project INTRASEA

INTRASEA is a Baltic Sea Region Interreg IIB project with 28 partners in Finland, Sweden, Germany, Poland, Lithuania and the Russian Federation. The substantial increase in traffic volumes in the Baltic Sea Region is a fact, this emphasizes further the demand for several and alternative transport solutions making the option to use waterborne transports an important alternative for the society. Increased usage of inland shipping contributes to better transport performance. The aim of the INTRASEA project has been to show the use of waterborne transport to inland markets as an environmentally friendly alternative to a sustainable transport development. The project has worked with how to justify investments in the infrastructure, feeding maritime ports and fairways by developing an unbroken chain of waterborne transport together with the development of the use of inland waterways for tourism. The demand of using inland shipping is triggered from a demand of increased transport capacity for which inland waterway shipping is a more environmentally friendly alternative than other transport modes. The INTRASEA strategy take up guidelines, necessary actions and the resources needed to develop inland shipping in the Baltic Sea Region. The INTRASEA contribution to increasing national and transnational information about the capacity of inland waterways in the Baltic Sea Region is the INTRASEA database, where easily accessible information is provided on both tourism routes and routes for commercial shipping.

Partner set-up

The Swedish Maritime Administration has had the role as the leading partner to coordinate the project which has been ongoing since June 2003. The 28 partners in the consortium have been Public



Inland waterways provide excellent opportunities for tourism and recreation.

Authorities in Germany, Russia, Finland, Poland and Lithuania. The support from the domestic industry and other national authorities and organisations has been one of the decisive factors for the success of the project. Regional development is a keyword for the project INTRASEA. This concerns also the use of inland waterways for recreation and tourism. How to further develop this growing use of the inland waterways is another important task on the INTRASEA agenda.

The work packages within the INTRASEA project

The work in INTRASEA has been divided into five different work packages (WP 1–5) and monitored by a technical coordination group and the steering committee of the INTRASEA project. Below you will find a short description of the different work packages and their strategic focuses.

WP 1 – Infrastructure and Routes

The strategic focus for this WP has been to develop the combined capacity of the

inland waterway networks, infrastructure development plans and strategic routes in the Baltic Sea Region. A new database has been created within this WP, giving the latest information on the inland waterways in the Baltic Sea Region. The database which is available on the internet (www.intrasea.org) provides information on the Baltic Sea Region inland waterways for all project stakeholders as well as the public. In order to make the access to all information as user friendly as possible, the information has been divided in one database with “tourism” in one page and “commercial shipping” in another. Commercial shipping refers here to waterborne transport of goods and passengers.

WP 2 – Regional Intersectorial strategies

The strategic focus has been to integrate and extend the organisations that are working with inland waterways as well as the users of inland waterways in the Baltic Sea region. The INTRASEA Vision 2020+ was born in the beginning of the project’s lifetime and has been influencing the projects output to a high extent. How will



Interregional cooperation creates the basis to further develop the inland waterways in the Baltic Sea Region.

the INTRASEA Vision 2020+ come true? After making regional dependence reports for the project countries the conclusions resulted in the INTRASEA strategy. The strategy presents guidelines, necessary actions and the resources that are necessary to develop. This is in order to create a sustainable transport system using short sea and inland shipping that can deal with the increased trade, regional development and tourism in the Baltic Sea Region.

WP 3 – Modal shift & river-sea transport

WP 3 has conducted a study on potential modal shift towards inland navigation in the Baltic Sea Region and investigated freight volumes and identified potentials for modal shift. Environmentally friendly construction and flood mitigation practices have also been analysed.

The strategic focus for this WP has

been to make scenarios for modal shift to inland waterways and river sea transport, demonstrate the transport chain promoting inland waterway transport and good construction practices, and analyze the environmental impact of modal shift.

WP 4 – Infrastructure

The strategic focus for this WP has been to compare and analyse the socio-economic and environmental justification methods of investments in inland waterways used in the different participating countries.

Different factors of importance for the use of inland waterway and their respective functioning have also been considered. The assessment of infrastructure investments has been performed on actual projects using a cost benefit analysis in Germany, Finland and Sweden. It recommends, considering other important fac-

tors like flood mitigation, as part of the evaluation process when assessing the benefit of investments in inland waterway infrastructure improvement.

WP 5 – Tourism on inland waterways

To develop and disseminate the possibility to use inland waterways for national and international recreation as well as demonstrate the accessibility to the existing inland waterways in the Baltic Sea Region has been the strategic focus for this WP. The INTRASEA database presents the tourist routes within the Baltic Sea Region. A CD containing contacts and links to the tourist centres has also been produced and distributed to the tourist industry around the Baltic Sea. The INTRASEA website is the main tool used for dissemination of the WP 5's activities and results.

The role of inland transport on Sea Routes in the Baltic Sea region

In an increasingly global market situation transport has become vital for the development of trade, travel and exchange of experiences. There are already ocean-going vessels with a capacity of over ten thousand TEUs. The length and width of those vessels is such that a smaller solar eclipse occurs every time such a vessel enters a port.

Those ocean-going vessels are partly fed by feeder traffic from regional ports within the practical and economical reach from base ports such as Hamburg and Gothenburg in the Baltic Sea Region.

