SHORTSEA SHIPPING ON THE BALTIC SEA – PROSPECTS AND CHALLENGES

Presentations of the international conference held in Pori, Finland, 7th – 8th June 2006
SPC Finland expresses gratitude to all who gave contribution to the success of the conference: the supporters, speakers and participants.

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FOREWORDS

The Shipping Cluster Is Important for Pori

The "Shortsea Shipping on the Baltic Sea" conference was organised in Pori at a really crucial time for Europe’s shipping. The proposed EU directive "Directive on market access to port services II" had just been rejected, meaning that two port packages outlined by the Commission had failed. At EU level, there seems to be a "creative break" in port matters, during which time the Commission can try to clarify the objectives and views of the various interest groups regarding the future of port services.

"Motorways of the Sea, an initiative from the European Commission” has been a subject of debate for a couple of years now. The Motorways of the Sea concept is still looking for concrete forms, via the Marco Polo programme among others.

90% of Europe’s external traffic is channelled through the 1,000 ports of Europe, but only 40% of the EU internal trade is seaborne. So we have a lot of potential for SSS in inter-European traffic.

Between 1995 and 2004 the transport of goods within the EU has grown by 28%. Transport by road has grown by 35%. SSS has grown at almost the same rate. By contrast, rail transport has grown only 6% in the same 10 years. Road congestion is a very serious problem in the Central Europe.

The port, maritime transport and the entire shipping cluster are crucially important for Pori and the surrounding region. Several years ago, the Turku University Centre for Maritime Studies researched the employment effects of ports in the southwest of Finland. In Pori, in fact, according to the study, over 10% of all jobs were directly or indirectly dependent on the port. About 1,500 are employed directly in the port and the maritime technology industry. The port and good maritime transport connections are a precondition for the whole region, and more widely speaking, for the business opportunities of companies in inland Finland.

The "Shortsea Shipping on the Baltic Sea” conference gave an extra boost to the development of maritime transport and the shipping cluster in Pori and the whole of Finland.

Kari Hannus
Deputy Mayor
City of Pori
Transport in the Baltic Sea Region – Widening the Focus

The Port of Pori and the Hacklin Group were honoured to have their representatives in the steering group of probably the most significant logistics seminar during the Finnish Presidency of EU. The aim of the seminar was to discuss the development of short sea shipping in Europe, the presentations focusing on the development of short sea shipping in the Baltic Sea Region. The seminar was attended by 160 participants from 19 different countries.

As members of the steering group we can confirm that organising the seminar was a success. However, as seen afterwards, it must be stated that the seminar as well as discussions about the matter in general probably too much concentrate on developing of unit load transport, whereas the major part of the transport in the Baltic Sea Region consists of raw materials and by-products of the metal and chemical industries. For example, in the year 2003, the total amount of dry bulk transportation in the Baltic Sea was 204 million tons, of which the amount of internal transportation was 75 million tons. The concentration of industry and logistics together with tightening environmental regulations are bringing substantial changes in the maritime transport within the Baltic Sea Region.

The bulk traffic is going through changes towards frequency traffic, the term known from unit load transport, in this case referring to frequent, scheduled liner traffic. Optimising of production and logistics is constantly putting pressure towards diminishing the size of shipments. Therefore, ways of raising the size of vessels and simultaneously diminishing the optimal size of shipments within a particular product should be found by means of integrating the goods flow and developing of two-way traffic.

Discussions on short sea shipping in Finland most often tend to focus around the area of the Gulf of Finland, probably over-emphasizing the importance of transit traffic. Nevertheless, a major part of import and export products of the Finnish industry are transported through the ports of the western and northern Finland. In the Port of Pori, developments are made bearing in mind the prerequisites of the different fields of industry, the metal, forest, energy, environmental and chemical industries alike. The methods and transport chains are developed in order to ensure safe and dust-free delivery processes from the supplier to the customer even in cases of difficultly handled and dangerous products. As Mr. Veli Salmi from Boliden Harjavalta Oy in his presentation stated, apart from cost-efficiency, the expectations of a customer include keeping to the timetables, flexibility even in unexpected situations, and minimizing of loss.

The clients are putting high expectations on the authorities. While expecting improvements to the routes, the fairway dues are criticized of being too high. Inevitably, in case of the Port of Pori where Mother Nature has blessed the fairways to be easily maintained and navigated, it is quite understandable that the customer refuses to accept the high fairway dues. In the Port of Pori, there are only minimal extra costs from winter navigation, and the highest dues are laid on vessels that do not visit the Baltic Sea ports in winter conditions. The annual euro sum of the fairway dues in Pori is 3-5 million.
While discussing the sea routes, the meaning of land routes is often disregarded. However, investments should be made considering the whole supply chains. The proper way to improve the competitiveness within the industry is not to direct the measures only in one part of the chain, but investments on sea routes should be made together with developing rail and land routes, and vice versa. While making long-term plans, for example, for trunk networks, the authorities are giving clear signs on which areas it is most advantageous for the industry to focus their activities. The industry, most of all the heavy industry, is constantly calling for better sea and land routes. In the future, more emphasis will be put on the railway routes in the Finnish logistics field.

In conclusion, we want to thank the organisers of this successful seminar, as well as the co-operators and active audience. Hopefully, more internationally significant occasions promoting the shipping sector and industry will be organised in the city of Pori also in the future.

On behalf of the Port of Pori and the Hacklin Group,

Harri Virta
Port Director
Port of Pori

Jyrki Paavola
Director
Oy Hacklin Ltd
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SUMMARY

Pekka Sundberg, Anne Erkkilä & Riitta Pöntynen
University of Turku, Centre for Maritime Studies, Pori Unit

Prospects Surpass Challenges

The Baltic Sea region is growing in importance. The enlargement of the European Union, the increasing trade between the EU and Russia and the development of the Asian markets are all consolidating the position of the Baltic Sea as the northern maritime transport corridor of the European Union. The topics concerning the transportation in the Baltic Sea region were addressed in the international conference on “Shortsea Shipping on the Baltic Sea – Prospects and Challenges” held in the city of Pori, Finland, 7–8 June, 2006.

The conference was the main event during the Shortsea Promotion Centre Finland’s Presidency of the European Shortsea Network. One of the objectives of the Shortsea Promotion Centre (SPC) Finland is to provide a forum for transport chain actors to discuss the maritime and intermodal transport issues. This came once again true, as over 160 participants from 19 European countries were assembled together, representing ports, shippers, shipping companies, operators and authorities in the field of logistics.

On the first day, the operational environment of shortsea shipping was discussed. Transport policy was in focus. The roles of shortsea shipping, the Baltic motorways of the sea and the development and integration trends in the Baltic Sea region were viewed. Furthermore, the cargo flows and maritime infrastructure were discussed on general level, but also more specifically concerning individual organizations of logistics chains. Besides trends and prospects, also practical solutions were presented.

The sessions of the first day indicated that the EU-integration and the economic growth of new market economies are opening promising prospects for trade. However, the growing and changing trade imposes new kinds of requirements for infrastructure, quality and logistics in all countries and companies involved in the business of the Baltic Sea area. As a transport mode, shortsea shipping is doing well, but its integration in the transport chain is still insufficient. According to the European Commission, co-modality is needed. It means complementary and efficient use of modes in an optimal European transport system.

The second day was devoted to Russia. The trends and intermodal solutions in the Russian transport were considered. An overview of the Big Port of Saint Petersburg and intermodal transportation in the North-West Russia was made by the Russian lecturers. The presentations of the second day showed that troubles in the Customs and border formalities hinder transportation by land and sea. Harmonization of Customs legislation and procedures is needed in the EU member states as well as in Russia. Developing of procedures and information technology is necessary, as well as Customs co-operation. However, it was indicated that doing business in Russia could be a success story. The Finnish operators have expertise in the Russian logistics conditions both in land and on sea.

Shortsea Promotion Centre Finland is hosted by the University of Turku, Centre for Maritime Studies (CMS), and operates at the CMS Pori Unit. The conference was part-financed by the City of Pori and the European Regional Development Fund via the Regional Council of Satakunta. The Port of Pori and Oy Hacklin Ltd supported the arrangements of the conference.
PROGRAMME

WEDNESDAY 7 JUNE 2006

WELCOME BY THE CHAIRMAN OF THE DAY
Mr. Kari Hannus, Deputy Mayor, City of Pori

Opening Session

WELCOMING ADDRESS
Mr. Reijo Kallio, Chairman of the Satakunta Regional Council, Member of the Finnish Parliament
Mr. Jussi Helavirta, Executive Vice President, Luvata Pori Oy

THE ROLES OF SHORT SEA SHIPPING AND MOTORWAYS OF THE SEA ON THE BALTIc SEA AFTER EU ENLARGEMENT
Mr. Ismo Koskinen, Deputy Head of Unit, European Commission

AIMS OF TRANSPORT POLICY ON FINNISH PRESIDENCY OF THE EU
Mr. Harri Cavén, Director-General of Transport Policy Department, Ministry of Transport and Communications

DEVELOPMENT AND INTEGRATION TRENDS IN THE BALTIC SEA REGION
Dr. Urpo Kivikari, Professor Emeritus, Turku School of Economics

BALTIC SEA – The Northern Maritime Corridor of the EU

EUROPEAN SHORTSEA NETWORK - THE FACE OF SHORTSEA PROMOTION
Ms. Riitta Pöntynen, Information Manager, Shortsea Promotion Centre Finland

PROSPECTS OF TRADE AND MARITIME TRANSPORT ON THE BALTIC SEA
Mr. Staffan Herlin, Senior Vice President, Finnlines Plc

TRENDS AND CHALLENGES OF FEEDERING ON THE BALTIC SEA
Mr. Arttu Lindh, Sales Executive, Maersk Line

GOODS FLOWS AND MARITIME INFRASTRUCTURE IN THE BALTIC SEA REGION
Mr. Antti Saurama, Head of Research and Consulting Unit, Centre for Maritime Studies

PORT CONGESTION- A CHALLENGE TO THE FUTURE OF SHORTSEA SHIPPING
Mr. Hendrik Lorenz, Chairman of Port of Hamburg Marketing Reg. Assn.

DEVELOPMENT OF PORT INFRASTRUCTURE IN THE BALTIC SEA REGION
Mr. Jari Pirhonen, General Manager, Terminal Development, Kalmar Industries

EXPECTATIONS OF THE INDUSTRY
Mr. Veli Salmi, Vice President, Expansion Project, Boliden Harjavalta Oy
THE FUTURE OF THE BALTIC PORTS AND PORTS AS LOGISTICS CENTERS
Mr. Markus Nyman, Managing Director, Oy Kuehne + Nagel Ltd

INTRODUCTION TO THE PORT OF PORI
Mr. Harri Virta, Port Director, the Port of Pori

THURSDAY 8 JUNE 2006

Chairman of the Day, Mr. Harri Cavén, Director-General of Transport Policy Department, Ministry of Transport and Communications

Trends in Russian Transportation

HOW TO MANAGE WITH CUSTOMS AND DOCUMENTS IN RUSSIAN TRADE AND TRANSPORTS
Mr. Tapani Erling, General Director, Finnish Customs

MARITIME TRANSPORT SOLUTIONS BETWEEN RUSSIA AND THE EU
Mr. Kimmo Nordström, Managing Director, Containerships Ltd Oy

BIG PORT OF SAINT PETERSBURG: CURRENT SITUATION AND PROSPECTS
Ms. Elena Timofeeva, Senior Specialist, Government Committee of Transport-Transit Policy, Saint Petersburg

Intermodal Solutions in Russian Transport

RAILWAY AS A TRANSPORT MODE TO RUSSIA
Mr. Timo Mäntylä, Key Account Manager, Finnish Railways Ltd, VR Cargo

FREIGHT FORWARDING IN RUSSIA-BOUND TRANSPORTATION
Mr. Henry Fagerström, Chairman of the Finnish Freight Forwarders Association, Honorary Mining Counsellor

INTERMODAL TRANSPORTATION IN THE NORTH-WEST REGION OF RUSSIA
Mr. Mikhail Pimonenko, Director, North-Western Russia Logistics Development Center "ILOT"

EXPERIENCES OF TRANSPORTATION IN RUSSIA
Mr. Hannu Hietikko, General Director, ZAO John Deere Forestry, St. Petersburg

Chairman's concluding remarks
Reijo Kallio
Chairman of the Satakunta Regional Council, Member of the Finnish Parliament
Regional Council of Satakunta

WELCOMING ADDRESS BY MR. KALLIO

The city of Pori where this conference is held is the regional centre of Satakunta. Satakunta is one of the 20 regions in Finland. The regional development in Satakunta is managed by the Regional Council of Satakunta. There are 19 regional councils in Finland. Regional Councils are statutory joint municipal authorities operating according to the principles of local self-government. The councils operate as regional development and regional planning authorities. They also articulate common regional needs and pursue the interests of the region.

Satakunta is located on the west coast of Finland. The area of the region is covering 8,300 km$^2$. The Satakunta Region has three sub-regions, namely the Pori Region, the Rauma Region and the Northwest Satakunta Region. Pori and Rauma are also the largest cities of the Satakunta Region. Totally, there are 26 municipalities. Satakunta is located in Finland’s relatively densely populated south-western areas. With its 230,000 inhabitants, Satakunta accounts for about 4.5 per cent of Finland’s total population. The population has been decreasing for twenty years.

The Satakunta Region has gone over a massive structural change in industry. The region has been recovering rapidly, and the growth of economy is going on. The unemployment per cent is still as high as 11.2%.

In Finland Satakunta is widely known as a region where energy is produced. Different sources are used. Hydropower has a long history, but also nuclear energy has been used since the latter half of the 1970’s. Two of the four nuclear power plant units in Finland are situated in Satakunta, and a new power plant unit is under construction. Increasing attention has been paid also to wind and biomass energy. The coastline creates excellent prerequisites for wind power production.

Competitive Advantages

Many competitive edges of the Satakunta Region are derived from the sea and the coastal location of the region. The Ports of Pori and Rauma are the most important ports of the Finnish west coast. Both of the ports are competitive and specialized. The Port of Pori is among the biggest Scandinavian timber ports. Its infrastructure is excellently suited also for handling of oil, chemicals, dry bulk and project cargos as well containers. The 15.3-metre draught in the Tahkoluoto Harbour makes the Port of Pori the deepest port in the Gulf of Bothnia. The Port of Rauma is the largest container and general goods port on the west coast of Finland. It is the largest paper exporting port in Finland. Ports have also co-operation in certain fields of operation, for example, in marketing the ports abroad.

High-level shipbuilding and offshore industry are core businesses of the region. In Pori huge spar constructions are made for offshore oil production platforms. The shipyard in Rauma is the world’s leading ferry builder, and is also specialized in multipurpose icebreakers and naval craft. Shipbuilding and offshore know-how is widespread inside the region. Competitive export industry of the region is an asset that also gives base loads to the ports. Dynamic innovation environment ensures positive development.
Logistics and Short-term Goals

Good logistics is necessary for business success in general. Good transport links are necessary for competitiveness also in Satakunta, where logistics is a major source of employment. One of the main characteristics of the Finnish land transport infrastructure are the advanced north-south connections, which do not favour the Satakunta Region. Systematic efforts are undertaken to strengthen the logistic position of Satakunta. The Regional Council of Satakunta has defined the short-term goals in developing the infrastructure. The fairways to the Ports of Pori and Rauma must be deepened. In the Port of Pori this means deepening of the 10-metre draught in the Mäntyluoto Harbour. Development of road and railway connections to ports is another short-term goal. Fulfilling these goals would also improve the competitive position of the heavy export industry situated in Satakunta.
In this presentation I will first tell you about the company Luvata in few words. Luvata Pori Oy is carrying on industrial activity in the city of Pori, which is also a venue of this conference. Luvata is a world-leader in metal fabrication, component manufacturing and related engineering and design services. Luvata Pori Oy exports 90% of the products, in 2005 about 80,000 tons. Road transport is mainly used, but because of the geographic position of Finland, sea transport is part of the logistical chain.

The Baltic Sea has more than important role in this logistic chain of the Finnish industry. It forms a bridge from our large island to the Continent. The industries are facing many challenges today, because customer demands are growing and competition is tightening. Products have to be delivered to the customers just in time, to the right place. Developing the expertise and services of the shipping operations as well as meeting the challenges build up our common customer service concept. With the help of this concept, the welfare and success of the Finnish industry and international trade on the worldwide market will be enabled.

The traffic on the Baltic Sea is constantly growing. Part of the growth is derived from the increasing cooperation between Finland, Estonia and Russia. Due to the expansion of the EU, the Baltic Sea becomes an “inland sea” of the EU.

The increased traffic has positive effects from the viewpoint of industry. The price competition on freights and routes is tightening. This means sufficient sailing frequencies for the industry. To increase the efficiency, also flexible services are needed in order to minimize the cycle time of transport units. More effort must be put on cooperation, division of work and possible specialization of the ports. Due to the increased traffic, maritime safety has become even more important issue on the Baltic Sea. Ice conditions in wintertime give special characteristics to shipping operations in the Nordic waters.

Transportation functions, in this case shortsea shipping, should concentrate on continuous development of the logistic competitiveness of its customers. With successful transport policy we can ensure the continuity of the industrial operations, which for their part maintain the jobs and add the welfare of our society. The attendees of this conference are in key positions to add this welfare. I wish the participants fruitful interaction and discussions to create fantastic ideas for further development of shipping services.
Pekka Sundberg
based on a speech delivered by Mr. Ismo Koskinen, European Commission

SHORT SEA SHIPPING AND MOTORWAYS OF THE SEA ON THE BALTIC SEA AFTER EU ENLARGEMENT

The opinions expressed in this text are those of the author and do not prejudge the official opinion of the European Commission.

