Kristina Hunke et al.
Wismar University
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EAST WEST
TRANSPORT CORRIDOR II

Hub development along the East-West-Transport-Corridor

Handbook of selected hubs

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Prepared by:	Kristina Hunke (Wismar University) et al.
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Contact:	Lead Partner Region Blekinge Ronnebygatan 2 37132 Karlskrona Sweden

Preamble

The task 5A in the EWTC II project features joint actions aimed at strengthening of and cooperation between growth centres of the EWTC corridor in order to promote the economic growth and intermodality. These growth centres are hubs, ports and logistic centres. The overall objective was implemented through a number of thematic tasks and coordinated by an alliance of hub representatives in the project partnership and involvement of several public and private actors under the leadership of Wismar University.

The task aimed to enhance networking and cooperation between the local transport and logistics elements of the EWTC, including the ports and logistics centres of Esbjerg, Taulov / Fredericia, Höje / Tastrup, Wismar, Rostock, Karlshamn, Karlskrona and Kaunas / Vilnius.

The handbook of selected hubs is the preliminary step to the joint action programme for development measures in port-hinterland and intermodal logistics centre / hub connections.

The second chapter hub development will show a future-oriented compilation of development measures in and between the hubs and logistics centres.

Content

Methodology

The preparation of this report for hub development including the handbook of selected hubs was enabled through the active partnership in the subtask of work package 5 in the East-West-Transport-Corridor II project.
During the period from spring 2010 until the end of the project in summer 2012 following methodology was applied to firstly, define the aim of this task, secondly, to gather relevant information, thirdly, to create the final report.

During a seminar workshop the role of the participating partners was defined. The partners who contributed to the activities are shown in following table:

Hub	Country	Partner
Esbjerg	DK	Wismar University / Fredericia Municipality
Fredericia / Taulov	DK	Wismar University / Fredericia Municipality
Höje / Tastrup	DK	Wismar University / Fredericia Municipality
Helsingborg / Malmö	SE	Region Skåne
Karlshamn	SE	Port of Karlshamn
Karlskrona	SE	Municipality of Karlskrona
Wismar	DE	Wismar University
Rostock	DE	Ministry of Energy, Infrastructure and State Development, Mecklenburg-Vorpommern
Kaunas / Vilnius	LT	Lithuanian Railways
Sassnitz	DE	Port of Sassnitz

Basic information for the secondary data analysis of the selected hubs was collected by the responsible partner themselves. Basically, only a guideline which was provided by the task leader gave a framework for this analysis. The objective was to gather common information which would make it possible to compare this information in the following benchmarking.
Complete documents of the individual reports can be found on EWTC II homepage, whereas in this handbook only basic and shortened data is presented.

The work package 5 seminar for hub development hosted a workshop in which the development measures and investments which were selected from the task partners are analysed and proposals are formulated. The result is the second part of this document. It offers a listing of development measures for future-oriented investments in the selected hubs.

Introduction

In order to be able to gather information on the same level from different stakeholders a common definition of the used term "hub" must be defined.

A hub is a specific area where all the activities relating to transport, logistics and goods distribution – both for national and international transit – are carried out, on a commercial basis, by various operators. The operators may be either owners or tenants of the buildings or facilities (warehouses, distribution centres, storage areas, offices, truck services, etc.) built there. In order to comply with free market rules, a hub must be accessible to all companies involved in the activities set out above.

A hub must also be equipped with all the public facilities necessary to carrying out the above-mentioned operations. If possible, it should also include public services for the staff as well as user's equipment. In order to encourage intermodal transport for goods handling, a hub should preferably be served by a variety of transport methods (roads, rail, sea, inland waterways, air).

It is vital that a hub is managed as a single and neutral legal body (preferably by a Public-Private-Partnership) if synergy and commercial cooperation are to be ensured. Finally, a hub must comply with European standards and quality performance in order to provide the framework for commercial and sustainable transport solutions.

The hub concept is based on three important elements:

- Territorial planning alongside infrastructure rationalization
- Transport quality
- Intermodality development

These in turn generate other relevant effects from economics and transport standpoints.[1]

Territorial planning alongside infrastructure rationalization

The hub is a specific area *where all the activities relating to transport, logistics and goods distribution, […], are carried out by various operators*.[2]

Dedicating a specific area to transport, logistics and goods distribution automatically implies planning the territory and rationalizing infrastructures in order to optimize area utilization, to safeguard the environment (moving the heavy traffic concerned from residential areas to the hub), and to build the infrastructures following specific criteria based on operator necessities.

Transport quality

The high service quality standard is certainly one of the most important elements in assuring an excellent level of competitiveness, particularly when considering that nowadays competing means surviving the effects of globalisation.

Globalisation, the increase in freight transport, and growing competition between all local production areas have been forcing industries to ask for more efficient transport and logistics solutions: this means removing bottlenecks and diseconomy.

Specialization is the key word. A hub can offer the local production system the best solutions in terms of logistics, transport and storage activities. This involves controlling

[1] http://stats.oecd.org/glossary/detail.asp?ID=6254
[2] http://www.ntu.eu/idn20.asp

both transport cost increases and industrial productivity competitiveness. The main objective of all those working inside a hub area is to assure a high quality level, generating the following transport system effects:

- Optimization of the logistics chain
- Optimization of lorry utilisation
- Optimization of warehouse utilisation
- Optimization of manpower organisation

as well as

- A decrease in the total transport costs
- A decrease in the total industrial costs
- A decrease in personnel costs
- An increase in the transport operators total turnover.

Intermodality development

Road transport is still the most common transport mode in Europe. According to the White Paper, the demand in road transport has been constantly increasing over the last 20 years, against a steady decrease in rail freight transport. This considered, the most important goals of a hub are to: bring together the flow of the freight transport managed by the transport and logistics operators;[3] and to offer very convenient transport and synergic solutions (rail/road/short-sea-shipping) using block shuttle trains on long-range journeys.[4]

Location

Location is a key factor for all the transport operators whose main activity is moving freight from one place to one another using different modes of transport. Optimization – or rather reduction – of the delivery time to the final destination or to the following passage of the logistics/transport chain is one of the elements that could make that important difference when a transport operator is being chosen. Assuring fluidity between all the transport connections and coordinating all the transport modes are some of the tasks of a hub. This is why most European Logistics Centres are located in hub points for transport and distribution activities. Location at a hub point means, in short, being near the main railway, motorway and seaway arteries.[5]