Within this area there are numerous coastal feeder traffic ports connected to inland waterways. These ports are e.g. St Petersburg, Klaipeda, Kaliningrad, Gdansk, Gdynia, Szczecin and Swinoujscie, Lübeck, Kiel and Södertälje. These ports in their turn are already, or should preferably, be fed by inland water transport systems. The INTRASEA project has mapped all Baltic Sea Region inland waterways. It has also evaluated their possibilities to accept modal shift cargo and it has proposed methods for justified inland waterway infrastructure investments. The ultimate goal has been to create a sustainable development of the Baltic Sea Region inland waterway transports. For this reason a VISION for 2020+ has been created within the project. Also a strategy for the fulfilment of this vision has been set out.

Forecast

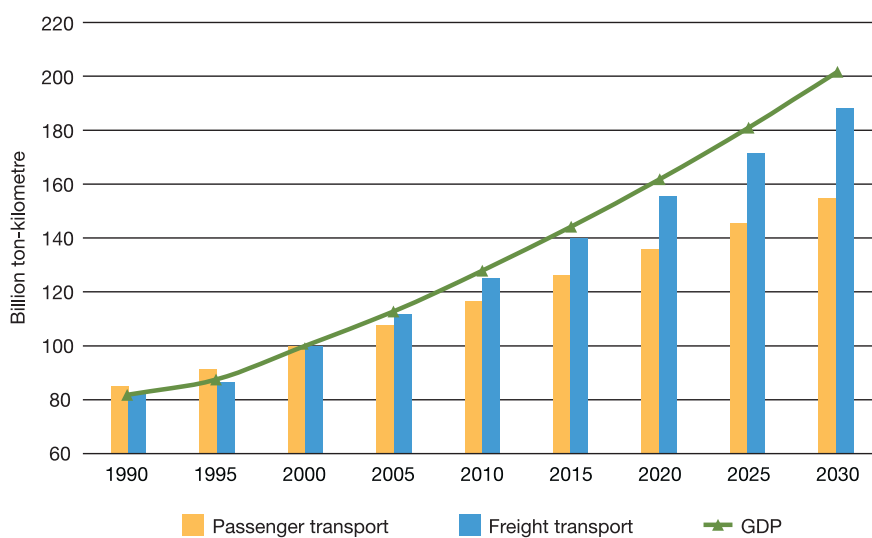
During a seminar in Helsinki, in November 2004, arranged by Work Package 2 of the project, the following graph “Expected growth in trade within EU 25 countries affecting the transport sector” was presented.

Obviously this growth will affect every branch of the transport sector, not least



The transport growth in the Baltic Sea Region will require high quality transport services using all modes of transport – of which inland shipping is one.

Expected growth in trade within EU 25 countries affecting the transport sector



Source: European Energy and Transport.

the maritime part of it. Because of environmental considerations it may be so that the maritime sector will have to accommodate a major part of this growth. The result of the INTRASEA project hopefully will respond to these new demands.

It is however obvious that this will require high quality transport services making use of all modes of transport. As road and rail transport services already

now are highly utilized with congestion situations around all major regional cities, water transport services can expect a huge increase in requirements. If the volume growth within the Baltic Sea Region will increase by 5 % up to 2020, only intra-Baltic Sea traffic will increase from 160 million tons to more than 350 million tons. This will certainly put some additional pressure on the EU Motorways of the Sea – but also on inland waterways.

Inland waterways – structure

Sweden

Inland waterways in Sweden comprise Södertälje Canal and Trollhätte Canal for both commercial and tourist traffic and seven smaller canals for tourist traffic only, of which the Göta Canal with its 58 locks is the most important one. Commercial traffic through Södertälje Canal and on the lake Mälaren feeds the industrial area of Bergslagen with its comprehensive chemical, steel and forestry product industries. Port of Västerås is Sweden's largest lake port and is situated in the north-western part of lake Mälaren. There are a number of other commercial ports on the lake. Lake Mälaren can also be reached through the lock at Hammarby in the central part of Stockholm. This passage, however, has limited dimensions. Traffic through Trollhätte Canal reaches ports on the lake Vänern of which Port of Karlstad is the largest one. Trollhätte Canal connects to the Göta River which stretches all the way to the Port of Gothenburg on the west coast. Annual volume of goods on the two lakes is five million tons on Mälaren and three million tons on Vänern.

Russia

Inland waterways in the European part of Russia comprise some 6 500 kilometres of waterways of which the Volga – Baltic part and White Sea – Baltic, linked by lake Onega, are the most important ones. Using river Neva through St Petersburg, the lake Ladoga, the river Svir, the lake Onega, the Volga-Baltic Canal, the lake Beloye, the river Sheksna, the Rybinsk reservoir and the Volga and by using the Moscow Canal, one can reach all the way to Moscow. The system can be used by both commercial and tourist waterway traffic. In 2004 some 17.6 million tons of goods were shipped on the Volga – Baltic waterway and 217 thousand tons on the White Sea – Baltic waterway only.



Waterways and shipping corridors in Europe.
Source: 2004 INE – Inland Navigation Europe.

Poland

The most important waterways in Poland are the rivers Odra and Wisla, linked by the Warta-Notec Canal. Through the Odra-Havel Canal but also the Odra-Spree Canal one can reach the water systems of Berlin. These waterways are navigable both by commercial vessels and tourist boats, however with limitations in size and height. There a number of smaller waterways in Poland suitable for pleasure boats only. The most important one is the Ostroda-Elblag Canal with its unique hydro technical equipment.