Foreword

Growing trade creates pressure on the European transport network causing road congestion especially in the Central Europe. Effective and rational transport system is needed to ensure the competitiveness of Europe's trade and industry. Short Sea Shipping is an important part of this development. According to statistics, Short Sea Shipping is the only transport mode that is able to keep up with the growth in road transport.

European Transport Concept

The mid-term review of the European Commission’s Transport White Paper, in June 2006, introduced the concept of “co-modality”. This concept covers the complementary and efficient use of modes to reach an optimal European transport system.

Each mode must be viewed individually, as well as their integration in logistics chains. Modes should complete each other and an optimal use of modes creates an effective transport system. Unfortunately, weak links still exist today both within and between modes, in logistics planning, infrastructures and transfer points between modes, such as seaports. These weak links need to be eliminated.

Short Sea Shipping

From the environmental viewpoint Short Sea Shipping has important benefits. Compared to other transport modes, Short Sea Shipping is, in general, less harmful and has a higher energy-efficiency than other modes. Using short sea shipping can also help reach the targets of decreasing carbon dioxide emissions.

On the other hand, emissions of sulphur and nitrogen oxides, as well particulates must be considered as critical factors of the mode. To keep up the good environmental image, Short Sea Shipping needs further actions to reduce SO$_x$- and NO$_x$-emissions. Technical innovation is particularly important in this work. Furthermore, the EU has adopted a directive on the sulphur content of marine fuels as part of these actions. The directive will apply in the Baltic Sea and to all passenger vessels on regular services between EU ports from 11$^{th}$ August 2006. At a later stage, it will be extended in stages to the North Sea and the English Channel.

Short Sea Shipping is the only transport mode that is able to keep up with the growth of road transport (Figure 1).
When looking at the modal split in the year 2004 (Figure 2), it can be found that road transport and Short Sea Shipping are the most important modes both in the EU15 and EU25.

Despite the positive development, Short Sea Shipping still has some problems that hinder its development. Short Sea Shipping is not yet fully integrated in door-to-door multimodal chains. The mode itself is administratively complex. Also tighter synergy with ports and good hinterland accessibility are needed to ensure the competitiveness of Short Sea Shipping.
The European Commission established, in 2003, a program to promote Short Sea Shipping. It includes 14 actions, with the objective to overcome obstacles to the mode and improve the efficiency of the mode. Actions are divided into legislative, technical and operational measures. The Commission presented, in July 2006, a mid-term review of “the Programme for the Promotion of Short Sea Shipping”.

The mid-term review looks into progress in several areas of action, such as:

- IMO-FAL Forms
- Customs matters, e-Customs and ‘single window’
- Short Sea Shipping Focal Points and Shortsea Promotion Centres
- Identifying and solving bottlenecks
- Improving image
- Marco Polo / Motorways of the Sea

IMO-FAL forms are used when the ship arrives in or departs from a port. These IMO-FAL forms have replaced a multitude of different national forms that were earlier required. However the IMO-FAL Directive needs to be updated to follow the amendments that were adopted in the IMO FAL Committee in 2005. The Commission is also examining documentation in different modes as part of its multimodal policy with a view to finding opportunities for more uniformity.

There are divergent local, national and regional applications of EU Customs rules. Efforts to simplify Customs procedures will go on. Further steps are taken to create a paperless environment for Customs and trade by computerizing Customs formalities whenever possible. Electronic declarations and messages should become the rule and paper-based declarations an exception. One of the goals is, that companies involved in trade and transport would give the necessary information only once to the authorities operating at the border. This procedure is called a “single window”. Authorities could control the goods at the same time and at the same place in so-called “one-stop administrative shops”.

The Commission is examining the possibility to extend the scope of the Shortsea Promotion Centres (SPCs) towards the wider concept of intermodality. These SPCs are important actors in national level. Shortsea Promotion Centres offer neutral, impartial advice on the use of Short Sea Shipping to meet the needs of transport users. The Commission supports the work of the SPCs and their networking in the European Shortsea Network (ESN). One key issue for the SPCs is to identify and help solve bottlenecks to Short Sea Shipping. The Commission underlines the importance of getting information about bottlenecks from the field. In that work parties to the transport chain have an important role to inform the SPCs about any bottlenecks they encounter. Furthermore, the Short Sea Shipping Focal Points representing national maritime administrations have a vital role in short-sea policy and in the "bottleneck exercise”.

Efforts to improve the overall image of Short Sea Shipping have been successful. Short Sea Shipping has nowadays a good general image. Informing about best practices seems to be an effective tool. More effort should be put on target groups found in the whole logistics chain in order to integrate Short Sea Shipping tighter in that chain.
Motorways of the Sea

Motorways of the Sea are an important part in the promotion of Short Sea Shipping. They compete with unimodal road transport by building up new sea corridors for intermodal transport. Motorways of the Sea should become an integrated part of door-to-door transport chain. In practice these motorways should offer efficient, regular, reliable and frequent services of high quality. The concept of quality includes infrastructure and superstructure, but also non-physical obstacles, such as complexity of administrative procedures. All this presumes concentration of traffic flows to Motorways of the Sea. To achieve the goals co-operation and partnerships are vital.

Four Motorways of Sea areas have been defined: the Baltic Sea, western Europe, south-west Europe and south-east Europe. Three regional master plans are being developed. Furthermore, Motorways of Sea should also be extended to the neighbouring countries of the EU. Concrete measures are needed to make the first Motorways of the Sea operational according the schedule.

Marco Polo

Marco Polo is a subvention programme for modal shift from road to other modes. It can co-fund all segments of Short Sea Shipping, rail and inland waterways in order to shift as much cargo as possible from road.

Marco Polo Programme will be extended. Marco Polo II will come into force at the beginning of the year 2007. The new budget will be about 400-450 Meuro for 2007-2013 compared to Marco Polo I which had a total of approximately 100 Meuro. Marco Polo II will continue and add on to the current Marco Polo programme. The new programme introduces a separate action for Motorways of the Sea. This action should decrease road traffic on a given corridor by shifting goods from road to Short Sea Shipping operating on Motorways of Sea.

Freight Transport Logistics

Europe’s transport system needs to be optimised by means of advanced logistics solutions. Logistics thinking has to be integrated in EU’s transport policy. In June 2006 the Commission presented a Communication, which may lead to an Action Plan on Freight Transport Logistics in Europe in 2007.

The global logistics industry accounts for 13.8 % of the global GDP with the total amount of 5.4 trillion euro. In Europe yearly logistics expenditures are around 1 trillion euro or 13.3 % of the GDP. On average, logistics costs in Europe account for 10-15% of the final cost of the finished product. This includes costs such as transportation, inventory holding and warehousing.

The Commission’s approach focuses on logistics in freight transport and covers all modes of transport. According to the Communication ‘Freight Transport Logistics’ covers the planning, organisation, management, control and execution of freight transport operations in the supply chain.

Developing freight transport logistics is primarily a business-related activity and a task for industry. Authorities have a role in creating the appropriate framework conditions and keeping logistics on the political agenda. This framework approach concentrates on improving the preconditions that Europe can offer for logistics innovation and leaves the internal running of company logistics to the
companies themselves. The focus of the policy should be on co-modality, while not forgetting multimodal integration.

In order to develop freight transport logistics the Commission has organised consultations with stakeholders in the logistics chain. The Commission has also received contributions from the Member States. Based on this work, following issues have been emphasised:

- Information and communications technologies (ICT)
- Training
- Bottleneck exercise
- Indicators for assessing performance and recognising quality
- Efficiency of logistics terminals

Looking at these issues from the viewpoint of Short Sea Shipping, some considerations can be made. Benchmarking and recognising quality could mean in the future for example a Motorway of the Sea quality label for logistics excellence in Short Sea Shipping. Talking about the bottleneck exercise, Short Sea Shipping offers a successful example how bottlenecks can be identified and solved and how information about bottlenecks and best-practices can be disseminated.

**In Conclusion**

The mid-term review of the programme for the promotion of Short Sea Shipping and the Communication on freight transport logistics will give a new impetus to Short Sea Shipping. Short Sea Shipping is a success story, but it needs to expand even further, for instance through the Motorways of the Sea initiative. The mode will also have to find its place in the new co-modality, but that should not be too difficult, because it can perform well as a mode in the logistics chain.
AIMS ON TRANSPORT POLICY ON THE FINNISH PRESIDENCY OF EU

At first, I would like to express my warmest gratitude to the organisers of this conference. It is always a pleasure for me to visit Pori. I am delighted to be here and, hopefully, we will have good discussions during the conference about the current challenges and prospects of the transport in the Baltic Sea region.

The topic of my speech today is the upcoming Finnish Presidency. As you all probably know, Finland will hold the Presidency of the EU after Austria this year. From the beginning of July until the end of the year, Finland will be responsible for the progress of the work in the European Council. It is a huge challenge but also a great opportunity. The preparations for the Presidency have started already a long time ago, and soon is the time to start putting the plans into practice.

In addition to the issues that we will inherit from the previous Presidencies, we have had the opportunity to put out some topics that are important for Finland.

In the transport sector these priorities are logistics and short sea shipping. Finland is a sparsely populated country with long distances, and we are far away from the core regions of Europe. Our traffic flows are thin and we have a long winter. All these problems increase the costs of transport. For example, the logistics costs for Finnish companies are about two times higher than the average in EU. These are the reasons why we decided to concentrate on paying attention to logistics and short sea shipping during our EU Presidency.

In my speech I will concentrate on these two topics. I am also quite sure that these are the most interesting issues of the Finnish transport agenda for the audience of this seminar.

The Ministry of Transport and Communications has worked hard to put logistics on the EU agenda. Let me now shortly introduce you the work done in Finland and the Finnish initiative on logistics.

Finland has a very favourable logistics position between the EU, Russia and Asia. To strengthen Finland’s logistics position, the Finnish Government drafted a special development programme on logistics last year. The 35 actions identified in the programme have been started and they will be continued. Naturally, 90 per cent of logistics depends on actions by companies. However, the public sector contributes significantly to shaping the operating environment of logistics activities.

At the European level, the European Commission is the proper body to establish common rules for the internal market. The competitiveness of the Community’s enterprises and regionally balanced development must be supported with a long-term logistics strategy of the Community. This is the idea behind the Finnish initiative on logistics.

The Commission then decided to publish a Communication on logistics. It will be published in June. We hope that the Communication will later set up an Action Plan that will be based on a holistic approach and focus on the efficiency and functioning of the transport system as a whole. So far, the logistics-related needs of trade and industry have not been sufficiently appreciated in the European transport policy.
There are many ways in which the public sector and especially the EU can influence logistics

Firstly: There are still areas of the logistics markets that do not function as they should. The EU should continue to deregulate the logistics services markets.

Secondly: Impact assessments of all relevant proposed EU regulations should also be made from the logistics point of view.

Thirdly: At present, there are no systematically collected key indicators to describe the state of logistics in Europe. Suitable indicators need to be identified and specified, and then a decision must be made as to how and by whom they will be followed and kept up to date.

Forthly: The EU should invest more in logistics research, training and education, in order to achieve better know-how and more efficient and sustainable logistics.

Fifthly: The public sector plays a significant role in the development of logistics. There should be new, more effective and faster procedures in international decision-making with regard to creating standards and implementing ICT technology, as well as public funding for development work for the public good.

Let me now turn to the other priority, short sea shipping. Selecting short sea shipping as a priority must not have been a surprise to anybody. Finland has always been active in promoting short sea shipping, and it was also a priority in our previous Presidency back in 1999. Shipping is a fundamental part of the logistic chains between Finland and the European continent.

Short sea shipping is an important part of the European transport policy, as it can help in decreasing the forecasted increase in road transport and it is safe and sustainable.

The European Commission has an active role in promoting short sea shipping. As Mr. Ismo Koskinen explained, the Commission will soon publish the progress report on short sea shipping.

From Finland’s point of view, three issues have a special importance. First, I would like to mention winter navigation. Winter and ice conditions are a natural bottleneck for Finland. I hope that the harsh winter conditions of the north and the extra cost they bring are properly taken into account in the progress report.

The second important topic is the reduction of environmental problems. Oil discharges and sulphur emissions from the ships should be reduced as much as possible. The EU should explore the ways to motivate shipping companies to purchase ships that are more environmentally friendly than the IMO regulations require.

The third issue is the development of transport to and from Russia. There are some problems in the Customs and border formalities that hinder the development of short sea shipping. The trade between the EU and Russia is growing and growing, and the traffic on the Baltic Sea is rapidly increasing.

The progress report on short sea shipping will form a basis for the discussions during the Finnish Presidency. It will be discussed in an expert meeting organised jointly by the Commission and Finland in October 2006 in Brussels, and it will also be discussed by the transport ministers in December. Our aim is to draft Council conclusions on short sea shipping, and ensure that short sea shipping will remain as the most successful mode of transport in Europe.
In the beginning of the 1990’s the political and economic transformation of the former socialist economies into democracies and market economies brought the east-west division to an end in the Baltic Sea region, as elsewhere. In the last 15 years, development and integration trends have been quite impressive in the Baltic Sea region.

The reorientation and other reforms have changed foreign trade very radically. Traditionally, exports and imports between any two partners have consisted of different goods. This inter-industry trade is based on different comparative costs in various countries. Today, the majority of trade between the developed countries is intra-industry trade, which means exports and imports of similar goods. In the Baltic Sea region trade statistics indicate that new market economies' foreign trade is to a quite high rate still inter-industry trade.

A major part of foreign trade takes place within production processes. This imposes high standards and requirements for infrastructure, quality and logistics in all countries and companies participating that kind of international division of labour. Subcontractors or other partners have to meet not only their national qualifications but also those of Mercedes Benz, Nokia or whatever multinational partner. Particularly, these terms have been very severe on firms in the former socialist countries. So far Russia, whose exports consist mainly of energy and metals, has managed to postpone the response to this challenge.

All national economies that encircle the Baltic Sea region are now market economies, old or new ones. This means that national demands and supplies have a tendency to get international and united. On the one hand, profit-oriented firms search new opportunities to market their products in the Baltic region. On the other hand, they look for advantageous inputs and favourable terms for subcontracting and other operations for relocation of production in this area. It is important to note that the exit of the east-west barrier has given incitement to the western firms to increase also their mutual cooperation. Many firms have found advantageous or even necessary to combine their efforts to carry out operations in the former socialist countries and the Baltic Sea market.

An opportunity often means necessity, too. If the profitability of production could be improved by widening marketing to new areas or utilizing new inputs and partners in the Baltic region, the firms might be forced to benefit such possibilities. Otherwise, rivals that utilize those might get too strong competitive position.

Naturally, the significance of the Baltic Sea region as a market and partner varies from country to country. For small and medium-size countries the Baltic Sea region is the most important market, whereas for big powers it is not so important. The majority of the foreign trade of Estonia, Latvia and Lithuania is carried out in this area. Also the economies of Poland, Denmark, Finland and Sweden are to great extent dependent on the Baltic Sea region. In Russia one fifth and in Germany only one tenth of all external trade takes place with the countries around the Baltic Sea.

The importance of the Baltic Sea region becomes also evident from the fact that for all the countries, except Germany, the biggest trading partner is from this area. As expected, Germany,
one of the giants of the world trade, is among the biggest partners for all the countries. Finland has
the top place in Estonia's trade statistics. Due to the high energy prices, Russia has again increased
its importance as a trade partner. The intensive growth of Polish-German trade has made these
countries the biggest partners with each other in the Baltic Sea region.

How "normal" or close to "potential" are the current trade flows? The so called "gravity model" is
frequently used to answer this kind of question. The model compares the real and "potential" trade
flows using as explanatory variables such factors like the distance between the partners, their
populations and income levels. The gravity model proves, for example, that Finland's real trade
with Estonia and Russia is very much above the potential level. Yet, the perspectives of trade are
still bright also in these cases. More than any model, the future development is based on economic
growth and integration processes. The growth forecast for the former socialist countries as well as
their EU integration opens promising prospects for the trade in the Baltic Sea region.

The development of intra-Baltic trade has laid the foundation for an economic region around the
Baltic Sea. But the commodity trade alone cannot unify a market, let alone furnish it with a
distinctive identity. Rather, the intensification of integration is reflected in the increased mobility of
factors of production. It is the foreign direct investment (FDI) that significantly promotes the
formation of new networks and leads to long-term convergence and integration of the national
economies.

In the old market economies, FDI is a conventional operation. In the new market economies of the
former socialist countries, FDI is still a fairly new phenomenon. Into all new market economies
FDI has brought, besides capital, also new technology, managerial skills and culture, readiness for
risk-taking and marketing channels to external market. FDI has a remarkable spillover effect in the
economy of the host country. Investors usually try to obtain new market and/or advantageous
situation for production. In some of the former socialist countries the role of inward FDI is very
important, but the outflow of FDI has been remarkable only for Russia. Likewise, in trade also in
FDI the intra-Baltic flows play a dominant role.

Despite the rapid economic growth and other positive features in Russia's economy in recent years,
the obstacles to FDI have exerted a stronger influence than the encouraging factors. Russia contains
the greatest natural resources in the world, a consumer and labour potential of a population of 145
million and limitless investment opportunities from the high technology to agriculture. But yet the
truth is that FDI to Russia does not reflect these opportunities.