Services

In short, the logistics hub is simply a village planned and built to best manage all the activities involved in freight movement. Just as with a residential village, a freight one comprises not only infrastructures but also the services necessary to satisfying and responding to the requirements arising from its primary transport activity.
The services normally found with a hub area are:

- Customs district
- Post office/Public telephones/Bus services
- Areas for parking and loading/unloading operations
- Restaurants/cafés

[3] http://www.logistiek.nl/
[4] http://www.german-business-portal.info/
[5] http://www.portofrotterdam.com/en/Pages/default.aspx

- Filling station with vehicle washing facilities

The organizational structure

The Private Public Partnership (PPP) is the most widespread and efficient organizational structure for companies managing any kind of hubs. Shared capital is owned by public and private partners in different percentages. In most cases however Public Authorities constitute a company's main shareholder. The choice of the PPP model as well as the involvement of Public Authorities is linked to financial, infrastructure and planning reasons. Building a hub involves – from the very beginning – huge investment for the creation of not only large warehouses but also all the urban intervention and services. Considering that the hub institution is a long-term enterprise that, at least in the start-up phase, does not represent a truly tempting business for private investors, financial support from Public Authorities becomes a key element for its development.

The hub, purely in terms of the size it may reach (millions of square meters) and the effects it has on the local economy, becomes part of a greater local territorial development plan constituting the basis for all infrastructure and territorial implementation.[6]

The concept of hubs is not a new concept – it was first seen 30 years ago – but if it is meeting with so many difficulties in growing as a transport reality then perhaps all the various implications and factors involved are today unclear or little known.

It may be assumed that:

- The concentration of transport and logistics activities in larger infrastructures is more convenient and efficient than several smaller intermodal terminals scattered over the territory.
- Coordinated planning and funding is necessary to develop hubs and intermodality.

[6] *"Guidelines for successful Public-Private Partnership"*, EC Directorate General Regional Policy -March 2003

Handbook of selected hubs

Esbjerg

Location

The Municipality of Esbjerg is the fifth largest in Denmark with approximately (app.) 115.000 inhabitants and is situated at the North Sea. The city of Esbjerg, being part of the municipality with app. 83.000 inhabitants, is one of Denmark's most modern cities on the south west coast of Jutland. The Port of Esbjerg, also called Denmark's western gateway or "Gateway Scandinavian", is situated at 55° 28' north and 8° 26' east.

Hub area

The port covers an area of app. 342 ha (2010). The quays have a total length of 12 km, of which the fishing harbour has 5 km of quays with water depths ranging from 3.9 m to 9.3 m, and the traffic harbour covers 7 km of quays with a water depths ranging from 4.4 m to 11.5 m.[7]

Cargo turnover

The total turnover of the port is 3.5 million (2010) tons[8]. In 2010 compared to 2009, containers and trailers are showing an increase of respectively 10 and 7 %. Other general cargo goes back by 20 %. The decline is almost evenly divided between wind turbines and offshore oil and gas. Fast bulk is also going back to 20 %. The main explanation is that there is less unloaded coal and stone / sand / pebbles. Mere coal imports fell by 23 % to 414.000 tons. Liquid bulk is down 15 %. In particular, fish oils are showing decline[9].
The gross tonnage amounts for 23 million BT (2010) and about 1.8 million passengers travel with ferries via the port of Esbjerg annually[10].

Connections

There are several short sea shipping routes already in operation at the port. These include routes to the Faroe Islands, Amsterdam and Zeebrugge. In addition, the port has a passenger ferry route to Harwich, England (Ro-Ro) and a ferry service to the popular Danish vacation island of Fanø. In addition, there is a new Ro-Ro Freight ferry service between Esbjerg and Egersund[11]. During the past several years, the City of Esbjerg and the port has increased their connections to the rest of Denmark with the development of rail and motorways direct to the port area. The last stretch of the E 20 motorway will be completed by 2014, and will allow vehicles to drive directly into the port area.

Hub facilities

The port has among others 4 mobile cranes, one of which, a Liebherr LHM 500, it is the

[7] Esbjerg Havn (16.09.2011), URL: http://www.portesbjerg.dk/da/infrastruktur--beliggenhed.aspx
[8] Esbjerg Havn (16.09.2011), URL: http://www.portesbjerg.dk/Upload/documents/beretning/beretning_2009.pdf
[9] Esbjerg Havn, Resume af årsrapport 2010, URL: URL: http://www.portesbjerg.dk/Upload/documents/beretning/beretning_2010.pdf
[10] Esbjerg Havn (16.09.2011), URL: http://www.portesbjerg.dk/en/port-of-esbjerg--statistics.aspx
[11] Sea-Cargo (17.09.2011), URL: http://www.sea-cargo.no/news02_11.asp

biggest port crane in Scandinavia offering a lift capacity up to 150 tons, the second is slightly smaller, namely an LHM 400. The third is the Liebherr 1081 VG and the fourth special crane, a LHM 280. The capacity is app. 30 and 80 tons on the hook respectively[12]. The port also has a gantry crane suitable for container sized up to 20-30-40 foot.

Employees

The port of Esbjerg directly employs about 55 people[13]. In 2010, the total staff costs rose by 2 % to DKK 27.2 million, though the total staff share of revenue has been declining steadily in recent years. The proportion is 19 % in 2010, unchanged from the year before. In addition, over 8.000 people (2009) are employed at the companies situated at the port.[14]

Services

Esbjerg has an extensive service network operating 24 hours a day.

Table 1: Overview of services in Esbjerg[15,16]

Shipping Line	Employees in Esbjerg	Facilities in Esbjerg	Vessels, type of service, destination	Volumes
DFDS	60 dock workers & 15 salaried employees	113.000 m² terminal	• Jutlandia & Fionia (Trailer transport) to Immingham (UK) • Dana Sirena (passenger & trailer transport) to Harwich (UK)	93.500 (2010) down from 128.600 (2006), 25.000 passenger cars & app. 95.000 passengers (2010)
Grimaldi Euro-Med	Scandinavian Auto Logistics: 16	terminal of 25.000 m² and storage yard with 13.000 m², dedicated berth: 250 m	• Ro-Ro container service from Esbjerg to Mediterranean (Walhamn - Antwerp - Southampton - Civitavecchia - Salerno - Palermo - Malta - Valencia - Piraeus - Izmir - Ashdod - Limassol – Alexandria)	Capacity: 4.500 cars and 750 containers on 11 decks
Tschudi Logistics	< 5, Hardy Jørgensen (Sales manager)	office	• North sea line: MV Pachuca, Ro-Ro vessel from Larvik (Norway) to Immingham (UK) • Baltic sea line: MV Pagola, Klaipeda (Lithuania) to Immingham (UK)	Capacity: MV Pachuca – 750 teus (2010) MV Pagola – 700 teus (2010)
Sea-Cargo	< 5	office	• Amber / Transcarrier, Ro-Ro vessel to Amsterdam • Amber / Transcarrier, Ro-Ro vessels to Tananger, Haugesund, Bergen	Capacity: Transcarrier – 100 trailers Amber – 79 trailer
Cobelfret (CLdN ro-ro SA)	-	Blue Water Shipping Services	• Ro-Ro vessel to Zeebrugge	Capacity: 45 Containers double stack, trailers & cars

Organisation

Esbjerg was established in 1868 and is today a municipal autonomy port[17]. The port's organisation is divided into administration, port control and maintenance.