In 2003 the following volumes of goods were transported on the Polish inland waterways; export goods 1900 thousand tons, import goods 310 thousand tons, transit goods 355 thousand tons and domestic movements 490 thousand tons.

Germany

German inland waterway system with its 7 300 kilometres of waterways is the most comprehensive inland waterway system within Baltic Sea Region. River sea ships can use lower Elbe (Hamburg-North Sea), the Kiel Canal, the river Trave (Baltic Sea-Lübeck) and the lower part of the river Weser which is outside the Baltic Sea Region. All other waterways can be used by inland waterway ships only. The main inland waterways are the river Elbe, the Kiel Canal, the Elbe-Lübeck Canal and the Mittelland Canal system linking the river Oder in the east with central and western part of Germany. The Mittelland Canal crosses the river Elbe at its eastern end at Magdeburg and continues from there as the Elbe-Havel-Kanal eastwards to Berlin and the river Oder. The increase in commercial traffic over the last few

years is significant and several new shipping links have been launched. Some 240 million tons are transported on German waterways every year. All commercial waterways in Germany can also be used by the tourism industry.

Finland

In Finland, the lake Saimaa and Saimaa Canal comprise the most important commercial inland waterway system. It stretches from the Gulf of Viborg in the south to Joensuu along a northeastern leg and Kuopio in the north-west direction. The former is linked with a channel at lake Pie-
linen and reaches further north to Nurmes. The latter is linked with the Kuopio-Iisalmi Canal, which reaches northward to Iisalmi.

Beside the Saimaa Canal waterway system, there are many land-locked tourist waterway systems, some of which are linked by boat trailer lifting services. There are several sea-river operations, one of which connects the industry in the Saimaa area with the United Kingdom. The annual volume of goods on inland waterways is 3.6 million tons (2003). Commercial waterways in Finland are also open to the tourism industry.

Lithuania

In total there are 425 kilometres of waterways of different size in Lithuania, most of which, however, has limited water depth. In addition there are as many as 6 000 lakes in the country which are frequently used, mainly by the domestic tourism market.

Commercial shipping as well as the tourist traffic in Lithuania mainly takes place on Curonian Bay between Klaipeda and Neringa. Including the volume of goods shipped by the Ro/Ro service between Klaipeda and Neringa on the Curonian Bay, some 650 thousand tons of goods were shipped on Lithuanian inland waters in 2003. The tourism industry is welcome to use all commercial waterways.



Archipelagos and lakes play an important role to inland waterway activities.

Dependence on waterway systems

In some of the Baltic Sea Region countries inland waterway transport is crucial for the success and survival of certain industries and industrial areas. This is specifically important where high volumes of low value goods are being transported.

In Germany, for example, the industry along inland waterways has developed transport systems completely dependent on well-functioning inland waterway transport. Where possible, container shipments on inland water vessels have increasingly become the regular way of transporting units between production sites and container coastal ports. For example, container shipments on inland waterways between Hamburg and Magdeburg have increased significantly over the last few years. The Mittelland Canal in east-west direction certainly constitutes a major inland waterway linking for example Hannover with Berlin by using the Elbe-Havel Canal into Berlin.

In Sweden, the industrial area in the western part of the lake Mälaren is completely dependent on efficient and safe shipping through Södertälje Canal and on Mälaren. The annual goods volume through Södertälje Canal is about 4.5 million tons of which two thirds are import goods. The industry surrounding the lake Vänern with its eight commercial ports shipped some 2.8 million tons through

Trollhätte Canal and on Vänern in 2003. Over the last few years, emphasis has been placed on the need to reduce all costs of commercial shipping on Vänern in order to further increase goods volumes transported on vessels. In Finland, commercial shipping on the Saimaa Canal system is said to be the only and most cost effective way of transporting low value goods such as wood chips for the energy sector. It is indeed the critical factor when investments in new power plants are being discussed. An expected growth in trade in Poland will certainly look for increased inland waterway transports. The river Odra may become the main transport link between the Baltic Sea and Berlin using the Havel-Odra Canal system.

The INTRASEA database

The INTRASEA database contains details of all Baltic Sea Region waterways, commercial waterways as well as those for the tourist industry only. It provides dimensions of locks, draught of fairways, port facilities, rules and restrictions and much more. There is also a country overview on each participating country summarizing each country's current waterway situation. A number of links makes it possible to step forward for more and detailed information. The INTRASEA database is open to the public and can be found at www.intrasea.org.

Inland waterways for sustainable transport development in the Baltic Sea Region

The development of a sustainable transport system has become one of the main goals of the European transport policy. A sustainable transport system should be environmentally friendly and organised in an economically efficient way. It has to support the economy whilst at the same time avoiding external costs and supporting positive social effects. All socio-economic external costs of various types of transport, such as accidents causing injuries and deaths, noise and air pollution, congestion, the greenhouse effect and the waste of land – must be reduced or avoided completely wherever possible¹. To achieve this goal, modern and intelligent transport solutions have to be created.

Together with improving the efficien-

cy of the goods transports, the present distortion of competition must be remedied in compliance with the EU White Paper. The individual modes of transport do not always pay for the costs they generate. This leads to malfunction of the European internal market and distorts competition within the transport system. The result is that there is no incentive to use the modes with the least negative effects or the least congested network. The integration of external costs must encourage the use of modes with lower negative effects and, using the revenue raised in the process, may allow investments in new infrastructure. To produce a maximum of benefit for the transport sector, it is essential that available revenue is channelled into specific national or regional funds in order to finance measures to diminish or offset external costs.