The EU-Russia relations constitute a special issue of the Baltic Sea region integration process.
Paradoxically, the EU enlargement in May 2004, as such, increases EU-Russia integration more
than any bilateral plan, agreement or programme between these partners could increase in the
foreseeable future. Although the EU enlargement indisputably promotes integration between Russia
and the EU, many efforts are needed to secure that the integration really will work in the Baltic Sea
region.
EUROPEAN SHORTSEA NETWORK – THE FACE OF SHORTSEA PROMOTION

Logistics and the Year 2006

Shortsea shipping is highlighted in 2006. Shortsea shipping and logistics are on the agenda of the Finnish Presidency of the EU on the second part of this year. Because of the Finnish EU Presidency, Shortsea Promotion Centre (SPC) Finland is the chairman of the European Shortsea Network (ESN). SPC Finland has taken an early start: during the Austrian Presidency, SPC Finland has shared the ESN Presidency with SPC UK in the first part of the year. SPC Finland will continue until the end of this year and SPC Finland will hand over the Presidency to SPC Germany. During the ESN Presidency, SPC Finland would like to further strengthen the network and bring the new members to the practical co-operation in ESN. The declaration of SPC Finland on the Presidency of the ESN is in the Annex 1.

This conference “Shortsea Shipping on the Baltic Sea – Prospects and Challenges” is the main event of SPC Finland in the year 2006. By arranging an event on the Baltic Sea and Russian transportation, SPC Finland is creating links not only within the Baltic Sea area, but also between the main maritime areas in the Europe.

Promotion of Shortsea Shipping

Promotion of shortsea shipping is supported by the European Union and by the European organisations in the field of shipping. In 1990’s the guidelines for transport policy in the Union were defined. Economic and environmental reasons were brought on the agenda. Congestion was defined as one of the obstacles for the economical growth. It is a problem for the Finnish transport companies, too, as the main import and export countries are situated in the congested areas of Europe. Shortsea shipping was seen as an alternative to increasing road congestion. According to EU’s transport policy in the 1990’s, SPCs were considered to be a practical solution in promotion, a body between industry and administrations. The first SPC was established in 1997 in the Netherlands.

Organisation of the European Shortsea Network (ESN)

In 2000, there were a sufficient number of SPCs that a network could be established between them. The network has expanded rapidly during the last years, and currently there are 21 SPCs. ESN has members both in the EU member countries and in associated countries. 18 of the SPCs are now official members of the European Shortsea Network. Before 2005, there were SPCs in Belgium, Denmark, Finland, France, Germany, Greece, Holland, Ireland, Italy, Lithuania, Norway, Poland, Portugal, Spain, Sweden and United Kingdom. In 2005, SPCs were established in Bulgaria, Croatia, Malta and Turkey. In 2006, SPC was established in Cyprus.

The European Shortsea Network is an informal network. There is no joint office in Brussels or elsewhere. The network consists of people in the SPCs around Europe. A person or an organisation
can contact these people in a respective country, and they advice customers in all issues of shortsea shipping. All the SPCs have an extensive network of stakeholders in their countries. The only administrative issue ESN has in the network is the Presidency that follows the EU Presidency. In a matter of fact, ESN has also two basic documents: Terms of Reference (ToR) and Memorandum of Understanding (MoU). These documents describe the aims, target groups and tasks of ESN. New members need to agree with these terms before entering the network. A basic condition for a new SPC to enter into membership is that it is recognised as a national SPC by the Short Sea Shipping Focal Point in its country, and following this, noted by the Commission, too. The SSS Focal Point is from the administrations, usually from the ministry of transportation.

**Operational Environment of a Promotion Centre**

To give an example of the field that SPCs and the European Shortsea Network are working, the environment of SPC Finland in promoting shortsea shipping is described (Figure 1). SPCs work in the line between business and administrations. The actions build on needs of the transport chain, with all the actors involved in it. The most important target group for SPCs are the shippers and forwarders that are making decisions on freight being transported. SPCs work not only with the maritime operators but with the intermediates of the whole logistics chain including different modes: rail and intermodal road as well as inland waterways. ESN offers a platform and channel of influence between the business and administrations nationally and internationally. With close connection to all the other SPCs in Europe, each SPC is able to provide this same network in other European countries via their colleague SPCs.

![Operational environment of SPC](image)

*Figure 1. Operational environment of SPC. Sources: ESN and SPC Finland.*

**The Activities of SPCs and ESN**

SPCs collect and distribute information to the target groups and stakeholders. All the SPCs and ESN update websites, publish newsletters, printed and via e-mail, and arrange workshops and events in their countries and within the network. SPCs provide information on transport solutions, for example, SPCs update a joint database on liner services in Europe. SPC and ESN identify and find out solutions of bottlenecks together with the European Commission and the Focal Points. SPCs and ESN promote shortsea shipping as a viable transport mode (from the viewpoint of industry) and develop it as a part of intermodal transport chain. All these services are directly for
the industry. SPCs also have connections to all major actors in the field of shortsea shipping and, thus, SPCs are an efficient channel of influence.

The annual Report of ESN 2005 was released in May 2006. The report includes good examples of various efforts made by ESN. The report is available as a PDF at www.shortsea.info and in the SPC websites. What is remarkable is also the fast enlargement of the network that will enforce promotion actions all over Europe. The ESN members, for example, arrange events with varying line-up of SPCs according to the needs of the target groups.

The Advantages of SPCs and ESN

What are then the major advantages of SPCs and ESN? In the first place, SPCs and ESN are neutral and objective bodies that bring all the major players together. The associations, unions and administrations, large companies, all they have their channels to the decision makers and to the European Union. However, SPCs and ESN are the platform that combines the forces – the power of individual actors. All these services are open to any business operator or to administrations. The support from national governments and the European Commission guarantees neutrality, and support from business the notification of their needs.

European Shortsea Network in 2006

In 2006, ESN is compiling a prefeasibility study on extending the activities of SPCs and ESN towards intermodality. The study will be released in the autumn 2006. The study will survey the opinions of the target groups as well defines the preconditions of SPCs to include the promotion of other modes in the field of intermodality in their activities, or to coordinate the promotion of the intermodality in their countries and at the European level in the European Shortsea Network.

SPC Finland is co-ordinating the study. The study will be released in the autumn 2006. Several SPCs are already increasing their knowledge of other modes from the viewpoint of intermodality.

With the Finnish Customs a survey on the use of authorized regular liner service is at present carried out. ESN is used in order to gather information from shipping companies around Europe.

SPC Finland

SPC Finland operates as a part of University of Turku Centre for Maritime Studies. SPC Finland is situated in the unit of its parent organisation in the city of Pori. The main duties deal with information dissemination on maritime transport options, identification of bottlenecks and their solution. SPC Finland has developed completely new forms of operation. One example is a barometer on the views of the Finnish shipping companies.

Maritime transport is vitally important for Finland, because Finland is surrounded by sea both in the south and in the west, and, as a small nation, Finland is very dependent on foreign trade. Because of Finland’s geographical situation, the logistics costs are high. SPC Finland will continue to develop the Finnish intermodal transport chain in co-operation with stakeholders representing all modes of transport in Finland and internationally, and with the European Shortsea Network.
PROSPECTS OF TRADE AND MARITIME TRANSPORT ON THE BALTIC SEA

Milestones of the Recent Past

During the recent two decades, the Baltic Sea region has undergone a rapid change that has affected on the regions’ economic situation and importance in the European and global context. Significant milestones in the economic development can be found starting from the collapse of the Berlin wall in 1989 conjoined with the reunion of Germany in 1990. The Soviet Union collapsed in 1991 and Estonia, Latvia and Lithuania became independent. But not only the east was in transition. Finland and Sweden joined the European Union in 1995. The enlargement of the EU continued in 2004, when the former East European transition countries on the Baltic rim became EU-members.

All this has increased the trade. The trade between EU-25 countries has increased, as well as trade between EU-25 and Russia. Thus, also the seaborne traffic has increased. But the above-mentioned milestones have also had structural influences on the seaborne traffic. Russia lost most of its Baltic Sea ports in 1991, but nowadays new cargo ports are taken in use in Russia: the oil ports of Primorsk in 2003 and Vysotsk in 2004, and other cargo ports as Kronstadt in 2002 and Ust-Luga in 2007. Due to the European integration, tax-free sales abolished in the European Union in 1999. It has increased the importance of freight in the passenger traffic and thus, a new concept of shipping has been introduced also on the Baltic Sea waters, namely the ropax-vessels.

Growth of Economy and Traffic

According to the forecast of Nordea Bank, the GDP growth rate in 2006 is in France 2.3%, in the U.K. 2.1% and in Germany 1.8%. In the Baltic States the forecast gives the highest figures: in Latvia 8.0%, in Estonia 7.1% and in Lithuania 6.9%. In Russia the growth rate is 5.6%, and also in Poland the growth rate of 4.7% clearly passes the West European figures. In Scandinavia the rate varies from 2.8% in Norway to 3.6% in Sweden. As a whole, the Baltic region economy indicated to have an annual growth of +4-5%.

These figures show that the so-called Blue Banana has a challenger, the so-called Eastern Boomerang. The Eastern Boomerang, a new region with fast economic growth has emerged. The Blue Banana refers to the region reaching from the southern parts of the U.K. to the southern France and to the northern Italy. Economists and geographers have believed that the region of Blue Banana will be the fastest growing region of Europe and the engine of economic growth in Europe. The new constellation has created a new term of Eastern Boomerang, which is a region that covers parts of southwestern Russia, the Baltic States and the East Central European states reaching the Black Sea in the south. It seems that the economic focus is moving eastwards in Europe.

In EU-25 the freight transport in ton kilometres is expected to nearly double by the year 2030. Freight transport will be growing faster than passenger transport. In the end of the period, the GDP will grow more rapidly than transport (Figure 1). In EU-25 road and sea transport are the most important modes of transportation with growing trend (Figure 2). From the viewpoint of short sea shipping that gives a challenge to intermodality.
In the Baltic region with 150 million inhabitants, 500 million tons of freight is transported annually including unitised cargo. In the seaborne transport over 3.5 million rubber wheel units and over 5 million containers measured in TEUs are transported. Both rubber wheel and container markets are growing. In the so-called Russian Baltic Sea routes the volumes of container traffic in 2005 is expected to double by the year 2012 (Figure 3). The volume was 2.5 million TEUs in 2005 and thus, it will be over 5 million TEUs in 2012.
In the seaborne rubber wheel transport (Figure 4) Sweden, Germany and Denmark are the leading countries of the Baltic Sea region. Russian figures show minor importance of the seaborne rubber wheel transport. In Latvia and Lithuania the growing rates have been high. The total growth rate in the region has been 17% between the period 2003-2005, which means the growth of 0.5 million units.

![Figure 3. Development of Container Traffic in the “Russian Baltic Sea Routes”](image)

Figure 3. Development of Container Traffic in the “Russian Baltic Sea Routes”.

![Figure 4. Baltic Sea Rubber wheel Transport Markets. Sources: ShipPax 2005, FMA port statistics.](image)

Figure 4. Baltic Sea Rubber wheel Transport Markets. Sources: ShipPax 2005, FMA port statistics.
Corridors and Routes

The EU, globalisation and changes in trade patterns are shaking the transport environment in the Baltic Sea region and in the whole EU. The EU has defined the transport corridors in the Baltic Sea area (Figure 5). The eastern direction is of great importance. The operating areas of Finnlines and its subsidiary Team Lines cover well the corridors both in the seaborne container and the roro/ropax traffic. (Editor’s NB: After the conference Team Lines was sold.)

![EU Transport Network Corridors in the Baltic Sea Area. Source: Finnish Ministry of Transport and Communications 2003.](image)

Development and the Future

The sea transport becomes more and more integral part of efficient logistic solutions. The transport policy of the EU supports the integration of the motorways of the sea and intermodal transports. It means that the share of unitised cargo will increase and combined intermodal transports will gain foothold. The volumes will concentrate on the hub ports with good and diverse connections, even with daily frequency on the main routes.

The port-to-port throughput times will shorten considerably. Well-functioning and seamless integration between sea and land traffic is also essential. Therefore, IC-technology is needed. ICT will evolve into an on-line service throughout the whole supply chain.

Last but not least, the cost-efficient transport concept will evolve market specifically; concepts based on ropax, roro, conron and/or container lines. Finnlines has on its side risen to the challenge with ropax-newbuildings. The new ropax vessel has 4,200 lane meters and it takes 500 passengers. The speed is 25 knots.

Vuosaari, the new port of Helsinki, gives Finnlines a new operational environment. Generally speaking, in a modern port high technical efficiency and service quality must be guaranteed. It
presumes good IT-qualifications (On-line services, E-Seal, RFID etc.) and automated handling operations, e.g., in container handling RMG and RTG are replacing the old techniques based on straddle carriers. Cross-docking ports must be backed up by transload services in inland terminals. The personnel in ports must have wide service knowledge and skills. Working hours in a modern port should be 24 hours, seven days a week and 365 days a year.

More specialized ports are needed, and there should be more operators in ports than nowadays. Even operators of multinational character are welcome. In Finland the concentration of cargo flows must be continued to the main ports, which will reduce the total number of ports in Finland.

As stated earlier, the GDP and traffic are growing fast in the Baltic Sea area. Thus, the seaborne unitised cargo transport has good conditions also in the future, but there are always threats in the business climate. At the moment, the bunker cost development with further environmental pressures challenge both trade and shipping. The bunker oil price has increased heavily. In addition, the new MARPOL Annex regulation entered into force within the Baltic Sea as from May 19, 2006. The regulation limits the sulphur content to 1.5% in bunker oil.
TRENDS AND CHALLENGES OF FEEDERING ON THE BALTIC SEA

Trends on the Baltic Sea Area

The Gross Domestic Product (GDP) will continue to grow in the Baltic Rim area (Figure 1). Examining the growth figures of GDP, two separate groups of countries can be found. In the Scandinavian countries including Finland, the growth will be steady and moderate. The growth rate of GDP will be between 2 and 3% in all the Nordic countries. In Russia and in the Baltic countries, the growth rate has reached the peak. The growth will be fast also in the future, but the growth rate is descending. In the Baltic States, which are Latvia, Lithuania and Estonia, the growth rate will be between 5 to 6% during the period of 2010-2020. In Russia, the percentage will be somewhat smaller. Poland’s figures are clearly lower than the figures of the former Soviet states, but a little bit higher than the figures of the Nordic countries.

The cargo volumes correlate strongly with the development of GDP. The figures of GDP form a good starting point to predicting the development of cargo volumes. From that viewpoint, Russia and the Baltic States will be the most important countries in the future. Russia will be on the focus because of its vast population and because of the coastal situation of St. Petersburg.

Even if the total GDP per capita is quite low in the Baltic States, there has been a strong growth in the seaborne container throughput (Figure 2). The total amount of containers has almost reached the amount of containers handled in Finland. In Finland 526,000 TEUs were handled in the year 2005.

In Russia the amount of demand, i.e. the amount of containers handled, is growing fastest. New port facilities are also planned, but ports and terminals are still bottlenecks. The cargo heading to Russia uses also ports in the transit countries. It is important that enough investments are made to cover the future demand. According to the figure 3, the total of planned investments exceeds the demand, when the same years are examined. It usually takes some years to realize the investments.
Figure 1. GDP growth per year in the Baltic Rim countries. Source: “The European and Mediterranean Container Markets until 2015” by Ocean Shipping Consultants Ltd., post-2015 data extrapolated.

Figure 2. Container throughput by countries in the Baltic States (in TEU). Source: Maersk.
Challenges

The continuing strong economic growth means increasing containerised volumes. It seems that the Russian transit cargo will keep many Finnish and Baltic State ports busy also in the future. This environment is attractive to a sea carrier.

The increased truck and rail traffic requires improvements in infrastructure, especially in the new market economic countries. The improvements must reach also the ports and their land connections.

The unbalance between export and import volumes is a fact in most of the countries in the Baltic Sea area. This means that the average size of a feeder vessel is small, for example in Finland only 1,000 TEUs. The vessel size is, however, growing partly because the costs must be controlled by every intermediate of the logistics chain. Larger vessels mean expansion pressures. Ports and terminals must operate soundly also in the new situation. Maersk as a sea carrier finds the feeder traffic important. It has its own feeder vessels. When needed, Maersk can build bigger vessels in order to fulfil the needs derived from the increased demand on the Baltic Sea.
GOODS FLOWS AND MARITIME INFRASTRUCTURE IN THE BALTIC SEA REGION

The Study

The goods flows and maritime infrastructure in the Baltic Sea Region is the theme of a recently published extensive analysis “Baltic Maritime Outlook 2006”. The study is part of the Master Plan Study for development of the Motorways of the Baltic Sea. The work is performed by University of Turku, Centre for Maritime Studies together with SAI (The Institute of Shipping Analysis) in Gothenburg and BMT Transport Solutions GmbH in Hamburg.

The Baltic Sea Region

The Baltic Sea Region (=BSR) covers the countries on the rim of the Baltic Sea: Estonia, Latvia, Lithuania, Poland, Denmark, Sweden and Finland. Norway is also included, as well as the northwestern part of Russia and the northern part of Germany. Eight of these ten countries are EU member states. The total population of the region is 103 million compared to the total population of 450 million in the EU. The area of the region equates to the area that is about 46% of the total area of the EU.