Approximately 270 businesses are located at the harbours facilities, making the port the largest port cluster in Denmark.

[12] Esbjerg Havn (16.09.2011), URL: http://www.portesbjerg.dk/da/infrastruktur--kraner--kraner-oversigt--lhm-280.aspx

[13] Esbjerg Havn (17.09.2011),URL: http://www.portesbjerg.dk/Upload/documents/EH_Havneassistent.pdf

[14] StratMos (09/2009), URL: http://www.stratmos.com/downloadArtFile?FILE_ID=1307449389806

[15] Esbjerg Havn (16.09.2011), URL: http://www.portesbjerg.dk/en/port-of-esbjerg--statistics.aspx

[16] Esbjerg Havn (16.09.2011), URL: http://www.portesbjerg.dk/da/om-esbjerg-havn--godsomsaetning.aspx

[17] Esbjerg Kommune (24.09.2011), URL: http://www.esbjergkommune.dk/Admin/Public/DWSDownload.aspx?File=%2fFiles%2fFiler%2fErhverv%2fEnergiteknologi%2fNy+energi+-+Esbjerg+som+centrum.pdf

Competitors

Esbjerg is among the country's largest ports, and takes with its unique location, a kind of monopoly on sea transport for large parts of West Denmark. The potentially strongest competitors in the North Sea offshore wind market for Esbjerg are Bremerhaven and Cuxhaven.

Fredericia / Taulov

Location

The port of Fredericia is located on the eastern side of the Jutland peninsula on an area of water that is known as Little Belt which allows for deep water and ice-free conditions. The sub-region is locally known as Trekanten or "the Triangle". The municipality of Fredericia covers an area of approximately (app.) 134 km^2 and has about 49.500 inhabitants. It is situated at 55° 33' north and 9° 44' east.[18]

The Taulov Transport Center (TTC) is also centrally located on the eastern side of the Jutland peninsula and close to several major transport modes in Denmark, while it is placed directly on Denmark's two main highways E 45 an E 20.[19] The TTC is situated about 10 km from the port of Fredericia and is perfectly located on the corridor Sweden-Germany. Precisely, the terminal is located at Europavej 28, in uninhabited areas about one and a half km east of the town of Taulov which is a part of the Fredericia Municipality.[20]

Hub area

Terminal Fredericia is the largest of Associated Danish Ports (ADP A/S). The port covers an area of app. 585 ha. The water depth is 15 meters and thus one of the deepest harbours in Denmark[21].

The TTC covers app. 24.000 m^2 surface area which will be growing to 31.000 m^2 in 2011.[22]

Cargo turnover

Fredericia including Middelfart had a turnover of about 13.1 million tons in 2010 against 13.4 million tons in 2009, a decline of app. 2 %.

The TTC is Denmark's only "real" dual-mode terminal servicing all three device types: containers, swap bodies and trailers. In 2010, the turnover was app. 45.000 TEU (20-foot containers) compared to more than 60.000 in 2008.

Connections

The port of Fredericia is located in Denmark's biggest transportation hub regarding the highway system and railway net. The proximity to the Taulov Transport Centre as well as

[18] World Port Source (22.09.2011), URL: http://www.worldportsource.com/ports/DNK_Terminal_Fredericia_581.php
[19] StratMos (09/2009), p. 96
[20] DB Schenker (01/2010), URL: http://www.rail.dbschenker.dk/site/shared/en/file__attachements/information__material/stinnes/gebyrtarif__terminal__2010.pdf
[21] ADP (22.09.2011), URL: http://www.adp-as.dk/sitecore/content/Home/Havne/Fredericia.aspx
[22] Transport magasinet (13.12.2010), p. 8

the rail facilities at Fredericia allows the port to capture a large hinterland. Also within one hour drive is the Port of Esbjerg, Billund Airport and the German border reached, thus making the Port of Fredericia an important addition to the logistic network of Denmark.
In Taulov, there exist direct connection to the Highway E 45 / E 20 heading east (eastern part of DK and Sweden), west (western part of DK and England), north (northern part of DK and Norway) and south (southern part of DK and Germany) as well as direct connection to the Port of Fredericia[23]. In 2010, the busiest Danish freight route was Taulov Lunderskov with 58 freight trains a day. Furthermore, there were 40 freight trains operating between Snøghoj and Taulov as well as 13 trains between Fredericia and Taulov per day.

Hub facilities

Fredericia has large, flexible harbour areas, an efficient infrastructure with several Ro-Ro berths and all necessary facilities, including mobile and portal cranes for dry bulk, biofuel and containers[24]. Furthermore, Fredericia Terminal has mobile conveyors and a bulk terminal.[25]
The TTC is equipped with 1 gate and 2 mobile cranes. Furthermore, the terminal has 2 Reachstaker (Crone 4531), 2 Tugmaster, 1 Point MK shunter, 2 "platform" tracks with a length of 650 m each as well as 4.000 m storage sidings. DB Schenker Rail Scandinavia runs the loading and unloading business of TTC.[26]

Employees

Fredericia is characterised by having relatively high specialisation on terminal-related activities, as it is a mainly transit port for grain, feed, fertilizer and petroleum. The direct employment effect is limited but generates significant revenue and employment in the region's carriers. It is estimated that the port's function as a flow-through port for goods means that the effects on employment and income has a primarily regional importance – and thus do not have special secondary effect on the city of Fredericia[27].
Concerning the TTC, 25 employees are working currently at the freight forwarding, truck and rank of the terminal[28]. Additionally, 1.300 employees work for the 50 companies present in the centre[29].