An increased use of inland waterways in the Baltic Sea Region will improve the sustainability of the whole transport system. According to Inland Navigation Europe, the European Commission has made a study into spendings on socio-economic costs of various types of transport such as accidents, air pollution, climatic change, noise pollution, congestion, effects on the countryside and the urban environment, revealed that road transport accounted for 91.5 %, air transport for 6 %, rail transport for 2 %, but inland navigation only a tiny 0.5 % of the spendings. In addition low fuel consumption makes inland waterway transport one of the most sustainable forms of transport. Emissions in particular will drop even further as newer vessels with more efficient engines are introduced².

¹ German Council for Sustainable Development (2002): Goals for Sustainable Development in Germany, Dialogue Paper, Berlin.

² European Commission, Energy and Transport DG (2003): Europe's Inland Waterways, Brussels.



An innovative inland waterway ship. Source: Bureau Voorlichting Binnenvaart.

Future development of inland waterways

The INTRASEA VISION 2020 + describes the future situation of inland waterways in the Baltic Sea Region in case a successful modal shift of goods traffic from roads to waterborne transports will take place. Inland navigation will be commonplace. Due to increased trade in this region the transport services for passengers and goods will improve and provide new areas for related businesses. The shipments will increase both in the North-South and East-West directions. So, the Baltic Sea Region will become a genuinely functional, active common market.

An important issue for the public sector and the transport policy makers is to support the establishment of new industry and to maintain predictable long-term conditions for the industry. One way of doing this is to provide sustainable infrastructures for their logistical needs. If the industry cannot rely on the capability to build competitive logistic solutions, it will consider alternative locations, at home or abroad. The observation is extremely relevant for industries located in inland waterway systems. If the infrastructure owner fails to maintain competitive infrastructure links to the industry, reallocation to coastal sites, move to a foreign country or a complete closing-down of the operations will be the options.

Especially for those countries distant from the continental European main market, like Finland, Sweden and Russia, the importance of the Baltic Sea will increase. It is vital for short sea shipping and inland navigation that in every country all necessary actions will be taken to make all-year-round navigation possible.

Traffic congestion on continental European roads together with limited storage capacities in main coastal ports will force operators to move their businesses from coastal ports towards inland areas. They will find optimal locations in relation to



Modal shift of goods traffic from roads to waterborne transport reduces traffic bottlenecks.

river, railway and road intersections. In countries with large lake areas and river systems, new potentials will be found for the location of goods terminals and logistic centres. This will be done not only in coastal ports but also in inland waterway ports to which railway connections will be constructed.

Complying with EU policies together with national policies and strategies such as “The Strategy of Transport Development of Russian Federation until 2010” and “The Russian Transport Strategy until 2020”, the Baltic Sea Region will work as a home market for companies within

this region. They will have worldwide strategies in all business branches. In all sections of logistics IT will work without bottlenecks. Automation will be developed in all branches of shipping and port operations. Sea safety challenges will grow due to larger transport volumes including extensive shipments of oil and other dangerous goods via the Baltic Sea all the way to the North Sea. Awareness of the risks of collisions at sea will have a positive effect on the development of preventative risk and crisis management tools, which by 2020 are considered to be of highest possible quality.

The basis for regional development of the inland waterways and sea/river systems

The inland waterway infrastructure differs widely in performance and capacity in the Baltic Sea Region. The common condition is that they are constructed during the 19th and the beginning of the 20th century when anything afloat could carry much more cargo at faster speed than any land transport mode.

In the north, the sea-river transport system is predominating allowing seagoing ships of up to 8 000 tdw to enter at least one of the lakes. In this respect the prevailing conditions are slightly different between the countries. Russia can accept 4 500 tdw, Finland Saimaa Canal 2 500 tdw and Sweden 4 000 tdw on the lake Vänern and 8 000 tdw on the lake Mälaren. This size of ships allows substantial volumes of cargo to be moved from road transport. It also makes it possible to carry goods by sea transport directly from a port in this area to numerous ports in Europe, which in most cases is a more suitable location that gives shorter final haulage, if it is not the final destination of the goods.

However, the development has ceased as railways have increased their capacity and can today provide a better service at a higher frequency and lower cost. The railroad infrastructure, being subsidised, is almost free to use and it is of good standard as it is shared with public transports.

On the continental side of the Baltic Sea Region we find, in addition to the coastal ports, waterways of comparatively low capacity having shallow draught and low bridges. Barge operators wish to carry at least 1 000 tons load at a time to be competitive and productive. However, for most inland waterway systems this is a wish rather than reality.

The infrastructure of inland waterways represents a high value and a substantial resource. The cost of it is rarely shared with



Ship of 9 960 DWT capable of taking about 8 000 tons of oil to Lake Mälaren.

any other transport functions, but by water services (energy) and water supply functions that have quite different demands.

In the INTRASEA project, the procedure of assessing the benefit of investing in inland waterway infrastructure has been studied. The procedure is roughly the same in the whole region. The calculation is based on a socio-economic cost – benefit analysis where every investment in infrastructure is to be socio economically justified with a demand and a benefit of the investment.