The region is historically, politically and economically heterogeneous and fragmented with economic and social disparities. But it is also a region of economic growth both in European and in global perspective. Between 1995 and 2004 the aggregated GDP grew 42,4%, excluding Russia. For the coming years, the IMF forecasts the highest GDP growth in Russia, Estonia, Latvia and Lithuania. In 9 of 10 BSR countries the growth rate of Gross Domestic Production is above the average growth in the EU. The region attracts direct foreign investments. It offers challenging but positive economic perspectives, partly dependent on Russia.

The aggregated GDP of the region was 1609 billion euros in 2004, excluding Russia, and 2056 billion euros with whole Russia. GVA allows a sectoral breakdown of Gross Domestic Product. The industrial output in terms of GVA varies by regions. The most important industrial areas are situated on the coast or in its vicinity, with the exception of Poland (Figure 1).
Trade and Maritime Transport

Trade

In 2003 trade to and from the countries in the BSR totalled 1,788 million tons, of which 744 million tons was imports and 1,044 million tons exports. Measured in tons, Germany, Russia and Norway are the main exporters. The markets of Germany and Norway are mainly situated outside of the region, but Russia has also a strong market share in the intra-region trade. The crude oil and oil products play an important role in the intra-regional export of Russia and Norway. In imports Germany has a crucial role, but most of the volumes are imported from outside of the BSR countries. The Nordic and the Baltic Countries are more dependent on the intra-regional trade than Germany.
If oil is excluded, the most important flows of trade in the intra-BSR trade are (Figure 2.):
- From Russia to Finland; and
- From Poland to Germany.

Important flows are also:
- From Sweden to Germany;
- From Norway to Germany;
- From Germany to Poland; and
- From Russia to Poland.

Maritime Transport

The growth of the intra-European trade volumes has led to increasing freight transport volumes, but compared to the total trade flows, the maritime flow pattern is different.

In the year 2003 the gross total of seaborne transport was 908 million tons in the Baltic Sea Region (including Norway). The net total amounted to 730 million tons, of which 45% was liquid bulk, 27% dry bulk and 28% other dry cargo. The net total includes inbound and outbound extra-BSR transports and outbound intra-BSR transports.

The extra-BSR transport represented 552 million tons, or 76% of all maritime transports in the BSR ports. About 157 million tons were inbound cargo coming outside from the region, and 395 million tons were outbound cargo heading outside the Baltic Sea Region. Norway, Germany and Russia dominate the extra-BSR maritime transports (Figure 3).

Out of the 327 million tons traded between the BSR countries in 2003, approximately 178 million tons were transported by sea. From this intra-regional seaborne transport the liquid bulk
represented a share of 34%, dry bulk 43% and other dry cargoes 23%. Germany, Finland and Sweden accounted together 54% of the intra-BSR maritime transports.


Forecasts

Trade

The growth of the international trade volumes of the BSR countries is expected to develop positively, but the trade dynamics differ significantly. Until 2020, the total exports of the BSR countries are expected to increase by 48% to 1,548 million tons, and imports by 41% to 1049 million tons (Figure 4). The intra-BSR trade volumes are expected to grow even faster than the extra-BSR trade.

The European trade pattern shows significantly larger east-west trade volumes than north-south volumes with a tendency towards even higher imbalances in the future.

Cargo Flows

The BSR exports by sea are expected to grow by 73% between 2003 and 2020, and the imports by 43% (Figure 5). Measured in tons, this growth will be 417 million tons in exports and 200 million tons in imports. The seaborne transport will be in 2020 the most important mode of transport. In
exports, the seaborne transport will have the most significant role. In the land transports, the growth rate is more modest. By 2020 the share of road/rail transport volumes is expected to be 45%.

The total growth of the seaborne transport during the period 2003-2020 will amount to 471 million tons with the growth rate of +64% (Figure 6). About 324 million tons of the total growth will be extra-BSR transports, mostly outbound. The growth rate in the intra-BSR transports is even higher than in the extra-BSR transports. With the growth rate of 83%, about 147 million tons of the total seaborne growth is expected to be intra-BSR transports, of which nearly half will be export of oil from Russia, and 25-30 million tons of oil, iron ore and forest products from Norway and Sweden, mainly to Germany.

In the study, simulations were made to find out how the maritime freight flows will develop. The reference situation in 2003 was set equal to 100, allowing for the analysis of expected changes in the base cases in 2010 and 2020 by comparing the index values with the reference situation. The transport work of all modes is expected to increase on European level. Especially seaborne transport will gain advantage. The BSR related seaborne transport has even brighter future than the European seaborne transport on average. The seaborne transport work will nearly double by the year 2020 in the Baltic Sea Region (Table 1).

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<th>Reference</th>
<th>Estimation 2010</th>
<th>Estimation 2020</th>
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<tr>
<td><strong>European level</strong></td>
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<td>Transport work of sea modes (tonkm/year)</td>
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<td>132</td>
<td>166</td>
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<tr>
<td>Transport work of all modes (tonkm/year)</td>
<td>100</td>
<td>122</td>
<td>151</td>
</tr>
<tr>
<td><strong>BSR related</strong></td>
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<tr>
<td>Through-put of Baltic Sea Ports (tons/year)</td>
<td>100</td>
<td>132</td>
<td>164</td>
</tr>
<tr>
<td>Transport work of sea modes in the BSR (tonkm/year)</td>
<td>100</td>
<td>145</td>
<td>193</td>
</tr>
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Figure 4. BSR trade forecast for 2010 and 2020. Source: Baltic Maritime Outlook 2006.
The BSR includes a high number of national economies with a growth potential that is higher than the EU average. Also the effects of growth in the international trade volumes are affecting the modal split and route choices in the BSR more strongly than for the European average. International short sea shipping in the BSR benefits from this development. The relatively strong increases in the transport work (tonkm) of sea modes operating within the BSR seem due to the fact that long distance sea links benefit from extra trade volumes, compared to short distance links.
The sea transport in/out of the BSR via the Skagen corridor/ Kiel Canal will increase, but the BSR port throughput is expected to increase even more rapidly. The role of intra-BSR seaborne transport is growing in the future.

**Future Trends and Interpretations**

According to the interpretations based on the study, oil, manufactured goods (incl. paper), building materials and chemicals will be the most traded commodities in the BSR measured in tons. Significant relative trade growth will be seen in high-value and/or time-sensitive goods.

The east-west trade is expected to grow faster than the north-south trade volumes, as a consequence of the EU enlargement. The dynamics in the bilateral trade relations generate high trade volumes in terms of tons. The tendency to sea is more evident in the BSR than in Europe average. Due to this development, the modal shift from land to sea is also continuing to increase.

The importance of intra-BSR transport will increase in the future, and transport between the BSR countries will become more important than extra-BSR transport. The BSR related transport is growing faster than European transport on average. Despite of the uncertainties, strong economic growth will most likely continue. The seaborne transport and short sea shipping have a bright future in the Baltic Sea Region.
PORT CONGESTION – A CHALLENGE TO THE FUTURE OF SHORTSEA SHIPPING

Themes

The jeopardy of port congestion is discussed here from the viewpoint of the Port of Hamburg. Following themes are covered:

- Development of cargo handling
- Trading partners
- Emerging markets
- Hub- & Spoke-System
- Hinterland connections and access to the Baltic Sea
- How efficient will the Port of Hamburg be in the future?
- Port development

Development of Cargo Handling

In the year 2004 about 114 million tons of cargo were handled in the Port of Hamburg. Next year 126 million tons of cargo were handled, of which 53 million tons were exported and 73 million tons imported. The annual growth was 9.8%.

A growth has been a trend for a long time, but it has been accelerating in the 2000’s. The total growth rate was 47.8% in the period 2000-2005. In the previous period the growth rate was 18%.

In the year 2005 about 11,500 merchant vessels called at the Port of Hamburg. All commodities are handled in the Port of Hamburg. The amount of general cargo exceeded the amount of bulk cargo in the 1980’s, and now the amount of general cargo is more than double of the amount of bulk. The mineral dry bulk is the most important commodity in bulk, followed by liquid bulk. Almost all of the general cargo is containerised. In addition, break-bulk is handled. With the amount of 8.1 million TEUs handled, the Port of Hamburg is the second biggest container port in Europe and number eight in the world. Hamburg, Rotterdam, the biggest container port of Europe, the Antwerp and the Bremen Ports are a centralization of ports on the North Sea coast, where over 27 million TEUs are handled annually.

Trading Partners and Emerging Markets

From the viewpoint of the Port of Hamburg, the main markets are situated in the Far East, in the Nordic and Baltic countries, as well as in the Central Europe. The most important trading partner is the Republic of China in seaborne container traffic. China is overwhelming with the amount of 2.2 million TEUs handled in 2005. The next country in order, Singapore, reaches only 600,000 TEUs. Finland is the leading partner in Europe with over 500,000 TEUs, followed by Russia. The growth is fastest in the Russian trade. The annual growth rate was 50.2% during the period 2004/2005, and the amount exceeded 400,000 TEUs. Based on the growth rate, for example, during 2004/2005 Russian, Poland, Brazil and China can be defined as emerging markets.
Connections

Hub

Hamburg is a hub port connecting overseas cargo flows with feeder based cargo flows on the Baltic Sea. It is the most important container port to the eastern European and to the Nordic countries. The main route on the Baltic Sea goes from Hamburg via Kiel Canal or via the “land bridge Hamburg/Lübeck” to St. Petersburg. The route continues to Moscow by land. Branches diverge to all countries around the Baltic Sea. The hinterland extends from the north to the borders of Greece and Albania and to the Black Sea. Russia is also considered to belong to the hinterland of the Port of Hamburg.

Hub and Spoke –system

In a Hub and Spoke –system the hub ports are connected by ocean-going vessels. The hub ports have connections to feeder ports. The hub port and its feeder ports have inland connections. Situated in the heart of Europe, Hamburg has excellent inland connections. In the Port of Hamburg the hub/spoke-connections local and long distance truck traffic accounts together for 50% of modal split, feeders 27%, rail 22% and barges 2%. The amount of rail cargo in the Port of Hamburg is 1.4 million tons. The domestic railroad connection between the Port of Hamburg and Bavaria is an important route for rail cargo, but connections to the Czech Republic, Slovakia and to Austria are also important. The rail shuttle connections form a land bridge between Hamburg and Lübeck. The cargo terminal in Lübeck is becoming one of the nodes in the Baltic Sea container traffic.

Finland is the most important country in the feeder traffic measured in TEUs. But there are 32 feeder departures to Sweden/Denmark in a week, whereas to Finland there are 19 connections. Totally 115 feeder vessels departure from the Port of Hamburg per week.

Efficiency and Port Development

The development of seaborne containerised cargo transport has exceeded all forecasts. The westward extension of the Eurogate Terminal gives more throughput capacity in the near future. The plans for the Central Freeport area will guarantee that the Port of Hamburg will gain terminal capacity of handling 18.7 million TEUs in the future.

The Port of Hamburg has a special investment program to solve the capacity problems. According to the program, for example, Burchardkai will be developed, and part of the area will be reconstructed. The geographical situation in the delta of the River Elbe brings along problems, but there are still many alternative choices for new berths and terminals, for example, a new container terminal could be situated in Tollerort or in Altenwerder. The neighbourhood of Altenwerder has enough space for building up a new distribution area.

The sea and land connections are also being developed. For example, the sea channel will become deeper. In the river shoals are levelled, and the channel is being widened.
DEVELOPMENT OF PORT INFRASTRUCTURE IN THE BALTIC SEA REGION

Foreword

In this presentation the main container handling systems are discussed. The storage capacity and costs are usually in focus when the choice of an ideal handling system is made. The range of systems extends from more traditional systems such as reach stacker systems to unmanned container handling.

Also the handling systems in different sizes of ports situated in the Baltic Sea area are introduced. In the end of the presentation the criteria for choosing of a handling system are defined, and a simulation tool that helps the decision-making is presented.

Systems for Container Handling

Reach Stacker System

The target markets of the reach stacker systems (Figure 1) are usually small and medium sized ports with the handling volume less than 100,000 TEUs. It is also a good choice for ports that are newcomers in the field of container handling. The risks are minor compared to the other systems, because the system is relatively simple.

The system is based on a ship-to-shore crane and land vehicles. On the landside operations, 3-4 reach stackers and 4-5 terminal tractors are needed per one crane. The exact number of vehicles depends on the required productivity, travelling distances etc.

A reach stacker system has high labour costs, but the operating costs are only medium. The capital costs are low. On the other hand, the storage capacity is also low: 500 TEUs per hectare with 3-high stacking.

Straddle Carrier System

A straddle carrier system (Figure 2) is designed mainly for medium sized and large ports. The amount of containers varies from 100,000 TEUs to 1 million TEUs. The system is a good choice when high selectivity and flexibility is needed. A straddle carrier system is a good alternative when there is a need to reduce labour usage.
The straddle carrier system is composed of a ship-to-shore crane and straddle carries. Usually 4-5 straddle carriers are needed per crane, but like in a reach stacker system, the number of vehicles depends on the required productivity, travelling distances etc.

Although the labour costs are low, the capital costs are high, and the total operating costs are high. The medium stacking density depends on the capacity of straddle carriers used. The 3-high straddle carrier can take three containers and a 4-high four containers respectively. If the machine takes three containers at a time, there can be 500 TEUs per hectare in a 2 containers high yard. With the 4-high straddle carriers the figures are 625 TEUs per hectare in a 2.5 containers high yard.

**RTG Crane System**

The RTG crane systems (Figure 3) are used in large and in very large ports with a handling capacity of over 100,000 TEUs. The system allows long travelling distances. The system is used when high storage capacity and efficient block stacking are needed.

In addition to one ship-to-shore crane, 2-3 RTG cranes and 3-5 terminal tractors are needed. The exact combination depends on the required productivity, travelling distances etc.

The labour costs are medium as well as the capital costs. In some cases the labour costs can be high, but the total operating costs are low. The stacking density is as high as 1,000 TEUs per hectare in a 4 containers high yard.

*Figure 1. Reach stacker system.*
Unmanned Container Handling

There are alternative solutions in unmanned container handling. The system can be based on automatic stacking cranes or automatic straddle carriers called AutoStrad. Automatic stacking cranes will be used, for example, in the Port of Hamburg by HHLA in the Container Terminal Burchardkai. When the project will be completed by 2014, 5.2 million TEUs will be handled with
87 automatic stacking cranes. In Brisbane, Australia, 400,000 TEUs are handled in an operation day by 18 AutoStrads.

**Container Ports on Baltic Sea Rim**

In this overview only the main port operators, with the traffic volume of 100,000 TEUs or more per year are listed. The Nordic ports are included. The traffic volumes are based on the LoLo operations and they are rough estimates. In every case the existing or future main handling system is highlighted.

**Port of St Petersburg**

The Port of St Petersburg consists actually of many separate ports. In the First Container Terminal about 770,000 TEUs are handled annually. The main handling system is based on straddle carriers, but also RTG cranes are used.

In Petrolesport the amount of containers handled annually is 240,000 TEUs. RTG cranes are widely used, but to some extent also reach stackers and lift trucks are in operation.

In the Moby Dick terminal of the firm Containerships about 140,000 TEUs are handled. RTG cranes are the most used system, but there are also reach stackers and terminal tractors.

**Port of Gdynia**

In the Port of Gdynia the Baltic Container Terminal handles 400,000 TEUs. RTG cranes are used with terminal tractors.

**Port of Muuga**

The handling volume of the Muuga Container Terminal is 120,000 TEUs. The main method is based on RTG cranes, but other equipment is also needed: reach stackers, terminal tractors and shuttle carriers.
Port of Riga
The annual volume of the Baltic Container Terminal is 170,000 TEUs. Reach stackers are mainly used. In addition, handling is done with RMG cranes and lift trucks.

Port of Klaipeda
The Klaipedos Terminalo Grupe handles 220,000 TEUs. RTG cranes are the primary system used, but also reach stackers and terminal tractors are needed.

Port of Gothenburg
In the port of Gothenburg 680,000 TEUs are handled with straddle carriers.

Port of Helsingborg
In Helsingborg the annual volume is 100,000 TEUs. Forklift trucks are the main equipment. Terminal tractors are also used.

Port of Oslo
In the Oslo Container Terminal 150,000 TEUs are handled. RTG cranes are used, and as a detail it can be mentioned that the system is emission-free. Also reach stackers and terminal tractors are used.

Port of Århus
In Århus there are two operators, APM Terminals and Århus Stevedoring. APM Terminals handles 150,000 TEUs, and it uses straddle carriers, and for empty containers reach stackers. Århus Stevedoring is going on to straddle carriers, but the company uses also reach stackers and terminal tractors.

Port of Copenhagen Malmö
In CMP 130,000 TEUs are handled, mainly with straddle carriers. Reach stackers are also used.

Port of Helsinki
In Helsinki Finnsteve handles 250,000 TEUs. The system is based on straddle carriers with the exception that reach stackers are used for rail, and EC lift trucks and EC reach stackers are used for empty containers.

Containerships uses wide span ship-to-shore cranes backed by reach stackers for handling of 100,000 TEUs.

Port of Kotka
In Kotka Steveco handles 350,000 TEUs having straddle carriers, and for empty containers reach stackers and EC lift trucks. Finnsteve and Containerships use straddle carriers. Both companies have the volume of 100,000 TEUs.