Services

With a good, strategic connection to the motorway network and railway traffic, the Port of Fredericia is an extremely well-functioning connecting point for Ro-Ro goods. The transport flow to and from the Baltic and the Russian market is strengthened by the route to

[23] Interview Troels Lemonius
[24] ADP (22.09.2011), URL: http://www.adp-as.dk/sitecore/content/Home/Havne/Fredericia.aspx
[25] Ibid.
[26] DB Schenker (22.09.2011), URL: http://www.tinv.dk/public/dokumenter/tinv/Konferencer%20og%20arrangementer/Afholdte%20arrangementer/A2/3%20bes%F8g%20-%20kombilogistik/DB%20Schenker%20Taulov.pdf#
[27] Danske Havne (04.01.2010), URL: http://www.danskehavne.dk/dk/Menu/Politik%2fLovstof/Fokusomr%C3%A5der/Havnens+regionale+betydning/25+analyser
[28] Ibid.
[29] Fredericia Kommune (01.04.2011), URL: http://www.eastwesttc.org/media/140035/presentation%2012%20-%20local%20business%20development%20influenced%20by%20ewtc%20incl%20taulov%20transport%20center%20-%20bjarne%20lundgaard,%20municipality%20of%20karlshamn.pdf

Klaipeda in Lithuania. Besides, due to good infrastructure and flexible areas available at the harbour area, the port operates as a strong link in the Ro-Ro cargo transport chain[30].
Regarding services in Taulov, there are daily rail links from the TTC to Höje Taastrup, Busto Arsizio, Hamburg Billwerder, Malmö and Htå, with a frequency of app. 70 trains a week, but there is the potential to increase to 84 trains a week. The intermodal trains are the following:

- Taulov–Höje Taastrup (round trip) 5 / week by Hupac & Kombiverkehr
- Taulov–ØSB–Malmö (round trip) 7 / week by Hupac
- Taulov–Busto Arsizio G (round trip) 10 / week by Hupac
- Taulov–Hamburg Billwerder (round trip) 3 / week by Kombiverkehr.

Organisation

The port of Fredericia is operated by the ADP which is the limited liability company and privately owns and runs the ports in the Danish cities of Fredericia, Nyborg and Middelfart. The Association was founded on January 1, 2000 and created with the fusion of two municipal ports – Municipality of Fredericia and Municipality of Nyborg, into one commercial company. Ownership is divided amongst the three municipalities with Fredericia owning 89 %, Nyborg 10.6 % and Middelfart 0.4 %. The shares are somehow equal to the sizes of the ports.[31]
TTC is an association of 23 businesses in the area, but is not the centre – the operation is up to the individual companies in the area. Those are Kurergruppen Vest, Fredericia Kommune, EUC Lillebælt, Leman, Danske Bank, Norfolkline, DB Schenker Rail Scandinavia, Danske Fragtmænd, Trolle Advokatfirma, Dan Cargo, Ib Karskov, Bendix Transport, Elbo Logistikpartner, OK Servicecenter, ADP, shipping.dk, Post Danmark, OK, P. Fournaise, Fredericia Shipping, Skandinavisk Logistik, and PL. Jessen.

Competitors

As crude from the North Sea remains the by far largest type of cargo transported at Fredericia Terminal, it is also the leading port in this category followed by the second crude transporting port in Denmark, the Statoil – Port in Kalundborg. However, when it comes to the total tonnage of goods transported, Fredericia is the largest of Denmark's ports followed by the port of Aarhus on second place.[32]
The Transport Centre Gateway E 45 in Vejle and the TTC are rather cooperating instead of competing. Therefore, it is difficult to define direct competitors.[33]

Høje / Tastrup

Location

Høje Taastrup Transport Centre (HTTC) has an ideal location on highways, main roads and railways for both people and goods. Furthermore, there are direct motorway connections to

[30] ADP (22.09.2011), URL: http://www.adp-as.dk/sitecore/content/Home/Forretningsomraader/RO%20RO.aspx
[31] StratMos (09/2009), p. 94
[32] Statistics Denmark (25.09.2011), URL: http://www.statbank.dk/SKIB72
[33] Interview Troels Lemonius

the Øresund Bridge and Golden Gate Bridge. The transportation centre has been approved by the Road Directorate for modular trials. The address is Estlands allé 10, DK-2630 Taastrup and the distance to Copenhagen is 15 km, to Malmö 40 km and to Køge 15 km.[34]

Hub area
The HTTC covers app. 18.000 m^2 surface area which will be growing to 26.500 m^2 in 2011[35].

Cargo turnover
The terminal currently has a capacity of 400 TEUs (20-foot containers). There is a massive expansion on-going at the transport centre in Høje Taastrup to prevent capacity shortcomings. Expansion of the terminal will provide adequate room for growth in combination terminal in Høje Taastrup. After the enlargement of the terminal the capacity will be not less than 3400 TEUs.

Connections
HTTC and Copenhagen harbour areas are the obvious place to set up multimodal distribution centres for Northern European markets. CMP has the region's largest combined cargo (road / rail / sea / air) turnover. The region is a hub in Northern Europe as it has a well-developed and high quality transportation system of roads, railways, airports and harbours. The transport system around Copenhagen has earned Denmark a top ranking in the IMD's World Competitiveness Yearbook and in the World Economic Forum's Global Competitiveness Report for several consecutive years.
It is estimated that about 40 % of all goods to Copenhagen pass through the transport centre in Høje Taastrup, where numerous forwarding agents and transport companies are located.[36]

Hub facilities
The HTTC is equipped with 1 gate as well as 1 gantry and 1 mobile crane. Currently, the rail infrastructure on the site consists of three goods sidings at 300 meters long and one siding at 490 meters. In the future, this may be extended to 600 meters if demand is sufficient. DB Schenker Rail Scandinavia runs the handling, storage and shunting of loaded or empty Intermodal loading units of the HTTC.

Services
HTTC is a regional hub for all transportation, freight forwarding, logistics and inventory in the metropolitan area of Copenhagen.[37] The HTTC is intended to serve exclusively the transport industry and includes many service facilities. It offers the best location for providers of transport services, for example, hauliers, courier companies, freight forwarders and warehouses. From the HTTC there are daily rail links to Taulov by Hupac and 5 times per week by Kombiverkehr. Totally, 44 trains are handled a week at the terminal in Høje Taastrup, and it is DB Schenker's expectation that after an upgrade of the terminals, the

[34] HTTC (26.09.2011), URL: http://www.httc.dk/servicefaciliteter.html
[35] Transport magasinet (13.12.2010), p. 8
[36] Tendens Øresund (27.09.2011), URL: http://www.tendensoresund.org/en/download/Accessibility.pdf
[37] HTTC (27.09.2011), URL: http://www.httc.dk/

capacity increases to 126 trains a week.[38]

Organisation
HTTC is the oldest transport centre in the Danish part of Sound region. The development of the area took off around 1990, and the association "Høje Taastrup Transportcentre" was founded in 1994. Høje Taastrup Business handles the association's secretariat.[39] Currently, the board consists of 6 members elected by the general assembly.