In future the investments in inland waterways must also consider added value when upgrading the inland waterway infrastructure. For example, to reduce the damages of flooding when building systems that allows for a better control of the water flows. This kind of justification of investments is not visible in the methods of socio economic calculations today.

From the present perspective of transport demand it is difficult to justify investments in the waterway infrastructure. The demand is not visible as the condition of the rivers is not viable for commercial trading. It demands modern river transport that can carry modern cargo units. It requires a suitable depth as well as a good clearance under the bridges to allow for

shipping containers or trailers.

In near future when the land transport capacity on roads and rail are needed to ensure the public mobility, it will not be feasible nor will it be economically possible to build new tracks and roads only for freight transport. In this perspective the use of a high class canals or rivers will be by far the most cost efficient mode of transport for the freight cargo. As it takes time to prepare the canals and the rivers to facilitate for efficient transport, urgent action has to be taken.

The demand of cargo flows are mainly in the north – south direction on the Continent to provide service to the central European countries and give them a possibility to reach the Baltic Sea ports.

This also applies to Germany where the manufactured products and supplies need to be distributed into Germany and bulk products, products of higher value have to find their way to the Baltic Sea Region ports. The current situation does not allow the present growth on roads and rail to continue. The canals could here supply a huge transport capacity if the infrastructure allows them to carry contemporary cargo units on a reasonable large ship size.

Polish agricultural products in bulk

must also find their way to the Baltic Sea Region market as well as to Russia. In Russia there will be a demand of transporting raw materials, bulk products and semi-fabricated products to the Baltic Sea Region ports for further shipments or directly to the industries in the region. In the other direction containers and high value cargo can be transported on the rivers to the Golden Circle and Moscow on ships, which gives a safe and secure transport between secure terminals.

All of these areas would benefit from an upgraded inland waterway system that gives a productive and efficient transport service. An upgrading of the infrastructure is needed to enable the waterways allowing modern tonnage to carry intermodal cargo units and other heavy products efficiently.

Comparable development

The river transport in southern Germany has developed fast over the past decade. In the 1980–90 the river transport was declining. The bunker and fuel transports were cut down fast and the self propelled barges were scrapped. At that time the weekend ban of freight transport on roads was introduced. As the production from the industry normally ends in the end of the week and is to be delivered on Fridays, this situation had to be solved by the industry. The solution was barge traffic on the Rhein. Containers and trailers could be shipped over the weekend to the ports on the North Sea coast. Once the service has started it will grow. Today, port of Duisburg handles about 50 million tons annually.

The precondition in the river Rhein is however better than in most places. There is no actual limitation in ship's width and the draught is up to five metres. The bridges allow containers to be double stacked and it is possible to transport trailers on flat top barges.

The port of Duisburg and the ports of the river Rhein play an important role in transport capacity and the shift from road to waterborne transports today. It is very valuable to have the possibility of using coastal ships in the trade if they can reach deep into the country before shifting to the inland waterway vessels. The deeper into the country the more cargo can be transferred from road to waterborne transports.

The preconditions for such traffic are not at hand in Odra and Wistula. These rivers need to be upgraded and developed to be capable to allow modern transport units and products to be carried cost-efficiently.

The modern waterborne sea transport is based on large cargo units. These are more voluminous than heavy and therefore, ships need to be wider in order to pertain necessary stability. This is a problem in the north where the size of the locks determines the allowed width of the ship. Often the depth in the canal is more than enough. However, the width of the ship does not allow it to be loaded to a draught that gives a good utilisation of the carrying capacity. Hence the economy will not allow a satisfactory competition with direct transport on road.

The demand of waterborne transports

The manufacturing industry is often located close to the sea or near free flowing rivers. The reason is the need of water for the process of production. These industries often need raw materials and energy for the production. It is cost-efficient and productive to use waterborne transport for the supplies and for the distribution of manufactured products. Ships can carry large volumes and they have very little restrictions to carry products of different shape and size. The limitations are often determined by the dimension of the waterway.

Waterborne transport has significant economy of scale. Large volume at a time gives lower cost per unit of transport. A large ship carrying cargo at modest speed is the most energy efficient and environmentally friendly way of transporting, all categories considered.

The basis for regional development is the provision of a transport service that allows the industry and society to be cost efficient. It shall bring in supplies and deliver the products. Mobility is also required for all transport modes. Only full mobility enables the society to provide the users with good selection in suitable service levels.



Motorship of about 845 tons lifting capacity in the Berliner canals.

How to enhance the use of inland waterways for transport in the Baltic Sea Region

In transport sector, fierce competition exists between hauliers and between different modes of transport. The industry, shippers and operators accept only shipments that give the best productivity at the lowest cost.

Transport infrastructure is a governmental concern and therefore a political issue. The society expects mobility and high service levels. Free and unlimited use of personal cars puts natural limitations on transport capacity on roads. In the future some of the commuters have to choose other transport modes for the daily commuting. The western world is used to unlimited energy consumption for private use. This can not continue without seriously affecting other energy consuming activities. Saving energy and cut of consumption will be one of the major goals for the sustainable transport society.

The first steps towards an energy-saving society have been taken. This will also concern industrial shipments. More has

to be done to cut energy consumption at least for the products that can be shipped waterborne.