Port of Rauma
The handling of 100,000 TEUs is done by Rauma Stevedoring with the help of reach stackers, but also container movers are used.

Summary of Ports and Handling Systems
St. Petersburg is the leading container port in the Baltic Sea area with the handling volume that exceeds 1 million TEUs. Otherwise, the important container ports are situated in the old marketing
Development of Port Infrastructure in the Baltic Sea Region

With the exception of the Port of Gdynia in Poland, the leading container handling system in the Baltic Sea area is based on straddle carriers followed by a system that is based on RTG cranes (Table 1).

### Table 1. Handling Volumes and Systems in the Main Ports of the Baltic Sea.

<table>
<thead>
<tr>
<th>Handling Volumes</th>
<th>MTEUs</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>St. Petersburg</td>
<td>1.15</td>
<td>26</td>
</tr>
<tr>
<td>Gothenburg</td>
<td>0.68</td>
<td>15</td>
</tr>
<tr>
<td>Kotka</td>
<td>0.55</td>
<td>13</td>
</tr>
<tr>
<td>Helsinki</td>
<td>0.45</td>
<td>10</td>
</tr>
<tr>
<td>Gdynia</td>
<td>0.4</td>
<td>9</td>
</tr>
<tr>
<td>Århus</td>
<td>0.4</td>
<td>9</td>
</tr>
<tr>
<td>Others</td>
<td>0.81</td>
<td>18</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>4.4</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Handling Systems</th>
<th>MTEUs</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reach stackers of lift trucks</td>
<td>0.4</td>
<td>8</td>
</tr>
<tr>
<td>Straddle carriers</td>
<td>2.5</td>
<td>57</td>
</tr>
<tr>
<td>RTG cranes</td>
<td>1.3</td>
<td>30</td>
</tr>
<tr>
<td>Others</td>
<td>0.2</td>
<td>5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>4.4</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Straddle carriers, which have low labour utilization, are common in the western Europe where the labour costs are high, whereas RTG cranes are common in the eastern Europe where the labour costs are low.

### Choice of the Handling System

The choice of a handling system should be based mainly on the three following criteria:

- Overall costs
- Required selectivity and flexibility
- Storage capacity

The overall costs include labour, operating, maintenance and capital costs. Selectivity deals, for example, with the type of traffic in connection with the vessel size. Regarding the storage capacity, one must also consider the volume of traffic and the costs of storage space.

Simulation can be used to help in designing an ideal layout and choosing the optimum number of equipment. Kalmar, Bromma and Cybercube together have developed a Port Optimizer® simulation tool that can be used in container handling projects. The license to use the program is included in the projects. The tool has already many commercial references worldwide. In the Baltic Sea area it has been used, for example, in Helsinki by Finnsteve.

The optimiser tool can be used to find the optimal type and number of equipment. The productivity of vessel, ship-to-shore crane and yard equipment, as well as landside service level, can be analysed and reported.
Veli Salmi  
Vice President  
Boliden Harjavalta Oy  

EXPECTATIONS OF THE INDUSTRY  

Abstract  

The Boliden Group has three metal smelters in the Baltic Sea region. Raw materials are mainly shipped from overseas and most of the products are shipped as well. For Boliden Harjavalta Oy an additional weak spot is the location 50 kilometres inland from the ports.  

The remote location causes extra logistic costs and complicates the supply of raw materials when compared to the competitors. That is why the logistics cost-efficiency is a matter of vital importance. Continuous improvement of transportation and port service performance is an important area of our development work. Our survival in the business demands that unfavourable location, faraway from raw materials and the main market, has to be compensated by other strengths.  

Boliden in Brief  

Boliden is one of the leading mining and smelting companies in the world with operations in Sweden, Finland, Norway and Ireland. The main products are copper, zinc, lead, gold and silver. The number of employees is approximately 4,500 and the turnover amounts to approximately EUR 2.2 billion annually. The company share is listed on the O-list of the Stockholm Stock Exchange in Sweden and on the Toronto Stock Exchange in Canada.  

Boliden’s head office is situated in Stockholm, Sweden. The company has its own mines in Sweden and Ireland. The mines in Sweden are situated in the northern Sweden in Aitik and in the Boliden area and in the central Sweden in Garpenberg. They produce copper, zinc, lead, gold and silver. The Aitik Mine has ore reserves of 240 million tons. The Tara Mine in Ireland produces zinc and lead. Copper smelters and refineries are situated in the Harjavalta/Pori region, Finland and in Rönnskär, Sweden. Zinc smelters can be found in Finland (Kokkola) and in Norway (Odda). In Sweden there is also a lead smelter in the southern Sweden. The total mine production and smelter production can be seen in the table 1.
Table 1. Mine production and smelter production of the Boliden Group.

<table>
<thead>
<tr>
<th>Mine production</th>
<th>Smelter production</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zinc</td>
<td>340 000 t/a</td>
</tr>
<tr>
<td>Copper</td>
<td>87 000 t/a</td>
</tr>
<tr>
<td>Lead</td>
<td>49 000 t/a</td>
</tr>
<tr>
<td>Gold</td>
<td>4 500 kg/a</td>
</tr>
<tr>
<td>Silver</td>
<td>226 000 kg/a</td>
</tr>
</tbody>
</table>

*Metal content in concentrates

Boliden Harjavalta Oy

Situation and Business Partners

Boliden Harjavalta Oy is a part of the Boliden Group. The copper smelter of Boliden Harjavalta Oy is situated in Harjavalta and the refinery is situated in Pori. The distance between these two product plants is about 30 kilometres. The distance between the Harjavalta smelter and the port is about 50 kilometres. Purchasing of raw materials, marketing and sales as well as the delivery of products are taken care of by Boliden Commercial AB, which has a Finnish office in Espoo near Helsinki.

Boliden Harjavalta Oy was previously a part of the Outokumpu Group, which once possessed the whole product chain of copper from mines to the end product producers. After strategic reorganisation, Outokumpu gave up its mining and industrial copper production. In the industrial park of Harjavalta and in the factory area of Pori the firm has nowadays many business partners. Also outsourcing has increased the number of business partners. The most important industrial partners are OMG Harjavalta Nickel Oy, Oy AGA AB, ABB Oy Service, Pori Energia Oy and Kemira Oyj in Harjavalta and copper product manufacturer Luvata Pori Oy in Pori. Boliden Harjavalta Oy smelts nickel to OMG Harjavalta Nickel Oy based on tolling. Kemira Oyj is a major customer of sulphuric acid, which Boliden Harjavalta Oy produces in its smelting process. In external logistics the Port of Pori, port operator Oy Hacklin Ltd. and rail operator VR Cargo are the main business partners.

Process and Production

Figure 1 illustrates the industrial process of Boliden Harjavalta Oy. In the smelter of Harjavalta flash-smelting process is used. The process was originally developed in Harjavalta. The product is casted copper plate called anode. The anodes are further refined electrically in a tank house in Pori. The product is called copper cathode.
Boliden Harjavalta Oy smelts copper and nickel concentrates 750,000 tons annually. The Harjavalta smelter produces 160,000 tons of anode copper and 570,000 tons of sulphuric acid. The Pori copper refinery produces about 125,000 tons of cathode copper, 35,000 kilograms of silver and over 3000 kilograms of gold.

**Boliden Material Flows**

Boliden has three smelters in the Baltic Sea area, two of which are copper smelters. The copper smelter in Rönnskär, Sweden and zinc smelter in Kokkola, Finland enjoy a benefit of locating in the instant vicinity of their own ports.

The annual shipping volumes to and from the smelters are highly exceeding 2.3 million tons annually (Table 2).

**Table 2. Material Flows of Boliden.**

<table>
<thead>
<tr>
<th>TO</th>
<th>FROM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rönnskär</td>
<td>500,000 t/a</td>
</tr>
<tr>
<td></td>
<td>Cu-concentrate, Sand, Coal</td>
</tr>
<tr>
<td>Harjavalta</td>
<td>750,000 t/a</td>
</tr>
<tr>
<td></td>
<td>Cu- and Ni-concentrate</td>
</tr>
<tr>
<td>Kokkola</td>
<td>500,000 t/a</td>
</tr>
<tr>
<td></td>
<td>Zn-concentrate</td>
</tr>
<tr>
<td>TOTAL</td>
<td>1,750,000 t/a</td>
</tr>
<tr>
<td></td>
<td>TOTAL 600,000 t/a</td>
</tr>
</tbody>
</table>

**Boliden Harjavalta Oy on the Business Map**

Boliden Harjavalta Oy is entirely dependent on the marine transport, as almost all the raw materials are shipped from overseas. A remarkable share of the products is shipped as well. Winter conditions require ice-classified vessels resulting into a need of reloading in Hamburg or Rotterdam. Another reason for a need of reloading is the draught of the Port in Mäntyluoto, which is only 10 metres. The maritime dues collected by the government and ports encumber us much more than our foreign competitors. The fairway dues are sixty percent of the total dues. They are
The raw material suppliers dislike us because of high shipping charges and nasty reloading of vessels. From our point of view, the Baltic Sea can be regarded rather as a handicap than an opportunity. Our survival in the business demands that the unfavourable location faraway from raw materials and the main market has to be compensated by other strengths.

**Expectations to the Logistic Chain**

Shipping is only one part of the logistic chain. Good performance is necessary within the entire logistic chain. Effective operations for material handling in the port and transportation from a ship to the smelter and vice versa are a must. Important issues, in addition to cost-efficiency, are high unloading speed, keeping to the schedules, flexibility in case of unexpected situations, and minimum material losses. Good logistic management allows also reduction of capital tied up in inventories.

For concentrate unloading and transportation from the Port of Mäntyluoto to Harjavalta we have a four party agreement between Boliden Harjavalta Oy, Port of Pori, Oy Hacklin Ltd. and VR Cargo for concentrates. The scope of the agreement is unloading of copper and nickel concentrates from vessels, intermediate warehousing, loading the trains in the Port of Mäntyluoto and railroad transportation to Harjavalta.

Boliden is committed to addressing all the concentrate vessels to be unloaded in Mäntyluoto. A fixed unit fee per one ton covers all the services. As part of the agreement, the Port of Pori has invested in a new quay and cranes, Hacklin has built a warehouse, and VR Cargo has constructed new wagons for concentrates. The agreement was signed in 1992, and in 1998 it was prolonged with 14 years. However, improvements of the operations and the agreement as well are necessary, as the concentrate volumes will increase in the future.

**Other Expectations**

The agreement gives a good base and fulfils many expectations. There are still some expectations that are needed to be considered more closely.

**Fairways**

A good condition of the inland fairways is naturally in our interests. About 2.4 million tons of materials are annually transported to or from the Harjavalta industrial area by trucks via the highway number 2 or by train. The road is quite occupied even now, and the traffic is continuously increasing. Hopefully, the basic renovation of the road can be initiated as soon as possible. The whole project should be carried out fluently without interruptions.

A plan for a deeper fairway and port in Mäntyluoto would be beneficial for Boliden. In case the plan comes true, the need of reloading in Hamburg or Rotterdam diminishes in the summertime. In addition, we could better utilize common shipment together with our Rönnskär smelter or our nickel tolling partners.
Fairway Dues

The fairway dues increase the freights of our raw materials and products, and weaken Boliden’s position compared to the competitors. There are some defects in the fairway dues. The dues are collected in Finland and Sweden only, and in Sweden the magnitude is a fraction from that of Finland. The system supports regular feeder traffic and entertainment business, because after ten visits (32 visits in case of ferries) a vessel is released from the dues.

The fairway dues depend on the ice class classification of a vessel, the worse classification the higher dues. For example, in the class II/III the unit due/NRT is EUR 7,000, whereas in the class 1AS it is only EUR 1,340. The overseas vessels for concentrates and acid are usually not ice strengthened, which places them in the most expensive classification. The dues remain the same all year long. The season or ice situation does not affect it.

We consider the fairway dues to be unfair, especially in case of shipping such low price product like sulphuric acid. The market price of the acid in Chile, as an example, is in the range of USD 45/ton. The total freight cost, which includes fairway dues of USD 3.4/ton, is so high that it makes our export of sulphuric acid unhealthy business. We have had a long dialogue with the authorities on this issue, but probably we cannot expect any improvements in the future.

The Future

We expect metals production to be healthy business in Finland. Despite of the disadvantages caused by the unfavourable location, we have a strong belief that the copper production will be profitable business also in the future, but we have to secure that our cost-efficiency and operational excellence are of world class. This means continuous development of technology and improvements in performance of production and logistic chain. As a testimony to our belief, the ongoing investment program will raise the capacity of copper production by 25% from 2008 onwards.
THE FUTURE OF MARITIME LOGISTICS ACROSS THE BALTIC SEA AREA

With more than 40,000 employees at 750 locations in over 100 countries, the Kuehne + Nagel Group is one of the world’s leading logistics companies. Its strong market position lies in the seafreight, airfreight, contract logistics and overland businesses, with a clear focus on providing IT-based supply chain management services.

The Kuehne + Nagel Group provides comprehensive global logistics solutions using all modes of transportation. The supply of services could include, for example, lead logistics-solutions, added value services, insurance brokerage, warehousing and/or project transports.

Kuehne + Nagel has developed many tools to serve the customers. The shipment/order visibility and monitoring tool called KN Login provides instant access to the latest shipment and order information with extended document view. KN Login alerts automatically about changes in the timetable. In Lead Logistics, own tools are developed to network management, engineering, monitoring and measuring performance in order to manage the total logistics chain.

Finnish Ports

Over 500 million tons of dry cargo are transported on the Baltic Sea. The cargo is transported mainly through 200 commercial ports. Fifty major ports of dry cargo are listed below in alphabetical order (Table 1).

| Table 1. 50 major dry cargo ports of the Baltic Sea (Finnish ports in italic). |
|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
| Copenhagen                      | Kaliningrad                      | Köping                          | Oxelösund                     | Sundsvall                      |
| Fredericia                     | Kalmar                           | Liepaja                         | Paldiski                      | Szczecin                       |
| Gdansk                          | Karlshamn                        | Lübeck                          | Pori                          | Södertälje                     |
| Gdynia                         | Karlskrona                       | Malmö                           | Raahel                        | Tallinn                        |
| Gedser                         | Kemi                             | Middelfart                      | Rauma                         | Travemünde                     |
| Hamina                         | Kiel                             | Naantali                        | Riga                          | Turku                          |
| Hanko                          | Klaipeda                         | Narsskow                        | Roenne                        | Västerås                       |
| Helsingborg                    | Kokkola                          | Norrköping                      | Rostock                       | Wismar                         |
| Helsinki                      | Kolding                          | Nyborg                         | St. Petersburg                | Åbenraa                        |
| Horsens                        | Kotka                            | *Oulu*                          | Stralsund                     | Århus                          |

In Finland, unitised cargo is handled mainly in a dozen ports. The total amount of unitized cargo was in 2004 about 23.8 million tons, from which import to Finland was 10.4 million tons and export 13.4 million tons. The railway wagons go via the Port of Turku. Handling of lorries and trailers is centred to few ports. Containers are handled in several ports (Figure 1). The most important destination ports of Finnish unitized cargo can be found on the Baltic coast of Sweden and Germany (table 2).
Table 2. The most important destination ports for Finland’s unitized traffic (in tons, import and export). Source: The Finnish Maritime Administration.

<table>
<thead>
<tr>
<th>Port</th>
<th>Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hamburg</td>
<td>20 %</td>
</tr>
<tr>
<td>Stockholm</td>
<td>11 %</td>
</tr>
<tr>
<td>Travemünde</td>
<td>9 %</td>
</tr>
<tr>
<td>Kapellskär</td>
<td>9 %</td>
</tr>
<tr>
<td>Lübeck</td>
<td>8 %</td>
</tr>
<tr>
<td>Tallinn</td>
<td>7 %</td>
</tr>
<tr>
<td>Antwerp</td>
<td>7 %</td>
</tr>
<tr>
<td>Bremerhaven</td>
<td>7 %</td>
</tr>
<tr>
<td>Rostock</td>
<td>4 %</td>
</tr>
<tr>
<td>St. Petersburg</td>
<td>4 %</td>
</tr>
<tr>
<td>Rotterdam</td>
<td>3 %</td>
</tr>
<tr>
<td>Arhus</td>
<td>2 %</td>
</tr>
<tr>
<td>Teesport</td>
<td>2 %</td>
</tr>
<tr>
<td>Gdynia</td>
<td>1 %</td>
</tr>
<tr>
<td>Tilbury</td>
<td>1 %</td>
</tr>
<tr>
<td>Others</td>
<td>5 %</td>
</tr>
</tbody>
</table>

**Development and Growth**

The growth of unitized cargo volumes has been rapid. Especially the volume of containers handled has grown fast as in case of Finland (Figure 2). The size of ships is also growing (Table 3). The maximum size of a feeder ship calling the Baltic Sea ports will be 2,000–4,000 TEUs by the year 2010. The lane metres of roro-vessels will grow from the present two kilometres to the length of four kilometres.

New kind of vessels will use only one or two ports per country. Nowadays 500 million tons of dry cargo are distributed to 200 ports on the Baltic Sea region. That includes the fact that there are 200 port areas, 200 fairways and 200 rail and road connections. That kind of infrastructure brings along poor frequencies, inefficiency for hinterland transport companies, and unnecessary infrastructure investments.

It cannot be an optimal situation compared to the situation in Rotterdam, where 300 million tons of cargo are handled annually. There is one port area with one streamline for road, rail and inland waterway connections.