Competitors
The Skandinavisk TransportCenter (STC) near Køge is clearly HTTC's nearest competitor, as it is only 25 km away. Synergies could be created through a form of cooperation between the two centres.[40]

Wismar

Location
As the southernmost German Baltic port, Wismar sea port is located on the German shore between the port of Lübeck and Port of Rostock. North-south traffic between Central Europe and Scandinavia, the Baltic States and Russia are bundled and distributed in Wismar.

Hub area
Next to the geographical location of a port, its economic accessibility and thus its attractiveness for the potential forwarding customers, also depends to a large degree on the quality of connections with the hinterland.

Cargo turnover
Core competences are handling and storage of conventional goods in transit.
Rapidly rising costs for fossil sources of energy and an increasing environmental awareness are only two of the manifold reasons for the growing dynamics of the wood sector in Europe. Not least due to this, wood and wood products are the dominating types of cargo at Wismar sea port next to metals and weather-sensitive bulk goods such as salt and potash fertilizers. Regional raw material shortages cause ever longer transport routes. Therefore, the port considers it as central task to provide the clients with the security of supplies they need at competitive logistics costs by offering them efficient handling logistics.

Connections
Efficient pre- and onward carriage of road transport is provided by the direct feeder road to the motorway intersection near Wismar which connects the port with motorway A 20. After completion of the A 14 (connection between Wismar and the A 24 until 2009, to be

[38] Transportministeriet (10/2009), URL: http://www.trm.dk/da/publikationer/2009/mere+gods+p%C3%A5+banen/~/media/Files/Publication/2009/051009/seneste%20version/Mere%20gods%20p%C3%A5%20bane%20endelig%20version1.ashx
[39] HTTC (28.09.2011), URL: http://www.httc.dk/kontakt.html
[40] Interview Troels Lemonius

extended to Saxony-Anhalt until 2020) transport especially to and from Berlin and Central Germany may be handled even faster and at still lower cost. Trucks have to use the North-East-Route from A 20 access Kreuz Wismar. Due to the affinity of bulk goods for railway transport a first-rate connection of transfer points to the railway network is of eminent significance for the efficiency of Wismar sea port. More than 60 % of all land transport touching Wismar sea port is performed on rails. The port has 20 km of its own rails and fully electrified connections with the German railway network. Most berths are provided with a railway siding. More than 1.600 ships head for Wismar sea port every year. They mostly belong to conventional North and Baltic Sea traffic.

Hub facilities

Wismar sea port is one of the best places for log handling. The wood industry appreciates both the logistic services at the port and the delivery directly to their door or production facility. In the logistic distribution a large part of the logs is hauled away by individual wagon or block train. Since the end of 2004 Wismar sea port works with a storage process management system based on bar code scanners which takes into account the ever increasing handling volumes in general timber cargo handling on the one hand, and the growing need of the customers for precise and fast information, on the other. Besides, Wismar seaport operates a block train twice a week on the route between Wismar and Hamburg (Bremerhaven upon inquiry).

Employees

There are 200 employees (10 % apprentices) in the port of Wismar. In terms of salaries, there prevail no differences to other ports in the region, e. g. Lübeck. Workers include both elderly and younger people.

Services

Wismar sea port offers its customers a whole range of port services. Apart from inspection of seaborne goods and keeping of bonded warehouses it is thus possible to have tallying, commissioning, weighing, storage and retrieval as well as load securing or distribution performed at the port.

Organisation

Port of Wismar is a German GmbH, limited company; 90 % town of Wismar and 10 % federal state Mecklenburg-Vorpommern. It operates as a registered company for port handling, storage, and logistic services.

Competitors

Regional competitors are Port of Rostock, Sassnitz, Lübeck, Kiel, Hamburg and Stettin. Other shipping lines are interested in location, however, competition is high (because of other ports in region). In terms of steel handling, inland ports can be regarded as competitors as well (due to low costs in Stettin).

Port of Wismar is close to railways, but the connections are not available and there are problems with punctuality and construction works. Beyond this, there prevails fear of distortion of competition because of Deutsche Bahn.

Rostock

Location

Rostock is a city with 200.000 inhabitants at the Baltic Sea coast of Mecklenburg. The main port of Rostock (Seehafen Rostock) is located at 54°09' north and 23°06' east, some 15 km north of the city centre.

Besides the main port (Rostock Port – Überseehafen) there are some smaller port facilities in that region. The second important one is Rostocker Fracht- und Fischereihafen (RFH) and is located approximately kilometres down from the mouth of the river Warnow.

Hub area

The port currently has the size of approx. 750 ha. Its sea channel has a depth of 14.5 meters and a width of 120 meters. The docks have a total length of 10.000 meters and 45 berths are available with a depth of 9 to 13 meters. The annual turnover of the port is 27 million tons (2007).

Cargo turnover

The port of Rostock handles diverse types of cargo. The table below gives a comprehensive overview of cargo transported within the port of Rostock.

Table 2: Amount and type of cargo in 1.000 t[41]

Type of cargo	2004 (gross weight to)	2007 (gross weight to)
1. Ferry and Ro-Ro transport	7.172	8.703
2. bulk cargo	1.388	2.082
wheat	1.189	1.762
animal feed	18	19
oilseed	181	301
thereof: oil	n. a.	128
3. bulk cargo / grab cargo	4.260	3.679
coal	1.080	1.024
ironore	1.009	46
construction material	1.245	1.779
fertilizer	800	740
scrap	126	90
4. liquid cargo	2.700	3.838
crude oil	995	1.353
petroleum	1.035	1.517
other chemicals	670	968
5. break bulk cargo	847	1.282
iron, steel, nonferrous metal	257	271
wood	334	637
food	40	39
others	206	335
total cargo	16.367	19.585
curb weight	5.834	7.298
total	22.170	26.883

Connections

Rostock port is called approx. 9.400 times per year. Various ferries, Ro-Ro ships and bulk ships use the port, underlining its capability for universal cargo handling. It is also a well-used location for cruise shipping – in 2010, 177.000 cruise passengers visited Rostock.