One of the problems to overcome for the waterborne transport is the winter navigation. This is part of the “Northern Dimension”. Ice affects the whole Baltic Sea Region to a major or minor extent. However, solutions to the ice problems are at hand. In Sweden the commercial canals and lakes have been kept open since 1974 although restrictions in strength and size of ships apply for some months in wintertime.

In Finland projects have proved that it is possible to adapt the canals to ice navigation and it is also possible to keep locks and fairways open by using waste heat from the industry. New icebreaking technology is also at hand.

Justification of investments

Presently the benefits of investments in infrastructure allow accounting for the direct savings in reduced transport costs. Generally, also the reduction of external

costs is estimated and included when assessing the benefits of an investment that will result in a shift from one transport mode to another. In the Baltic Sea Region only Germany takes into other social effects such as the employment during the building time of the infrastructure when assessing benefits of investments in infrastructure. In Germany the benefits are assessed also in the light of social and regional effects.

The major difficulty is to assess the transport demand, especially when the present conditions do not allow waterborne shipping. The EU White Paper on transport policy implies that an estimation of transport needs would form the basis for political decisions. This could be done by calculating the potential shipping demand, which is the amount of each type of cargo suitable to be waterborne and using trade flow figures as well as long-term volume growth figures as the basis for calculation.

The goods forecasts of waterborne transport do not today – by existing and applied decision criteria – justify huge



The infrastructure often runs side by side.

investments. Investing in additional infrastructure capacity for other modes of transport than waterborne is simpler to justify as this also involves public transport. But proactive measures in favour of a modal shift – a true political issue – would dramatically change that. Such a political decision will develop the inland waterway network allowing it to be the long term resource of transport capacity in accordance with a new transport policy.

Further, flood mitigation is necessary not only for the continental rivers in the Baltic Sea Region but also in Sweden and perhaps other countries in the north. The frequency and cost of flooding must be assessed. Where an investment in inland waterway infrastructure at the same time can resolve a flooding problem, making the justification, calculation the cost for preventative measures should be deducted from the infrastructure total cost. Techniques and systems for the construction of combined waterway and flood mitigation measures must be found, thus creating a better solution for both purposes.

The idea is to prohibit uncontrolled water flows and at the same time safeguard water enough for navigation all year round. This can be done by introducing systems for balancing the changes that human intervention causes the natural flow of water. The waterways and surrounding systems must allow both to accommodate temporary increase of natural flows and the control of canals and canalised rivers for navigation. By calculating the potential water flow and the demand of reservoirs and their location, a flood mitigation management system would be created. Controlling the water flows will also safeguard and protect habitat areas. This will also allow the water to be used as a regular infrastructure for transport of commodities, that otherwise would have been transported on the increasingly congested roads.

The future transport demand

The globalisation of trade increased when the eastern market opened up. The process is slow but accelerating. Goods movements have specific character. The newly opened countries start mainly to export raw materials and import consumer products, which creates an unbalanced trade; high volume at low value in outgoing and low volumes at high value incoming. The latter volume is mostly unitised.

The over all result is, however, a steady increase of volumes to be shipped. At some point this requires a better transport infrastructure as the demand for mobility increases. Roads will be upgraded in the first place and then extended. The same will happen with the railways. This is a pattern which has developed over decades.

As for inland waterway infrastructures the situation is almost the opposite. The fast and public transport systems are prioritised¹. In the long run this is the same way as western Europe has developed. It results in a new situation where new infrastructure is required to discharge the overloaded ones. This is a situation where it would be beneficial to have access to new inland waterways. But, as the natural water flows have been obstructed, low bridges have been built over canals and rivers and the existing infrastructure has not been kept up-to-date with reference to the ships draught, width and height, the current situation is quite out of hand.

To be able to cover for the transport demand, the technique and capacity of the river transport system must be modern and able to carry products in a commercially viable way. The transport demand is there, the resources are missing.

This applies to continental Europe but also to some extent to Russia. Historically the maintenance of canals and locks in Russia was financed by canal fees and other activities on the canals. As the transport sector has drastically reduced, the revenues

do not cover for the maintenance of the fairways. Development is obstructed. Today, the canals are crowded by tourist ships in the summer time and the freight shipments face delays and long waiting times to enter the locks. The fairways are in great need of dredging to allow ships to meet or pass each other along the fairway.

The upgrading of the fairways and lock systems is vital to allow for non-Russian vessels to trade on the canals in the future. This is first and foremost a matter of capacity to allow as much transport as possible to be carried by waterborne transports.

The use of waterborne transport follows the basic rules of the market. The viability comes by the best, most economic and simplest way of operation. Transports cannot rely on a single transport mode as it could become a vulnerable single link in a transport chain. Transport systems must be combined to build a total transport infrastructure that allows for productive transport. Products should be carried as straight as possible between the point of origin and destination and as cheaply as possible. For a major amount of low-value high-volume products, as well as unitised products, the waterborne transport is a safe and sound way to achieve success for the industry as well as for the society.

The policy is set, the demand is there. In the increasingly congested Europe one transport mode cannot safely operate without the others. As for most transport modes, it is the system that gives the strength and a logistic chain that is strong enough to carry the products. Waterborne transport represents a huge potential of transport capacity that is needed for the future to ensure mobility in a sustainable Baltic Sea Region transport network.

Once the suitable infrastructure has been created, there are enough ship operators for the provision of vessels. In the open shipping market this has never been a bottleneck.