Table 3. Maximum size of container ships.

<table>
<thead>
<tr>
<th>Period</th>
<th>Overseas</th>
<th>Baltic Sea feeders</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970</td>
<td>1,000 TEU</td>
<td>200 TEU</td>
</tr>
<tr>
<td>1980</td>
<td>2,000 TEU</td>
<td>400 TEU</td>
</tr>
<tr>
<td>1990</td>
<td>4,000 TEU</td>
<td>800 TEU</td>
</tr>
<tr>
<td>1995</td>
<td>6,600 TEU</td>
<td>1,000 TEU</td>
</tr>
<tr>
<td>2005</td>
<td>9,000 TEU</td>
<td>&gt;2,000 TEU</td>
</tr>
<tr>
<td>2010 (estimation)</td>
<td>12,000 TEU</td>
<td>2,000-4,000 TEU</td>
</tr>
</tbody>
</table>
Figure 1. Handling of unitized cargo in the Finnish ports (tons) in 2004. Source: The Finnish Maritime Administration.

Figure 2. Unitized transports via Finnish ports. Source: The Finnish Maritime Administration.
Vision for the Baltic Sea

From the viewpoint of shortsea shipping, the volumes in the current main axle will grow. That means increasing traffic in south/north axle to and from the Baltic Sea. Additionally, the intra North European traffic will increase both from west to east and between north and south in both directions.

The size of ships will grow as said before. This means less port calls. The demand for bigger ports will emerge. Good hinterland connections including logistics centers will be needed. New competition on the Baltic Sea has already given a healthy impact on the service and price levels. The competition in liner traffic business on Finland’s route is a good example of that.

There are ports that will benefit from this vision. St Petersburg and the surrounding ports will definitely be the winners, but many other ports will also gain advantages of this vision (Table 4).

<table>
<thead>
<tr>
<th>Port</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>St. Petersburg / surrounding ports</td>
<td>++++</td>
</tr>
<tr>
<td>Gdansk/Gdynia</td>
<td>+++</td>
</tr>
<tr>
<td>Rostock</td>
<td>+++</td>
</tr>
<tr>
<td>Helsinki</td>
<td>+++</td>
</tr>
<tr>
<td>Riga</td>
<td>++</td>
</tr>
<tr>
<td>Pori/Rauma</td>
<td>++</td>
</tr>
<tr>
<td>Tallinn</td>
<td>++</td>
</tr>
<tr>
<td>Turku</td>
<td>++</td>
</tr>
<tr>
<td>Kotka/Hamina</td>
<td>++</td>
</tr>
<tr>
<td>Hanko</td>
<td>+</td>
</tr>
<tr>
<td>Kemi/Oulu</td>
<td>+</td>
</tr>
<tr>
<td>Kaliningrad</td>
<td>+</td>
</tr>
<tr>
<td>Lübeck</td>
<td>+</td>
</tr>
<tr>
<td>Stockholm</td>
<td>+</td>
</tr>
<tr>
<td>Malmö</td>
<td>+</td>
</tr>
</tbody>
</table>

Nowadays, there are 60 ports in Finland and over 80% of the traffic is handled via 20 ports. Cooperation between the Finnish ports is needed. Each port could specialize. Now everyone tries to serve everyone. Unnecessary investments could be avoided by using work force and equipment together when possible. The jealousy towards the neighbouring port would disappear. The vision is that, with the help of joint ventures and incorporation of regional ports, a chain of ports will be created. For example, Pori and Rauma or Kotka, Hamina and Loviisa could make chains.
INTRODUCTION OF THE PORT OF PORI

Goods Traffic

Satakunta region is one of the most important industrial areas in Finland. The region is known for its chemical, metal and forest industry. Power supply is also a key business of the region. With the amount of 5.5 million tons handled, the Port of Pori is the sixth largest general port in Finland, and with the amount of 70,000 TEUs the fifth largest container port. The trend of the traffic turnover has been growing for decades. Five million tons of cargo handled was reached first time in the year 1994, and six million tons in the year 2003. Fluctuations of volumes are typical to the Port of Pori due to the high volumes of energy goal imported to Pori. After the peak of six million tons, the volumes got down a bit, but new developing projects have been emerged to strengthen the marketing position of the Port of Pori in various commodities.

In 2005, import accounts for 61% and export 39% of the total volumes. The respective amounts in tons are 2.6 million tons in import and 1.6 million tons in export. Import is mainly composed of dry bulk (Figure 1). For example, ore concentrates are used by local metal industry and most of the coal is used by power plants situated next to the Harbour of Tahkoluoto.

Pori is one of the leading timber export ports in Scandinavia (Figure 2). General cargo is also an important commodity group. The amount of containerised cargo is growing rapidly. For example, timber is exported overseas in containers. Pori is used as a hub in domestic coal transport.

Harbours and Connections

The Port of Pori is divided to three separate ports. In Mäntyluoto timber, ore concentrates and containers are handled. Project cargo is also handled there. The port has a heavy lift crane of 200 tons. In the immediate vicinity of the harbour, offshore industry is carried on.

With the draught of 15.3 metres, Tahkoluoto is the deepest port on the coast of the Gulf of Bothnia, and cape-size vessels are calling at the Tahkoluoto. Dry bulk is handled in Tahkoluoto, but in Tahkoluoto is situated also the third harbour, the Chemical Port for chemicals and oil products. Recently, chemicals and oil products have been the fastest growing commodity group in the Port of Pori.

The port has excellent rail and road connections. The port is relatively ice-free, and icebreakers are needed only occasionally. The port has regular connections to the Continent as well to Scandinavia and Mediterranean. To Hamburg and to Bremerhaven there are daily connections with feeder vessels.
The Future

The port pays attention to the environmental issues. It has been using ISO standards in environmental management for a long time. A new step in the very near future is that in Tahkoluoto a new covered conveyor system will be taken in use to prevent the dispersion of dust.

According to the Master Plan of the port, a new quay will be built in Mäntyluoto and the current 10-m fairway will be deepened to 12 metres. The Tahkoluoto Harbour will be developed to provide more space for covered warehouses. If the traffic in the Chemical Port will continue to grow fastly, another berth is needed.

Totally, over 100 hectares of land is available in the vicinity of Tahkoluoto and Mäntyluoto. The Port of Pori has developed the concepts of Timber City and Chemical City in order to facilitate emerging of new logistical and industrial centres. The Port of Pori is powerfully marketing its facilities to new customers and shipping lines. The Port of Pori is now on the crest of a new wave.

![Figure 1. Import of commodities to the Port of Pori.](image1)

![Figure 2. Export of commodities from the Port of Pori.](image2)
Tapani Erling
General Director
National Board of Customs, Finland

HOW TO MANAGE WITH CUSTOMS AND DOCUMENTS IN RUSSIAN TRADE AND TRANSPORT

Introduction

The Baltic Sea area has become in focus in international trade due to the good business opportunities that it offers to international traders and transporters. The Baltic Sea area has become a genuine hub area with regional hubs. For example, some Finnish ports have become transit ports to Russia. In these ports, the modal shift from sea to road takes place and transit goods are transported to Russia by road via the border crossing stations at the Finnish southeastern border. The most used port is Kotka, followed by the Ports of Hanko and Hamina. The most used border crossing station in road transit heading to Russia is Vaalimaa (Figure 1). Vaalimaa is also the most important border crossing station followed by Nuijamaa when the total border crossings of trucks are viewed.

Totally 2.6 million tons of transit goods were transported from Finland to Russia by road in 2003 (Figure 1). The amount has been growing since the end of the 1990’s. The value of transit goods was 22 billion euros. According to Figure 2, Finland’s own export of goods to Russia by road is modest compared to road transit. Other modes than road are not discussed in this statistical overview.

Figure 1. Road transit to Russia 2005. Source: National Board of Customs.
Figure 2. Road traffic from Finland to Russia. Source: National Board of Customs.

Figure 3. Roadmap for customs border co-operation. Source: National Board of Customs.
Roadmap for Border Co-operation

Finnish Customs has been co-operating with the Russian authorities, and many positive things have happened concerning, for example, the queues of trucks at the border. During the Finnish Presidency, Finland will recommend an agreement to be made between the EU and Russia on the customs procedures, together with investments in electronic transfer of data across the border. Finnish Customs follows the roadmap for effective and efficient customs border co-operation in the framework of the new neighbourhood policy of the EU (Figure 3).

Objectives

Three objectives are specified in the roadmap. Common space of freedom, security and justice must be ensured by the means of the roadmap. Secondly, also common economic space is needed. In all cases, logistics must be efficient, which is the third objective.

These objectives have several target groups. Traditionally, customs has protected the financial interests of the state, but nowadays also the interests of the EU. Customs has contributory influence on facilitating international trade and national industry. As seen especially in transit trade, customs is ensuring also the security and safety of international supply chains. The safety and security of citizens and environment has also become an important issue.

Customs gives its own contribution to better economic performance. This economic performance should be on a fair, secure and lawful basis. Customs has a task to increase the security and safety of society.

Facilitation of Trade Flows

The data infrastructure must be developed before a conceivable agreement on customs procedures between the EU and Russia could be put into effect. The same principals should be applicable in the whole EU; harmonisation of customs transit declarations and data particulars with a view to the adoption of NCTS (=New Computerised Transit System) data contents, procedures and functionalities. Data linkages will connect customs and the customers with each other. An agreement on keeping business secrets is also needed in data transmission.

Electronic transmission of data should be done in advance across the border. In the country of destination a notification of arrival of goods should be available. Besides data infrastructure and data procedures, all practical details should be clear, such as mutual acceptance of customs seal.

There should be special facilities for authorised operators. Between Finland and Russia a so-called Green Corridor is already used by a selected group of firms. When the customs on both sides of the border know the rules concerning the procedures and data of the Green Corridor, unnecessary customs examinations can be avoided. Risk analysis should be used when selecting goods for examination.

Customs Enforcement

Customs enforcement deals also with internal security. The focus is on cross-border organised crime. Enforcement must be based on common threat analysis, and enforcement must be done by
the means of common targeted operations. Harmonisation of customs investigative powers is needed, and effort must be put on exchange of intelligence and other specific information. Cooperation between the law enforcement authorities is important. State-of-the-art technology must be available for customs.

In field work, risks analysis is a usable tool to select the controllable items. X-rays can be used, for example, in non-intrusive examinations. State-of-the-art–technology must be available.

Legal Basis

Legal basis varies by countries. The establishment of legal basis includes the harmonisation of customs legislation and customs procedures according to the decisions made by the EU. Harmonization is needed in the EU member states as well as in Russia. Several bilateral and multilateral agreements concerning trade flows must be take into account, too. Besides of customs legislation, harmonisation of data confidentially and data protection legislation are important. On practical level, application of international customs instruments (frontier control, TIR, Istanbul, Kyoto, WCO Framework of Standards) must be done correctly.

Capacity Building

Through capacity building the administrative capacity of customs is improved in order to facilitate trade flows and combat crime. Customs must take full advantage of information technology. Working should happen on non-corrupt basis by definition. Right attitude is of great importance. Continuous intra-regional dialogue of customs authorities is needed, but also between customs and the EU.

Conclusions

Customs must have the capacity to watch that deliveries are done according to the rules. On the other hand, trade flows must be as fluent as possible. Generally, development has been rapid. The EU gives the main objectives of the Finnish Customs. Effort has been put on customs procedures and electrification of customs to facilitate fluent trade flows. Interferences are done based on risk analysis. Otherwise, customs intends to follow the guideline that customs does not intervene in deliveries, if rules are followed.
Key Themes and Future Trends

The cargo flows between Russia and the EU countries are growing rapidly. The trend is found in seaborne traffic and in lorry transport alike. Shortsea shipping offers a good alternative to road transport. Generally one of the main advantages of road transport is that the delivery times can be minimized with rapid deliveries. In routes between the EU countries and Russia road transport has difficulties to compete with seaborne transport in that sense due to the queues of trailer lorries heading to Russia. Queuing times in the borders of the northwestern Russia vary from 12 hours to 3 days. On the other hand, it must be recognized that there are also bottlenecks in the seaborne transport. The Russian port capacity restricts the efficiency of operations.

Different forecasts have been made concerning the future trends on the seaborne container traffic of the northwestern Russia. The Russian ports will clearly dominate the market share (Figure 1). In the future, their position will be even stronger than it is nowadays. Containerships shares the general vision, but according to our estimates, the annual container traffic via the Russian ports will be not more than about 2.5 million TEUs in the year 2012, whereas our estimates show growing importance on the ports of the Baltic States. Our estimate of the Finnish route, where a modal shift from sea to land is needed, is accordant with the general forecasts. The volumes of the Finnish route will more than double by the year 2012.

Advantages and Restrictions of Shortsea Shipping

With the current fuel prices, shortsea shipping enjoys a cost advantage compared to road transport. A positive circle has been emerged in shortsea shipping. The increased volumes enable higher frequency, which again increases the demand and volumes of seaborne transport. Fast transit time is also a benefit of shortsea shipping, which gives a choice to avoid traffic jams at land borders.

The Russian port and terminal capacity at the Gulf of Finland is currently fully booked. It is a serious logistical bottleneck, which restrains volume growth. Many port construction projects as well as plans are, however, going on. Foremost Ust-Luga can be mentioned. Primorsk and Vysotsk concentrate on oil transport, but there are many more or less speculative port projects that are planned to be completed by the year 2012. The timing of completion will be a question mark in these projects.

Capacity issues will remain on the agenda for a long time concerning also the landside infrastructure. Roads, terminals and sufficient supporting facilities are needed to create an effective operational environment. In that sense, defining clear transport strategy should be the decision makers’ first priority.
The Ports of the Baltic States

According to our estimates, as seen in the Figure 1, the ports in the Baltic countries form an alternative solution to relieve the capacity problems of the Russian ports. The Baltic States are able to react quicker than Russia to the changes in the business environment. The transit traffic through the Baltic States is bound to grow due to the capacity restrictions in St. Petersburg. Increasing local demand also supports the growing trend (Figure 2). Simultaneously, the growth in the transit traffic through Finland will slow down, but it will still be growing. The current political tension between the Putin administration and the Baltic States can be considered as an obstacle for ports in the Baltic countries at least on short run.

Figure 1. General forecasts of the seaborne container traffic (TEUs) and the vision of Containerships Ltd in the Baltic Sea routes to Russia. Source: Containerisation International, July 2003 and Containerships Ltd.

Figure 2. Development of cargo levels in Baltic ports. Source: Marine Information centre (http://www.jura.lt/infocentre/eng/stevedoring.htm).
Winter Conditions

Winter comes every year. It is a special feature in the transport business between the EU and Russia. The traffic to St. Petersburg faces delays. In winter, convoys led by an icebreaker and followed by many small ships are used. Forming a convoy increases the waiting times of ships. The traffic control in Russia needs improvement. Also additional icebreakers are needed. In addition, traffic to/from Primorsk is given a priority. Winter is less restricting for the ports in the Baltic countries and Finnish traffic is well covered with an icebreaker fleet. The southern Finnish ports need assistance only seldom, but the fairway dues are relatively high. More 1 A ice class ships are needed.

The Firm Containerships

Containerships is a Finnish family-owned company with an estimated turnover of 150 million euros and 550 employees in 2006. The company operates seven ships. The size of the ships varies from 200 TEUs up to 1,000 TEUs. About 150,000 TEUs were loaded in 2006 compared to 120,000 TEUs loaded a year before. Containerships has offices in eight European countries and own terminals are situated in Helsinki, Kotka and St. Petersburg.

The terminal in St. Petersburg, Russia, is called Litke Terminal. It was opened in 2002 and it is situated on Kotlin Island outside the city covering 15 hectares. The throughput of the terminal was in 2004 about 60,000 loaded TEUs. In cargo handling two mobile harbour cranes are in use, and 25 lifts per crane are done in an hour on average. The capacity of the terminal is over 150,000 TEUs based on the figures of the year 2005. The annual capacity can be expanded up to 500,000 TEUs, which will be reached in the year 2008, according to the plans of Containerships.

The plans include also building a logistic centre of Yanino by side of the St. Petersburg ring road. The centre consists of “A” class warehouses, cold warehouses, an office building and a customs point. The centre gives auxiliary services including storage and packing.

Containerships is a vertically integrated service provider. The services vary from transport to warehousing and distribution based on one stop shopping. We believe that control over the entire transport chain gives us a competitive edge in the transport business between the EU and Russia.
The Big Port of St. Petersburg in Brief

Several firms carry on port activities in the delta area of the River Neva and in the vicinity. This conglomerate forms a notion that is called the Big Port of St. Petersburg. It does not have a legal status as an entity.

The port operations are engaged in several territories. The Sea Port of St. Petersburg is situated near the city centre. Other important port territories can be found in Lomonosov and in Kronstadt (=Kotlin) (Figure 1).

The Sea Port of St. Petersburg is the main port (Figure 2) where different kind of cargo is handled, for example, metal, timber and oil as well as containers and general cargo. In the port there is also a passenger terminal. The Sea Port of St. Petersburg is a joint-stock company. The stevedoring and terminal operations are done by several companies, as First Stevedoring Company, Timber Stevedoring Company, First Container Terminal etc.