[41] Source: Regionales Flächenkonzept hafenaffine Wirtschaft Rostock

There are ferry links to Gedser, Trelleborg, Gdynia, Helsinki and Ventspils. Additionally, there are Ro-Ro links to Hull, Rauma, Turku, Hanko and Hamina. A conventional liner service travels to Oslo and Bergen and a regular tramp link connects Rostock with Baltimore and Jacksonville in the USA. In addition to that bulk, carriers from worldwide destinations call at Rostock port. The port of Rostock (main port as well as the Rostocker Fracht and Fischereihafen) is well connected to its hinterland. It has a connection to the German rail network, making it possible to ship goods by rail from Rostock to Hamburg, Berlin and Szczecin and further onwards. The connection Rostock-Berlin will be equipped with ERTMS in the future.

Hub facilities

At the port of Rostock, loading and unloading facilities are available for all kinds of cargo. As an example, the combined cargo terminal allows for loading of three trains at the same time. The turnover capacity is 85.000 units per year. It is planned to extend the terminal to allow for a turnover capacity of 120.000 units per year. 2 more train tracks and gantry cranes will make sure that this capacity is achieved.

Additionally, Rostocker Fracht- und Fischereihafen offers approximately 18.000 square metres of open, fastened and covered storage with connection to the quay. Rails as well as weighing possibilities for trucks and wagons are available on the port area. The port has its own railway entity ensuring the independency of other railway companies. Refrigerated and frozen products are handled right by the pier in a modern cold storage unit built according to EU standards.

Employees

There are currently 6.600 people working directly for the maritime and port industry in and around Rostock – employed by 300 companies (both in main port and Rostocker Fracht- und Fischereihafen). In addition to that, more than 5.900 people's employment in Rostock is based on the port and maritime industry. The direct work mainly involves cargo handling, cargo storage or production, service providing for shipping, transport, cargo handling or the cargo storage industry. The amount of people working directly or indirectly with the port is approx. 12.500.

Services

The Scandlines ferry to Gedser departs every two hours during the daytime. Scandlines and TT-Line travel to Trelleborg – both with three departures per day. There are three departures per week for the ferry travelling to Gdynia and then Helsinki (Finnlines). The direct ferry to Helsinki has four departures per week (Tallink Silja Line) and is at the moment more or less a seasonal service. The link to Ventspils is currently not used. Additionally, there are Ro-Ro links to Hull, Rauma, Turku, Hanko and Hamina. The Hanko link operated by Scandlines is used regularly 4 times per week. The link from Hull to Hamina with a stop in Rostock departs on Saturdays if there are enough bookings. The link from Lübeck to Turku and Rauma only stops in Rostock on Mondays if there are enough bookings. Regarding the intermodal transport services, there are currently 26 block trains per week departing to Verona, Basel, Hamburg and Wels.

Rostocker Fracht- und Fischereihafen (RFH) is specialised on the transhipment and storage

of conventionally transported bulk cargo and general cargo as well as project shipments (food products, agricultural products, construction materials, chemical products, iron, timber and other forestry products).

Organisation
The port of Rostock is owned by the state of Mecklenburg-Vorpommern (25.1 %) and the city of Rostock (74.9 %). Their interests are represented by the Hafen-Entwicklungsgesellschaft Rostock mbH. Developing the port, maintaining and expanding the infrastructure are their major jobs. Additionally, they are responsible for the settlement of businesses inside the port area. The goal is to develop a modern and competitive logistics centre.

Competitors
While the other ports of Mecklenburg-Vorpommern are competitors due to the close proximity, they do cooperate to a certain point. The major competitors for the port of Rostock are located outside of Mecklenburg-Vorpommern: The port of Lübeck and the ports of Szczecin and Świnoujście. They serve the same ferry and Ro-Ro market as Rostock as well as the same hinterland. Therefore, the competition regarding the settlement of industries is pretty high. Due to the fact that these ports are located outside of Mecklenburg-Vorpommern, it is more difficult to find a common ground for cooperation. All three ports are big ports in their region and thus less willing to coordinate activities with others.

Helsingborg / Malmö

Location
The region of Skåne is located in the southern-most part of Sweden and in the centre of the East West Transport Corridor II. The total area of the region is 11.035 sq. km and has a population of 1.2 million inhabitants making Skåne the third-biggest measured in population among the regions of Sweden[42]. The population is mainly living in the Greater Malmö Area or Greater Helsingborg Area.

Hub area
The region has a long history of being used for trading activities and the close location to Continental Europe has developed the region to becoming the main transit-region for goods to and from Scandinavia. The main logistics hubs (including sea ports, intermodal freight terminals, road transport centres and airports) within the region are mainly located in connection with Malmö, Helsingborg and on the south-coast.

Cargo turnover
In general, about 65 % of the total amount of goods handled in the ports consists of Ro-Ro cargo. About 30 % of the cargo consists of bulk cargo, whilst the remaining share consists of containerised units and general cargo[43]. Classified per type of cargo, the transported

[42] Regionfakta, 2011.
[43] Ports of Sweden, 2011

goods generated in Skåne consist of two main types of commodities: building materials and manufactured products. The large share of manufactured products transported indicates that at least 25 % of the goods sent via Skåne is unitised, especially if destined for overseas destinations by container or to nearby countries by trailer.
In 2010 the port in Malmö handled 9 647 000 tonnes of goods and the port in Helsingborg handled 7 429 000 tonnes of cargo over quay. The flow consisted of both unitised cargo and dry/liquid bulk.

Connections
The main infrastructure in the region consists of the motorways on the west coast, especially the *E 6 / E 4 / E 20* and the crossing *E 22* connecting to Blekinge. The main railway lines is the *Södra Stambanan*, *Västkustbanan*, the *Öresundsbanan* connecting to the Öresund Connection towards Denmark and at the east Skånebanan towards Blekinge.
The main flow of goods to / from and within the region is seen on the road network on the west coast. The main road network is located in close to Malmö and Helsingborg and includes some of the most important motorways in Sweden. Goods entering the region of Skåne and destined for Scandinavia mainly arrive by ferry or Ro-Ro connections. The main flow of goods is located on the west coast and originates from either one of the ports at Malmö, Trelleborg, Ystad or Helsingborg. The large share of Ro-Ro goods transiting the region is mainly sent via the ferry connections at the ports in Skåne to Germany and Poland.