¹ Otto Schwetz, Manager of Corridor VII – Danube, for ICWO 5th World Conference Danube meets Business needs April 26 – 28, 2001, City Hall, Vienna

Regional tourism on inland waterways

Besides the transportation of cargo the inland waterways offer an attractive potential for tourism and recreation in the Baltic Sea Region. Picturesque shores around the waterways with easy access to nature or towns are today offering recreation combined with sailing, sports as well as monuments of history and architecture. Tourism on inland waterways and their surrounding areas has its peak period during the summer when millions of tourists all over the Baltic Sea Region choose the inland waterways for their recreation. The countries in the Baltic Sea Region are not yet completely realizing the potential of the inland waterways. The inland waterways can offer unique wildlife and landscapes, history, experiences and a wide range of activities that can receive more visitors than today. The situation today is that a small number of tourists choose inland waterways for their destination and that the majority of holidaymakers come

from the nearby regions. This is mostly caused by the present lack of information and cooperation between different agents of the inland waterways tourism industry. Now all this is slowly taking a turn for the better as this kind of tourism is becoming more and more popular.

Access on tourist routes on the internet

For details about inland waterway ports, canal and lock dimensions, we invite you to visit www.intrasea.org where you can find a number of links provided for the tourist routes on the inland waterways in the Baltic Sea Region.

Characteristics of the tourism industry at the inland waterways in the Baltic Sea Region

The countries in the Baltic Sea Region all have a different infrastructure level combined with different preconditions

to further develop and increase the usage of inland waterways for tourism. Usage of inland waterways has different history in each country. For example in Finland the history of an every day usage of inland waterways for personal transportation and recreation has resulted in that towns, villages and sights are situated by the inland waterways. As a result the inland waterways tourist industry is easy accessible for the many boat owners near the waterways. A different situation applies for the inland waterways in Poland, where the inland waterways have historically been used mainly for the transfer of goods. The water tourism instead developed in lake districts and smaller rivers mostly visited by canoeists. Lithuania is facing inadequate infrastructure and poorly equipped tourist routes at the same time as yachting is becoming increasingly popular in the country. The larger part of the waterways in Berlin and Brandenburg, Germany are mainly used for sporting activities today. In the Berlin region the seemingly wild



The seven-steps lock at Berg, Göta Canal in Sweden. A picturesque passage for pleasure crafts summertime.

and empty natural landscapes nearby the inland waterways are in sharp contrast with the industrially more exploited areas. For centuries the inland waterways were commercial transport routes, playing an important role in the building and development of Berlin.

Activities like pleasure boat sailing, passenger boat travelling, canoeing, boat-rental, fishing, biking and visiting historical and cultural sights in the surrounding area of the inland waterways are main characteristics for the tourism on the inland waterways. The contemporary tourist often prefers individual exploration to package travels.

The key to success in making more people choose inland waterways, instead of other kind of tourism in the Baltic Sea Region, is better promotion more active cooperation in interregional organisations than what is the case today. Cooperation between different countries and their different preconditions has proved difficult. This must be overcome.

A functioning infrastructure to match to the demands of the tourist industry
An effective infrastructure, corresponding to the demand of tourists, as well as functioning services in the harbours and jetties, are preconditions to the further development and increased use of inland waterways for tourism. Examples of effective infrastructure consist of marinas, well-functioning locks, sufficient water depth, parking lots, access to roads to and from the waterways and service centres. The level of functioning and management of the infrastructure differs from country to country. In some cases the inland waterways infrastructure is the property of the state that also is coordinating the activities, in other cases different organisations are in change. There is also a difference in the conditions of using the waterways in fees, charges, licenses etc.



Increased inland waterway tourism in the Baltic Sea Region is to be foreseen.

Best Practises

The “Göta Canal-model” is based on a variety of services, a wide range of easily accessible activities and an active search for ways of further increasing capacity of inland waterways as tourist attraction.. In the Baltic Sea Region, this concept is a forerunner and has proven to be a successful concept to attract holidaymakers. The marketing of the services and other publicity addressing the right target groups is another factor for success. Regional development is closely connected to increased tourism on inland waterways. It is not only measurable in macroeconomic effects but also in recreational possibilities for local communities and better living conditions. During the last couple of years, a whole range of initiatives and projects like INTRASEA, have refocused the attention on inland-waterway tourism as a variety of boating tourism. Inland waterway tourism is no longer to be considered as only water activities, but it must be developed in line with all other forms of land tourism.

How can inland waterway tourism attract new customers also from neighbouring countries and even further away? The keywords are cooperation and easily accessible information also in foreign languages. Within the INTRASEA

project, the database in English is a tool to promote the usage of inland waterways in the Baltic Sea Region for tourism. A CD has also been developed and distributed to the tourist industry with the objective to deepen the international cooperation to increase the usage of inland waterways for tourism.



INTRASEA STRATEGY for fulfilling the INTRASEA VISION 2020+

The intention with the strategy is to suggest the way forward to achieve the goals set out by the INTRASEA VISION 2020+ . Networking, infrastructure, inter-modality, modal shift and human resources are key words. As cross border and trans-national activities are necessary, the strategy takes into account EU policies and directives as also national policies. The strategy can make up the basis for continuing efforts targeting the goals of INTRASEA VISION 2020+.