Facilities

The main channel of the Big Port of St. Petersburg heading to the Sea Port of St. Petersburg is 27 miles long with 11 metres draught. The draught of the berths varies from 4 to 11 metres. The total length of the berths in the Big Port of St. Petersburg is 15,600 metres. Vessels of max. 40,000 DWT can reach the port. There are 307,000 m$^2$ covered warehouses and 1.4 million m$^2$ opened warehouse areas. The liquid cargo capacity is 274,000 m$^3$.

Calls and Cargo Volumes

There has been fast growth in ship calls during the decade. The calls have nearly tripled. In 1996 there were 11,039 calls and in 2005 29,183 calls. The total amount of cargo handled reached 51 million tons in 2004, and it is increasing (Figure 3). Today the total volume is about 56 million tons. Containers are the most increasing type of cargo, and in 2004 the cargo handled in containers reached 9 million tons. About 60% of all containers in the Russian seaborne traffic are handled in the Big Port of St. Petersburg.

General cargo is the most important cargo type in the Big Port of St. Petersburg (Figure 4). It accounted nearly half of the total volume (47%) in 2004. The growth of general cargo has been rapid. On a five-year time scale the amount has grown 1.7-fold. The handling of oil products has grown even more during the period, but it must be noticed that new capacity of handling oil products has emerged in the other Russian Baltic ports. Bulk or “unpacked” goods has also been growing, but the amount of grain and forest products has been stable.
The Big Port of St. Petersburg is also an important cruising port. In the area many passenger quays can be found, but the main passenger flow goes via the terminal that is situated near the city on the Vasilevsky Island in the area of the Seaport of St. Petersburg.

Figure 1. Territories of the Big Port of St. Petersburg.

Figure 2. Territory of the Sea Port of St. Petersburg.
Figure 3. Cargo handled in total (= red) and containers handled (in green) in million of tons.

Figure 4. Cargo types and total amount of cargo handled (red=total, yellow=oil products, light blue="unpacked", dark blue=grain, green=forest products, violet= general cargo).
Problems of the Port

Nobody was able to predict the explosive flows with adequate accuracy. There are problems in the sea and land infrastructure as well in facilities. It is difficult to broaden the port, because there is a lack of area. The sea channel is obsolete. The rail and road connections create bottlenecks. Facilities in cargo handling are lacking, and also the ability to handle big cruise vessels is deficient.

Prospects of the Port

The development of new zones is crucial. The most interesting target of development is the port of Lomonosov, where good railway and road connections can be constructed. The area is situated near the ring road and the western motorway of St. Petersburg. The area of Gorskaya (see Figure 1) has also potential, although construction of the railway might be a problem. In general, renovations of railway stations near the Big Port of St. Petersburg are done, as well as road improvements in the ring road and in the western highway.

The sea channel will be deepened to over 15 metres by the year 2012. Effort must be put also to the maintenance of the new specialized cargo complexes. In passenger traffic, large investments are done to first part of a new sea passenger terminal, which is planned to be in use in 2008. Two new berths are being built, and then five else. In the future, the port can accommodate cruise ships exceeding 200 metres of length.

A large sum of money is needed to realize the investments. New approach is needed. For example, investments could be attracted by forming free economic zones. Attention must also be paid to the fact that several investments are done to the other Russian Baltic ports, such as Ust-Luga.
RAILWAY AS A TRANSPORTATION MODE TO RUSSIA

Content

In this presentation a review of the railway transport from Finland to Russia is made. The Finnish railway operator VR Ltd is introduced, but he focus is on the services that VR Cargo can provide towards Russia.

The Finnish Railways (VR)

The Finnish Railways consists of a group of companies called VR Group (Figure 1). The most important businesses practised by the VR Group include freight and passenger traffic operation and the maintenance and building of the railway network. VR Ltd operates and develops railway traffic and other related transport activities. VR Cargo is part of VR Ltd, and it operates in the field of cargo transport. Another main activity of VR Ltd is passenger traffic. It is operated by VR Passenger Services. VR Ltd also has some subsidiaries that operate mainly in road traffic.

In year 2005, the total cargo transport volume of VR Cargo was 40.7 million tons compared to 42.7 tons in the year 2004 (Figure 2). The reason for this reduction was mainly caused by the strike in the forest industry. Out of 40.7 million tons, 17.2 million tons were international traffic, mainly traffic towards east. Both domestic and eastern export-import traffic are dominated by forest products with equal 63% share.

In transit traffic the shares are a bit different. Chemical products with the share of 54% and metal products with the share of 43% are dominating. The total amount of transit traffic was 3.4 million tons in 2005.

Figure 1. The organisational structure of the Finnish Railways. Source: Finnish Railways Ltd.
Finland's Geographical Position and Routes

Finland is geographically well located and has the same gauge as Russia and the other former Soviet Union countries. In these countries railway is clearly the most important transport mode and, therefore, extremely important for them. The route through Finland opens possibilities not only to Russia, but also to Central Asia and Far East (Figure 3).

Several natural corridors go through Finland towards different locations (Figure 4). The main corridors are the so-called Nordic Triangle between the Nordic countries, having a link also to Germany, and the Russian Corridor from Helsinki to Moscow via St. Petersburg. In the north, there are the Scandinavian Corridor and the Archangel Corridor. These corridors link the northern Scandinavia from the north Atlantic coast to Russia. Yet, there is not a direct connection from Vartius, Finland (see Figure 5) to the Murmansk railway line. The trains must take a longer route. Kotskoma-Lietmajärv section of cross directing railway line lacks a signal system, and the connection is not open for international traffic. When the line will be opened to international traffic, the competitive position of the corridor will be better, and there will be faster and shorter connections from Scandinavia to the cities and ports of Murmansk and Archangel. Despite of the different gauge in the other Nordic countries, re-loading is not needed in the Finnish-Swedish border. The bogies are changed in motion.

Finland has four border crossings to the east, and out of them Vainikkala is the most important handling all kinds of goods (Figure 5). Because of the same gauge, we are able to take Russian wagons to the technically highly sophisticated Finnish ports. This means also that there is no need for re-loadings at the Finnish-Russian border, providing smooth and fast border crossings. There is up to 24 trains every day, even during weekends. Finland is also optimal for safe buffer storage.
Figure 3. Railway infrastructure of Eurasian continent. Source: Finnish Railways Ltd.

Figure 4. International connections of Finland. Source: Finnish Railways Ltd.
Services of VR Cargo

Basic services of VR Cargo are the following:

- Traditional wagon loads to all reachable areas. Depending on the customer's needs and wishes, packages can be bought directly from us or from the Finnish freight forwarders, which also all have long experience.

- Customer trains, where the train is built in Finland and then driven to their destinations as scheduled transports.

- Container transportations with shipper's own containers or with Russian Railways' containers, which VR Cargo can offer for use in Finland.

- Block trains to Far East. With these trains there are connections to Japan, South Korea and China.

VR Cargo is also able to provide many additional services connected to the basic services. Railway is always able to compete, when volumes are high and/or distances long. Even in shorter distances, railway can be the best alternative if its strengths match the customer's needs.
Future Services

In the autumn 2006 at the latest, VR Cargo will start a new scheduled, weekly service in block trains to Moscow. This service is called the Northern Lights, and it has 16 hours transit time from Finland to Moscow. This service includes not only rail transport but also all terminal operations including deliveries in Moscow. VR Cargo has already given rates to customers and is now finalizing the service packet.

At this point the train is for containers. Wagon development is going on in Russia and VR Cargo expects that in the near future the service can be offered also for trailers. In Scandinavia our partners will sell the service directly to the Scandinavian customers.

Traditionally, VR Cargo has not been a player outside Finland. We have now started to build up a network of eastern partners in different countries as an alternative for our customers. This does not mean that the freight forwarders would not be as important partners as before. We simply want to build up new alternatives.

Regarding new connections in block trains from and to China through land border crossings, the Finnish Railways is currently having discussions with the Russian and Chinese railways, and the goal is to build up new generation services by rail between China and Finland. We are certain that this is a "must" for markets and will be a new alternative for the traditional Trans-Siberian route.
Freight Forwarding in Russia-bound Transportation

Henry Fagerström
Chairman of the Finnish Freight Forwarders Association, Honorary Mining Counsellor
The Finnish Freight Forwarders Association

FREIGHT FORWARDING IN RUSSIA-BOUND TRANSPORTATION

Content

Firstly, a brief statistical overview is made of the Finnish-Russian trade. Secondly, facilities, procedures and practices are discussed. Thirdly, the development of the Russian logistics system is presented by a case that demonstrates the emergence of collection and distribution centres in Russia. The case is based on the strategic decisions of the company Schenker.

Statistical Overview

The value of Finnish exports to Russia was 5.7 billion euros in 2005. The growth against the previous year was +32%. The transit traffic plays even more an important role. The value of the eastbound transit transports via Finland was 22 billion euros in 2005, but the growth increased only +13% compared to the year 2004.

The trend in road transit has been growing. Clear quarterly fluctuations can be found in the transit volumes. The volumes reach the peak every last quarter of the year (Figure 1).

Figure 1. Quarterly road transit via Finland to east. Source: National Board of Customs.
During the period 2000-2005, the number of border crossings has doubled. For example, in 2003 there were nearly 606,000 border crossings and in 2005 about 853,000 border crossings. In Vaalimaa, situated at the southeastern border, on average 1,082 trucks cross the border daily.

Measured by modes of transport, sea freight is the most important mode followed by rail transport because of large volumes these modes have in import to Finland. Road transport is overwhelmingly the most important mode in export to Russia (Table 1).

Table 1. Transport volumes of Finnish-Russian trade by modes of transport (1,000 tons). Sources: National Board of Customs and Finavia.

<table>
<thead>
<tr>
<th></th>
<th>Import (west-bound)</th>
<th>Export (east-bound)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 000 tons</td>
<td></td>
</tr>
<tr>
<td>Road transport</td>
<td>4,274</td>
<td>1,554</td>
</tr>
<tr>
<td>Rail transport</td>
<td>10,685</td>
<td>372</td>
</tr>
<tr>
<td>Sea freight</td>
<td>14,372</td>
<td>115</td>
</tr>
<tr>
<td>Air freight</td>
<td>1</td>
<td>5</td>
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Facilities and Procedures

Warehousing

In Finland there are about half million squaremetres of transit warehousing space. It has been forecasted that the Russian ports will increase their market share. On long run, Finland might loose its position. Today, the Finnish industry benefits from transport equipment derived from the transit traffic. For example, transit goods are usually reloaded from containers to trailer lorries, and the empty containers are used by the Finnish industry. Due to these reasons, adequate transport capacity has been emerged from the Continental Europe to Finland.

Choosing warehousing in Finland is a safe and efficient solution. The storage services are reliable, and value added services (VAS) are also available. The firms have long experience in Russian operations and there are highly skilled professionals. The forwarders can offer special “tailor-made” services with high flexibility.

Procedures and Practices

The Finnish route has many additional benefits. The customs procedures in Finland are clear and simple. The route has high security standards. The same rail gauge enables loading in Finland directly into the Russian wagon. Deliveries to Russia by road take short time, overnight to St. Petersburg and two days to Moscow.

TIR-Carnet is commonly used. Over 90% of transports are done with TIR-Carnet. The limit of customs guarantee in Russia is USD 50,000 (the amount of taxes and duties), and transports exceeding this limit must have customs escort or a separate guarantee certificate. All documents must be accurate.

The freight price is not determinant when deciding on the terms of delivery. EXW/FCA are the most used terms of delivery. The Russian buyers collect their goods from the consignors. Due to collecting of goods by the Russians, the Finnish Customs has increasing problems in controlling export transactions. About 75-85% of freight payments has been transferred to Russia.
Although the Finnish route has many benefits, many difficulties characterise the transport to Russia. The transit traffic is one-way transport. Over 80% of transport equipment returns empty from Russia. Traffic congestions are a problem at the borders due to Russian customs practices, for example, entering of data into the system at the border causes delays and congestions. Trailer truck escorts from the border cause congestions as well. In Russia there is a weight limit of 38 tons for a semitrailer. The situation is worsened by axle weight problems. Russian bureaucracy can be found, for example, among the traffic police. Speaking about documents, there are continuous differences of opinion concerning interpretations of international agreements and conventions (CMR, TIR) with the Russian Customs. Even a trivial error in documents may result in stopping the cargo at the border.

According to Transparency International’s corruption perceptions index, Russia held ranking 126 with Albania, Nigeria and Sierra Leone in 2005. Finland held the second place with New Zealand. Forgery of documents, double invoicing and smuggling are typical crimes connected to corruption. In new business relations, potential dishonesty of the consignee must be taken into account.

The Russian Customs has been in vigorous transition. In 2003, the Customs Committee, a ministerial level office (GTK), was renamed the Russian Federal Customs Service and transferred to the Russian Ministry for Economic Development and Trade. In 2004, about 6,200 persons (= nearly 10% of all customs employees) were dismissed. In 2005, half of the 137 customs commissioners of the Russian Customs were replaced. In May 2006, President Putin issued an edict that the customs will be transferred under the government's direct control, the prime minister being in charge.

**Future**

Despite of some negative characteristics in the transport and trade, there are good business opportunities in Russia. Russia is developing towards more stable institutional market economy. The customs problems will diminish, and cross-border cooperation will be better. Data systems and data-transmission systems will be improved. Delivery terms will be equalized

The Finnish companies will be established in Russia, creating forwarding and transport operations there. The membership in WTO is in many cases a deciding factor in developing the business environment.

**Case Schenker**

**The Firm Schenker**

Schenker is one of the world's leading providers of integrated logistics services, offering land operations, air and seafreight as well as comprehensive logistics solutions and global supply chain management from a single source. Schenker is a part of the Transport and Logistics Division of Deutsche Bahn AG. The annual sale of the Schenker Group is 8 billion euros. It has 39,000 employees and about 1,100 offices around the world.
Development Phases

The transition from the Soviet-system to market economy has been rapid. When the Soviet Union collapsed, the distribution infrastructure was deficient. Also the knowledge of market economy and its practices were lacking. Schenker Ltd. in Russia was established in 1992, after the collapse of the Soviet Union. Schenker started to build up the collection and distribution system of cargo step by step. Three phases can be found when analyzing the development.

In the first phase, a linehaul system was built from the central terminal to the active and new outlets (Figure 2). The development of the collection and distribution system (Co/Di-system) was also started. The central terminal was placed in Moscow, which is as a matter of course the main logistical node of Russia. Outlets were situated in the European part of Russia, with the exception of Novosibirsk, which is situated in the South Central Russia in western Siberia. Outlets were situated in densely populated urban areas, which are usually the biggest cities of Russia. These cities were planned to be terminal cities in the next phase of the development.

![Figure 2. Phase 1 of logistical development. Source: Schenker Logistics.](image)

In the second phase, new regional terminals were opened. The Co/Di system was built in each cross-docking terminal (Figure 3). The cross-docking terminals are based on flow-through of goods.

Third step can be characterised as a phase of decentralization (Figure 4). New regional line hauls were established. Nowadays these connections link all terminals and form a tight network.
Today, Schenker provides regular inter-regional groupage and part load deliveries of palletized goods from Moscow to various locations in Russia. The lead times between the terminals vary from 1 to 5 days. For example, the transit time between Moscow and St. Petersburg is one day and the distance is about 700 kilometres. The transit time from Moscow to Novosibirsk is five days and the distance is over 3,200 kilometres. Currently, Schenker operates from Moscow to Saint-Petersburg, Kazan, Rostov-na-Donu, Samara, Volgograd, Krasnodar, Nizhny Novgorod, Voronezh, Ekaterinburg, Ufa, Togliatti, Tula, Tyumen and Yugoslav.
INTERMODAL TRANSPORTATION IN THE NORTH-WESTERN REGION OF RUSSIA

Intermodality or Co-modality

The concept of co-modality is more cohere with the Russian transport system than the term “intermodality”. As defined by Mr. Koskinen in this conference, co-modality means efficient use of transport modes. The focus is on each mode individually and their integration. In Russia, intermodality is still in its infancy, for example, door-to-door transport chains are lacking. Intermodality is developing all the time. It goes with logistics development. Nowadays, there is only one Ministry of Transport in Russia, compared to the previous situation where all modes had a ministry of their own.

Special Characteristics of Russian Transport

Russia is a country with long distances. The share of transport costs is high. On average, 27% of total goods price result from transport costs in Russia, compared to 13% in the EU. In food products, the transport costs account 45% of the total goods price in Russia, and in the EU only 13%. The share is even higher in constructing materials: in Russia 60-70% and in the EU 27%.

There are many special characteristics of the Russian transport derived from the history of the nation. Due to these characteristics, Russia has been lagging behind several other countries in logistics. Foreign trade was previously a monopoly of state, and many firms are lacking in competence. Many firms put more effort on planning the “productivity” than planning the sales. Attention is not paid to commodity circulation. Also customers have low standards and demands.

Beside of the supply and demand factors, the level of ICT development is deficient. Some kind of estrangement between different transport modes can be found.

Special characteristics can be found also in the statistics when examining the figures of transport modes. For example, the Russian share of international container transport markets is no more than 1%. An average world level of containerisation is 60%. In Russia 25% of imported goods and 10% of export goods are transported in containers. The share of containerization in internal transport is only 2%.

The Area and the Transport Infrastructure

The population of the northwest Russia is 17 million and the area covers 1.8 million km² reaching from the Baltic Sea coast to the Ural Mountains (Figure 1).
Figure 1. Map of the Northwest Russia.