Employees
Within the Copenhagen-Malmö Port (CMP) there are approx. 177 employees from the Malmö area[44]. The Port of Helsingborg employs about 250 persons.[45]

Services
Due to the location of Skåne as the "gateway" to Scandinavia has led to a high dependence for infrastructure supporting the shipping industry to perform their services. The region has a high rate of accessibility through the main ports in Helsingborg, Malmö, Trelleborg and Ystad of which all offers Ro-Ro 3 routes to a great variety of destinations in the Baltic offering many options for road haulers depending on the need and final destination of the goods[46]. Mainly, the ports in Helsingborg and Malmö are regularly called by container vessels (feeder / oceangoing) and handle almost all containers over quay in the region. The main services sailed by the container feeder vessels are to Continental European ports in the North Sea such as Rotterdam, Antwerp and Hamburg and various destinations in the Baltic Sea.

Organisation
There are two major logistics hubs in the region Skåne: Greater Malmö area and Greater Helsingborg area. Sea transport in the greater Malmö area is mainly made via the port in Malmö which constitutes a part of the Copenhagen-Malmö Port Organisation. The most transport flows in Helsingborg are organised by the Port of Helsingborg.

[44] URL: http://www.cmport.com/~/media/Docs/CORPORATE%205/2001%20Annual%20report.ashx
[45] Port of Helsingborg, 2011
[46] IBU-Öresund, 2010

Competitors
Even though free competition prevails between the different actors of the transport industry in the region, a clear distinction of the transport services offered is apparent. The main competition between the ports is apparent in the increasing competition on the Ro-Ro cargo to and from the west parts of Germany. The internal competition between the terminals of the region is almost none-existing as they all fills their respective purpose of serving the local community of transport buying companies.

Karlshamn

Location
The Port of Karlshamn is the major expanding port in south-east Sweden. The port is also one of the largest in Sweden and is of increasing importance in the south-east Baltic region, especially when it comes to transport to and from the east.[47]

Hub area
The port of Karlshamn has 6 harbour areas with altogether 3 kilometres of quay and 750.000 m^2 of surface area. The sea approach is short and easily navigated. The port is free of ice and unaffected by tides[48].

Cargo turnover
The Port of Karlshamn has the capacity to handle all types of cargo and all sizes of vessel[49]. The cargo turnover accounts for 6-8 million tons. According to the type of cargo, the transported goods are mainly forestry products, liquid bulk and dry bulk. Additionally, there are transported 45.000 cargo units by Ro-Ro connection, 110.000 passengers by Ro-Pax connection and 10.000 rail wagons.

Connections
The Port of Karlshamn is strategically situated in one of the more industrial areas of south Sweden and is in an ideal position for the new trade routes between Scandinavia and Eastern Europe, the Baltics and Russia. Most of the capitals and population centres of the Baltic region can be reached within 12 hours. Besides, the port of Karlshamn is connected to the Road E 22 (partly motorway) and R 29 and is only 2 km from the electrified coastal railway ("Blekinge Kustbana"). [50]

Hub facilities
Within the port, there have been used 2 ramps, where min water is 8 m and LOA accounts for 200–220 m. The port of Karlshamn is an ice-free port and offers easy navigation. Furthermore, it has Pax terminal, 65.000 m² parking / handling area and has a rail connection as well. Further facilities include 8 tug masters, shore cranes, mobile cranes,

[47] Port of Karlshamn (31.01.2012), URL: http://www.karlshamnshamn.se/?info=facts.
[48] Ibid.
[49] Ibid.
[50] Port of Karlshamn (31.01.2012), URL: http://www.karlshamnshamn.se/?info=35a88bf.

fork lifts, reach stacker, wheel loaders, conveyor belts, Hogia Terminal IT-system, 2 tug boats and local pilot station.

Employees

The port of Karlshamn employs at present 85 people with diverse theoretical / practical background. The forecast is that a further 500 people will be employed in the area[51]

Services

Through the port and other suppliers a comprehensive range of logistical services can be provided locally, such as storage and distribution of dry, liquid and refrigerated goods. The port of Karlshamn offers primarily the following services:

- DFDS Seaways (Ro-Pax / Ro-Ro): Klaipeda 7 / w, St Petersburg 1 / w
- Green Cargo (rail): 5 / w
- Various lines
- Break bulk.

Other services provided at the port include: Railway to the quay and warehouse, with facilities for handling under cover with traversing crane, private tugs, warehouse storage of dry goods (43.000 m^2), storage of liquid goods in tanks and underground storage (500.000 m^3), parking and depot of trailers and containers, stuffing, stripping and securing of loads.[52]

Organisation

The port of Karlshamn is owned by the city of Karlshamn. 100 % of the land owns the municipality. The port is administered by the Port Authority. Stevedoring services are provided by the Port Authority as well.

Competitors

The main competitor for the port of Karlshamn is the area of Stockholm.

Karlskrona

Location

Karlskrona is a city with 64.300 inhabitants at the Baltic Sea coast of Blekinge, Sweden. The main port of Karlskrona (Verköhamnen) is located at 56° 9' 36" N and 15° 35' 15" E, east of the city centre.

Hub area

The position of Sweden's most south-eastern port is a strategic and particularly favourable one, having the shortest possible distances to important ports in Eastern Poland and the Baltic Sea. The Port of Karlskrona has an excellent geographic location both for landside and seaside accessibility. With its geographical positions it is the closest Swedish port to the eastern part of Poland, the Russian Kaliningrad region and Lithuania. The port is EU

[51] Port of Karlshamn (31.01.2012), URL: http://www.karlshamnshamn.se/?info=development
[52] Port of Karlshamn (31.01.2012), URL: http://www.karlshamnshamn.se/?info=facts

TEN-T classified as category A and is additionally classified as a port of national interest. The port has the inward bound fairway which is free of ice and the straight inbound fairway.

Cargo turnover

The cargo turnover, its development patterns within the period of three years as well as subject and type of cargo forwarded in the port of Karlskrona can be retrieved from the table below.

Table 3: The annual turnover of the port Karlskrona[53]

Year	Type of cargo, tons		Carriage of people / goods, numbers		
	Unitised cargo	Not unitised cargo	Passengers	Units	Car / Buses
2009	827	413	350.781	66.407	65.715
2010	964	35	376.253	77.717	72.893
2011	1.016	766	434.584	83.038	80.163

Connections

The port is well connected to the national road and railway network. Port of Karlskrona is a part of TEN-T network via the Motorways of the Sea link between Karlskrona and Gdynia. The ferry and industrial port on Verkö has a direct connection to the E 22, 27 and 28 highways as well as to the national railway network.

Hub facilities

There are facilities for international traffic existing in the port of Karlskrona. The main port (Karlskrona Baltic Port AB) is equipped with quay with Ro-Ro / ferry berth for vessels up to 240 m L.O.A. and 9 m draught, secure area with modern passenger and vehicle terminal for international traffic as well as good resources for container handling with lift trucks and tug masters. The Karlskrona Municipal port has two quays at Verkö, each of 70 m with a depth of 9 m, large lay-up areas and a quay length of 400 m, depth 7.3 m, maximum L.O.A. 130 m at Trossö.