Infrastructure

- **Create Regional and National long term infrastructure investment plans**
 - using both governmental and independent funding.
- **Develop evaluation methods for inland and coastal waterway system investments**
 - calculating not only direct cost savings but also socio economical savings.
 - considering and securing well functioning long-term infrastructure solutions for all parties.
- **Include “external costs” such as pollution, emission, noise, risk of accidents etc as an important part into cost comparison calculations between different modes of transport.**
 - emphasizing the EU White Paper principles in general and especially clarifying the effect of the external costs to the economy of transportation chains.

Networking

- **Create networks between associations, organisations and people engaged in inland waterways**
 - continuous international networking.
 - team working between EU, regional and national work teams, customers, shippers etc.

Necessary actions

- **Focus the information on the right target groups for increased inland water transport**
 - informing executive authorities, industry decision makers, politicians, regional council officers, union representatives, employer’s associations etc.

- **Ongoing dissemination and marketing of inland waterway and river-sea-ship-ping**
 - illustration of inland waterway potential and sea-river possibilities.
- **Promote, market and fulfil project plans**
 - setting up an efficient marketing scheme to promote the usage of an improved waterway infrastructure.
- **Recommend available and suitable inland waterway routes for future development**
 - arranging information and educational events, seminars, receptions.
 - passing accurate information to the public and media.
- **Develop techniques in infrastructure construction, ship design, icebreaking and IT.**
 - continuous development activity in creating multi-modal transport solutions and co-operation between waterways, highways and railways.
 - providing alternative and new innovative solutions without limitations of the present status.
 - developing icebreaking or ice clearing systems to achieve all year navigation.

Resources

- **Enhance education and training of human resources engaged in Baltic Sea Region inland waterways**
 - creating and setting up a Baltic Sea Region training programme.



Conclusions and the way forward

Since the start of the INTRASEA project, hundreds of people in the Baltic Sea Region have met and worked together. They have worked hard, they have learned a lot from one another and they have formed the INTRASEA VISION 2020+. Last, but not least, they have formed a new network and developed a fruitful basis to further develop the inland shipping opportunities in the Baltic Sea Region. During the project time a number of both smaller and larger obstacles for the development of inland water shipping have been identified by the work packages. These obstacles are made up by insufficient water depths, too small river dimensions in general and low bridges not providing enough air clearance. There are also some “soft” issues such as lack of marketing of inland waterway possibilities, political awareness and also insufficient cooperation between agencies involved in water transport. The project has, however, identified the vast possibilities of inland waterway shipping provided certain actions are taken to improve the infrastructure.

Work Package 1 has mapped all inland waterway infrastructures in the Baltic Sea Region, an information that is accessible by all agencies.

Work Package 2 has created a vision for 2020+ and a strategy for its fulfilment.

Work Package 3 has identified areas where modal shift can take place in order to better utilise the inland waterways to ease the burden on land transports.

Work Package 4 has identified a possible model to justify investments in inland waterway infrastructure.

Work Package 5 has focused on the tourist industry and proposed a number of actions to be taken in order to make better use of inland waterways for tourism, recreation and adventures.

A number of keywords have been established as a result of the project work; network, inter-modality, modal shift and human resources. The “external costs”, being the estimated cost on environment as a consequence of goods transport, have also played a major role throughout the project. The way ahead will focus on the possibility to extend the project into a second phase to further investigate possibilities in the development of inland waterway shipping, concentrating on particular waterways. The most important task, however, will be to carry the INTRASEA VISION 2020+ forward using the INTRASEA Strategy set up for its fulfilment as guidance for future success.

The best times of inland waterway shipping in the Baltic Sea Region are still to come!

www.intrasea.org



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Lloyd's Register – Fairplay Research	Migliore Oy
Göta Kanalbolag AB	Ramböll
Flood Mitigation Centre of the University of Karlstad	Technical University of Hamburg-Harburg /Dept. of Logistics/Flexible Production
County Administrative Board of Västmanland	Ministry of Science and Research Hamburg
Association Vänerland	Joint Spatial Development Department of Berlin and Brandenburg/Institute of Traffic Science
Port of Södertälje	Jaakko Pöyry Infra – HB Verkehrsconsult
Gyproc Nordic East	FAV, Forschungs- und Anwendungsverbund Verkehrssystemtechnik Berlin
County Administrative Board of Stockholm	Berlin Senate for Economics, Labour and Women
Swedish Shipowner's Association	Technical University of Berlin
Municipality of Köping	Association for the promotion of the Elbe Catchment Area
County Administrative Board of Värmland	Maritime University in Szczecin
Vänerhamn AB	Maritime Office Gdynia
Mälarderhamnar AB	Maritime Academy in Gdynia
Board of Trade and Industry for the Vänern Lake region	Ministry of Infrastructure Poland
Transport Committee of Swedish Forest Industry Federation at SCA Transforest AB	conVoco Sp. z o.o
Transatlantic European Services AB (Former Paltrans Shipping AB)	Vilnius Gediminas Technical University
Regional Council of Etelä-Savo	Volga-Baltic State Basin Board of Waterways and Navigation
Finnish Maritime Administration	The Russian State Research and Design Institute of Urbanistika
TMI Ulla Keino	
Finnish Waterway Association	
Regional Council of Pohjois-Savo	

List of sources

List of sources used are all listed in the WP 1-5 final reports.



EMILY



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