The density of transport ways varies largely by region. The best infrastructure measured in density can be found in the enclave of Kaliningrad. Regions like Leningrad, Novgorod and Pskov in the southwestern part also have dense transport infrastructure. Naturally, the infrastructure is thin in the north (Table 1).

Although the railway transport system is good in Russia, road transport is the most important mode of transport in the northwest Russia measured in tons. Its magnitude will even enlarge together with the growing total volumes. Sea transport will relatively be the fastest growing mode during the period 2000-2020. Despite of the extensive river network, the total amount of inland waterway transport will be stable and the proportion will be strongly downward (Figure 2).

Table 1. Transport ways density in northwest Russia in km for 1000 sq km.

<table>
<thead>
<tr>
<th>REGIO</th>
<th>Railway</th>
<th>Motorway</th>
<th>Hinterland water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arkhangels</td>
<td>3.0</td>
<td>25.4</td>
<td>5.5</td>
</tr>
<tr>
<td>Nenetsk autonomoues</td>
<td>-</td>
<td>1.0</td>
<td>2.2</td>
</tr>
<tr>
<td>Vologodsk</td>
<td>5.3</td>
<td>135.3</td>
<td>10.8</td>
</tr>
<tr>
<td>Kaliningrads</td>
<td>42.4</td>
<td>447.7</td>
<td>21.3</td>
</tr>
<tr>
<td>Leningrads</td>
<td>28.6</td>
<td>176.4</td>
<td>22.6</td>
</tr>
<tr>
<td>Murmans</td>
<td>6.2</td>
<td>30.3</td>
<td>-</td>
</tr>
<tr>
<td>Novgorods</td>
<td>20.8</td>
<td>179.3</td>
<td>11.0</td>
</tr>
<tr>
<td>Pskovsk</td>
<td>19.8</td>
<td>219.2</td>
<td>9.1</td>
</tr>
<tr>
<td>Kareli republi</td>
<td>12.1</td>
<td>77.7</td>
<td>21.1</td>
</tr>
<tr>
<td>Kom republi</td>
<td>4.1</td>
<td>30.1</td>
<td>6.8</td>
</tr>
<tr>
<td>Nort-West Russia</td>
<td>7.5</td>
<td>64.7</td>
<td>8.7</td>
</tr>
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</table>
The Corridor 9 from Helsinki, Finland to Moscow via St. Petersburg is used by all modes of transport. Many investments have been made to strengthen the connections from St. Petersburg to Moscow, as well as to the Nordic and Baltic countries. The eastern part of the St. Petersburg ring road is already in use. The infrastructure in the St. Petersburg region will facilitate the use of intermodal transport at full blast when the construction work of the ring road will be completed, and the road will be a ring by definition. The new road system will also include the so-called “Western Diameter” and connections to hubs, such as ports, air ports, railway stations and intermodal terminals.

Foreign Trade

From the Russian export 84% and from the Russian import 76% uses the western or eastern borders of Russia. The southern and northern borders have minor importance. Russia is also a transit country between the EU and the Pacific Rim countries. About 4% of cargo between Europe and the Southeast Asian countries is transported via Russia, and this share does not satisfy the governance and business circles.

When examining the international trade of the northwest Russia, it can be found that the so-called “far” foreign states are the most important trading partners. About 97% of the North-West Russian foreign trade is done with “far” foreign states and only 3% with the other CIS-countries. The EU member states have a strong position in the exports of the North-West Russian goods. The Netherlands is the most important country in export with the share of 28%, followed by Finland (10%), the U.K. (8%) and Germany (7%). In imports, Germany has a share of 16%, followed by Finland (9%) and the U.S.A. (7%).

In the North-West Russia, there are totally 96 international crossing boarder points, of which 52 are for road, 20 for sea, 13 for railway, 7 for air and 4 for river traffic. As an example, the border crossing of the railway company Oktober Railways are presented in Figure 3. According to the forecast, the border crossings in the Russian ports will more than double by the year 2010 measured in million tons. The share of the Russian ports will increase to 66% of all border crossings. The crossings at the Finnish border will show only moderate growth. The Baltic States will loose volumes and market shares in the railway transport by Oktober Railways.
Figure 3. Shares of Russian ports and border crossings of cargo transport by the company Oktober Railways (million of tons).

The development of cross domestic product is the determinant when the prospects of transport are made. With the 2% growth of GDP only export from Russia will grow. To create growth in transit, a growth of 4% is needed in GDP. With a growth of 6%, the export from Russia and eastbound transit will grow with 10% and import and westbound transit reach almost the growth percentage of GDP. In export the growth will exceed the growth of GDP in all three cases, but in import the growth will be somewhat under the growth of GDP. The growth of transit varies more. All in all, the prospects seem quite bright.

<table>
<thead>
<tr>
<th>Russian GDP scenarios</th>
<th>Export transport</th>
<th>Import transport</th>
<th>Eastbound transit</th>
<th>Westbound transit</th>
</tr>
</thead>
<tbody>
<tr>
<td>6% Annual growth</td>
<td>10%</td>
<td>5%</td>
<td>10%</td>
<td>5%</td>
</tr>
<tr>
<td>4% Annual growth</td>
<td>6%</td>
<td>3%</td>
<td>0 – 6%</td>
<td>0 – 3%</td>
</tr>
<tr>
<td>2% Annual growth</td>
<td>3%</td>
<td>1%</td>
<td>decrease</td>
<td>decrease</td>
</tr>
</tbody>
</table>

Table 2. Growth prospects for Finnish logistics services in Russia during 2004-2010
EXPERIENCES OF TRANSPORTATION IN RUSSIA

Content

This presentation is a short overview of John Deere. The operations of John Deere Forestry in Russia are discussed more closely. The operations include machine and spare parts delivery, which both have different kinds of requirements for transport. Our company has experience of all transport modes in Russia. Our experiences of rail, road and sea transport are introduced.

John Deere Today

The company was established in 1837. Today, John Deere is a worldwide corporation that employs over 47,000 people worldwide. It has net sales of USD 22 billion. The company is divided into four manufacturing divisions.

In agricultural equipment John Deere is the world’s leading producer. For example, tractors and threshing machines are well known. The company is also the world's leading manufacturer of forestry equipment and is a major manufacturer of construction equipment in the North America. Over 600 dealers sell John Deere Construction and Forestry machines around the world. The third field is commercial and consumer equipment, where John Deere is a leading supplier of the equipment used in lawn, grounds and turf care. John Deere Power Systems is a leading producer of off-highway diesel engines, supplying heavy-duty industrial engines and drive train components for John Deere products and original equipment manufacturers.

The company also has support operations and services that are crucial to its business success. John Deere Credit is one of the largest equipment finance companies in the United States. In addition to providing retail, wholesale and lease financing to customers buying John Deere equipment, John Deere Credit also offers revolving credit and operating loans to help farmers purchase agricultural supplies and other services. In addition to its U.S. locations, John Deere Credit also has offices in Australia, Canada, Europe, Mexico and South America. John Deere's worldwide parts division coordinates the distribution and management of parts inventory and materials. It also provides related services such as pricing, systems, support, forecasting and planning and analysis to the company's equipment divisions.

John Deere Forestry and Russia

In the city of Joensuu in Finland, near the Finnish-Russian border, John Deere Forestry makes forestry machines designed for a logging method that is widely used in Europe and in Russia. The models that are exported to Russia cover the whole chain. Felling and cutting trees as well optimizing and cutting the stems to logs are done by wheeled or tracked harvesters. The logs are transported by forwarders to loading places for long distance transport. In Russia also skidders are used when whole stems are transported in the forest.
Deliveries to Russia

When delivering the machines to Russia, usually EXW-, DAF-, CIP- or DDU-terms are used based on INCOTERMS. The weight of the machines varies from 13 to 30 tons. The dimensions can be, for example, 740/240/370 centimetres. The freight costs vary from 2,000 to 13,000 euros, depending mostly on the distance to the destination. The destination can be in Karelia, next to Finland, or in Khabarovsk, which is situated in the Russian Far East.

Experiences on Rail

In general rail transport works well. A positive detail is the satellite follow up during the transport. Sometimes there can be difficulties to get freight cars. That might cause difficulties in the financing arrangements, for example, in pre-payments, letter of credit etc. Ordering freight cars “too early” in beforehand create a cost of EUR 70/day.

Bureaucracy can be found widely. The loading instructions given by authorities are sometimes close to art, especially with the most uncommon machines. A freight car may be stopped at the border for a minor detail. Reacting slowly to the authorities’ demands may cause turning the freight car back at the border.

Experiences on Road

Road transport is mainly used to the areas nearby. Previously, Finnish transport companies were used, of which some have cut down driving to east. Nowadays, Russian transport companies are used. Road transport starts usually from the factory, from the city of Lappeenranta or from the Port of St. Petersburg.

Transport licenses are at times difficult to obtain. It causes sometimes delays. The main problem is the unpredictability of paperwork needed. Other kind of unpredictability can also be found. A delivery was turned back at the border, for example, due to the height. The situation was solved by taking off the tires.

Experiences at Sea

Seaborne transport is rather new transport mode for us. It seems to be a functional mode at least to the areas nearby. The route from Helsinki to St. Petersburg is used in export to Russia. Finnlines has one departure per week.

Transport licence is not needed. It can be said with relief that the stages of ordering and waiting for the freight cars are lacking. The licence for inland transport from the Port of St. Petersburg to the final destination is quite easy to obtain. Yet, seaborne transport is quite demanding mode with the required pre-booking.
Spare Parts Supply and Logistics in Russia

John Deere Forestry has a dense service network in the northwestern Russia with seven service points. The network is nationwide, because there are also service points in the Baikal area and in the Russian Far East (Figure 1).

The main spare parts warehouse of Russia is situated in St. Petersburg. The total warehouse area is 600 square metres. The parts availability is over 90% for the most common models. These models represent the so-called D-series using a Cut-to-Length method in logging.

The central warehouse of the spare parts for forestry machines using the Cut-to-Length method is situated in Märsta, Sweden. There are daily flights from Stockholm to St. Petersburg with Finnair, SAS or Pulkovo flights. The customs clearance takes normally 1-2 days from the good’s receipt at dock. The customs procedures can take up to 40% of the delivery time. The document requirements are very strict. Invoice translation and technical specs for each shipment are in focus. Land transport takes from 5 to 10 days, because Russia is so wide and logging areas difficult to reach.

The real time stock information of the Märsta central warehouse is available. The supply management of John Deere Forestry includes automatic safety stock replenishment and an order tracking system. There are three types of orders. SOS-orders are used in Machine Down situations, where, in the worst case, the forestry machine is unable to operate in the middle of a distant forest. SOS-orders have a priority and they are supplied as priority shipment with SAS Priority Service whenever possible. The customs clearance and delivery times must be kept in minimum, because lay days of machines are expensive. RUSH-order takes 3-4 days by air from Stockholm to St. Petersburg. SAS, Finnair or Pulkovo flights are used. STOCKF is the third type of order, which
does not have as high-speed requirements as in the previous cases. Stock replenishments are done by land as free delivery once a week.

As whole in Russian deliveries, there exists not problems but only challenges. A firm can itself also affect the situation, for example, by doing things better.

Background

SPC Finland’s Presidency of the ESN started in February 2006 and it will continue until the end of year 2006. The Presidency of the ESN follows the EU Presidency, and Finland’s second Presidency of the European Union is from July 1, 2006 until December 31, 2006. Because of the Austrian EU Presidency, the ESN Presidency was shared between SPC United Kingdom and SPC Finland in the first half of the year 2006. In 2007, the Presidency of ESN will be of SPC Germany and SPC Portugal.

Logistics and Shortsea Shipping During the Finnish Presidency of the EU

Following the Finnish initiative, logistics and shortsea shipping will be on the agenda of the Finnish presidency. Logistics plays an important role in the Finnish economy due to Finland’s location far from mainland Europe, its long wintertime and thin traffic flows. The logistical circumstances of Finland are demanding as winter navigation presupposes efficient use of icebreakers and vessels with good winter navigation capacities. In addition, logistical costs for Finnish companies are high. Shortsea shipping is of special importance for Finland as up to 80% of Finland’s foreign trade is transported by sea and the majority is in the range of shortsea shipping. In addition to Finland’s maritime imports and exports, the share of transit to Russia via Finnish ports is important for the Finnish economy.

Both Finnish transport operators and the Finnish authorities are keen to concentrate their efforts on efficiency and fluency in the logistical transport chain. Development of maritime IT technologies has been intense, with PortNet a good example of this. PortNet is used nationwide for vessel traffic in Finland. It is an example of a “single window” system in which it is possible to give all the vessel reports to the administration in the same system. This development has been made possible only because of practical interaction between the maritime operators and maritime-related bodies including Customs.

Efficient logistics is important for the competitiveness of the EU and for the environment. The Commission Communication on Logistics that is scheduled for June 2006 and the Mid-term Review of the Programme for the Promotion of Shortsea Shipping will serve as a basis for discussion. In addition to these issues, the third package of maritime safety will be on the EU agenda. In autumn 2006, the European Commission will arrange a high-level seminar on shortsea shipping.

In the field of logistics, Finland will stress the fact that the EU competitiveness policy should include the long-term development of logistics. The development of logistics includes the intensive development of information technologies, the development of transport infrastructure, the further liberalization of transportation and confirming the quality of transportation.

The Commission Programme for Shortsea Shipping covers the essential issues to be developed in this field. Finland wants to pay attention to the further development of certain points in the
programme. According to the Commission bottlenecks exercise, one of the bottlenecks in shortsea shipping is Customs. Customs procedures in shortsea shipping are more complicated than in other modes of transportation: the goods transported by sea lose community status, something that does not happen to road or airborne traffic. To encourage the use of shortsea shipping the procedures in traffic between EU member states should be further simplified. One of the options to be developed would be to treat the goods as Community goods in vessel traffic between Community ports. Finland has taken up the issue in the process of preparing the new European Community code of Customs. This would create a level playing field for all transport modes, including shortsea shipping.

One of the preconditions to ensure positive development in the field of shortsea shipping is that the State Aid Guidelines remain in place for a longer time period. This would create stable conditions in the branch, and would furthermore encourage long-term investments in maritime transport. The external costs of transport modes should be further examined. The aim of examination should be to avoid distortion between different modes of transport. Weather conditions might be eased with e.g. covered loading places and winter navigation could be supported with economic incentives for ice-strengthened vessels.

Transportation between the EU and Russia is increasing constantly. The dialogue between EU and Russia should be further developed, in support of existing and new logistical transport chains. The exploitation of the arctic resources of Russia will also create new possibilities for trade between the EU and Russia. As chairman of the European Shortsea Network we hope that the network will be actively involved in the dialogue and in the development of shortsea shipping as an efficient part of logistics.

Aims of SPC Finland in Developing the European Shortsea Network in 2006

During the presidency of the ESN, SPC Finland will act as a platform to disseminate information on the issues mentioned above. SPC Finland will also contribute to the discussion and put forward the views of the network. In June 2006, SPC Finland will arrange a conference in Finland that will concentrate especially on the prospects and challenges of the Baltic Sea and on the increasing importance of EU-Russia transport connections.

1. Status of the European Shortsea Network and Its Members

SPC Finland aims to strengthen the status of the Shortsea Promotion Centres as well as the European Shortsea Network. The announcement by the Commission of SPCs as one of the actors in the Programme for Promotion of Shortsea Shipping has strengthened the position of SPCs as a channel of influence at the national and international level. National authorities, maritime and transport related industries, shippers and European level organizations also recognize the work of the SPCs and support them financially. The support of the European Commission has provided the European Shortsea Network with the possibility for Europe-wide co-operation to promote shortsea shipping by practical means.

For the network to function well, it is of the utmost importance that the resources for the practical activities of the individual members of the network continue to be financially secured. SPCs work on the identification and solution of bottlenecks in shortsea shipping, consideration of the environmental impacts of transport modes, R&D in shortsea shipping and last but not least the positive image of shortsea shipping. Co-operation between Shortsea Focal Points and Shortsea
Promotion Centres has been intense, as well as the dialogue with the industry. Unfortunately, for several of the SPCs this work has been difficult due to scant or non-existent resources. The support provided by national government and industry is important; however, as there are variations in the abilities of national actors to provide support, the support of the Commission would also be welcomed. The European Shortsea Network is an important forum for the Promotion Centres, but would however have even more influence if the actions of all its members were ensured even at the minimum level.

2. Investigation of the Possibilities for SPCs to Expand Towards Intermodality

During 2006, the possibilities for expanding SPC activities towards intermodality or the coordination of intermodal activities will be examined in a feasibility study. As the chairman of the ESN, SPC Finland is coordinating the study. This study will be Europe-wide, covering also countries without an SPC. Members of the European Shortsea Network will actively participate in the project by surveying the situation in their own countries. For SPC Finland this is an interesting initiative, and we will be happy to report on the outcomes and opinions of the network in the autumn.

3. Developing the Network

In its 5 years of existence, the European Shortsea Network grown into an extensive network. In 2005, four new SPCs were established in Malta, Croatia, Bulgaria and Turkey. The activities of the network in 2005 are reported in the Annual Report 2005. SPC Finland aims to encourage the involvement of the new members in the practical activities of the network. The members of the network also advise possible new members who wish to establish an SPC. SPC Finland will also coordinate the creation of the Action Plan for 2006. Specific attention will be paid to ideas for bi- or multilateral co-operation within the network, the joint identification and solving of bottlenecks and the identification of means to develop the website and liner service database of the European Shortsea Network.