Services

The port of Karlskrona offers complete port services including access to tug boat and full shipyard services. It is oped 24 hours a day and all year around. The main user of Karlskrona Port is Stena Line with their ferry service between Karlskrona and Gdynia. Stena Line's ferries to Gdynia depart two times a day, in the morning and in the evening.
One other important user is ABB High Voltage Cables. Karlskrona port is called approx. 750 times per year. Currently, the port is used by Nord Stream.

Organisation

The ferry and Ro-Ro port, Karlskrona Baltic Port AB, is owned by Stena Line (51 %) and the Municipality of Karlskrona (49 %). The other parts of the port are owned by the Municipality of Karlskrona. The railway and road infrastructure between the national rail

[53] Source: (31.01.2012), URL: www.karlskrona.se

and road system is also owned by the Municipality of Karlskrona. The intermodal terminal is owned by the Municipality of Karlskrona and is a so called “open terminal” which can be used by different companies.

Competitors
The port of Karlskrona appears to cooperate rather than to compete. A strong cooperation exists between the ports of Karlskrona and the port of Gdynia. They share a common interest in the North-South-Transport-Axis. There is also cooperation with Alvesta Intermodal Terminal.

Kaunas / Vilnius

Location
Vilnius is located in the South-East part of Lithuania, whereas Kaunas is located in the centre of the country. Vilnius is by far the largest logistic hub in Lithuania with a largest amount of freight carried and largest amount of warehousing areas on supply. Besides, Vilnius is the largest Lithuanian city with app. 540.000 inhabitants followed by Kaunas as the second largest city with app. 336.000 inhabitants. Both Vilnius and Kaunas are most important rail and road transport nodes.

Hub area
The total supply of storage objects available for lease in Kaunas totals to app. 182.000 m^2, of which 72.000 m^2 were built in 2008 when construction of the 1st stage of Kaunas Logistics Park was completed (Senukai Logistics Park). Since then no new projects were implemented in Kaunas. Currently the storage space in Kaunas accounts for app. 24.6 % (160.000 m^2 out of 650.000 m^2) of the total storage space in Lithuania.
The total current supply of industrial and storage purpose objects available for lease in Vilnius is 334.4000 m^2 which is a best result among the rest of Lithuania cities.

Cargo turnover
On the basis of the data available, in 2010 the freight transportation by rail accounted for 26.4 million tons, where import recorded 11.98 million tons and export 5.87 million tons. Compared to the freight transportation by rail, the transportation by road amounted in 2010 for 10.1 million tons. Import and export flows were respectively 2.19 and 6.36 million tons.

Connections
Most of “old fashion” and newly constructed warehouses are located around most heavily used highway “Vilnius-Kaunas-Klaipeda”. Those “old fashion” warehouses are located close to railway freight stations in Paneriai (Vilnius) and Palemonas (Kaunas). Other logistics centres are situated at the highways, for instance, Vilnius-Minsk, at intersections of international routes, e. g. Klaipeda-Vilnius-Moscow or Warsaw-Vilnius-Moscow.

Hub facilities
Among the largest logistics nodes of Kaunas region, where a wide range of services is associated with logistics, is Palemonas railway freight station. There are container, bulk

cargo terminals, storage building and yards operating. In addition, there also are quite a number of private warehouses and terminals connected to Palemonas railway marshalling yard. Machinery used in the station: 6 gantry cranes, 7 forklift trucks. Most of the equipment (especially gantry cranes) is also too old and needs to be replaced, although there is not enough of cargo handled to justify such kind of investment.

In terms of hub facilities in Vilnius, there are two major railway hubs in Vilnius region called **Vilnius** and **Paneriai** railway freight stations. The total storage area of Vilnius railway station is approximately 12 thousand sq m. 5 gantry cranes and 7 forklift trucks are used in Vilnius railway station.

Services

Logistics centres set in Vilnius and Kaunas regions offer following services:

Table 4: Services provided in the logistics centres of Vilnius and Kaunas regions

Logistics centre	Location	Services provided
Vilija Business Park	Vilnius	Premises offered for lease: modern offices, exposition rooms, service, industrial premises or warehouses.
GLC Logistics Centre	Vilnius	Lease of office and storage premises; maintenance of engineering systems; technical supervision of a construction works; physical protection; cleaning of the territory and of car parking lot; cleaning of common use premises; trash pickup; landscape maintenance; snow cleaning; administration, etc.
Dobrovolės Logistics Centre	Vilnius	Lease of premises.
Kirtimų Logistics Centre	Vilnius	Lease of premises.
Vingės Terminalas UAB	Vilnius	Storage, transportation, distribution and customs brokerage services.
Airport business park	Vilnius	Lease of premises
Ormina-Paneriai	Vilnius	Services offered: open customs warehouses; distribution (conventional) warehouses; goods loading / unloading; goods accounting in the warehouse; customs brokerage services; logistics solutions; lease of administrative premises and warehouses. Services offered for long-term partners: credit mediation; organisation of work with transport companies; logistics solutions; giving priority to participate in new warehouse construction projects.
Girteka UAB Logistics Centre	Vilnius	Logistics, transportation, storage, customs services.
AD REM group UAB Logistics Centre	Vilnius	Services or terminals, warehouses, 3PL (rail access is available).
Vilnius Railway Station	Vilnius	Receiving and issuance of wagon consignments; rental and search of wagons and containers; loading; cargo storage; document execution.
Paneriai Railway Station	Vilnius	Receiving and issuance of wagon consignments; the service of using wagons and containers; loading; cargo storage; document execution
Lavisos Free Economic Zone Terminal	Kaunas	Mechanised loading / unloading of goods, manual loading / unloading of goods, as well as sorting, marking, packing, weighing of goods, order-picking of piece goods at the client's request, preparation of goods for transportation, distribution of small parcels.
Kaunas Terminal	Kaunas	Freight transportation services: • Transportation by tent semi-trailers and refrigerated trailers (by maintaining the necessary cargo temperature). • Carriage of full loads (34 euro pallets / 25 t) in Europe and Baltic countries. • Carriage of small parcels (partial shipments) in Europe and Baltic countries. • Freight transportation in Lithuania using vehicle hoists and providing loading/ unloading services. • Freight transportation under special conditions required by the client. • Transportation of non-standard size freight. • Organization of freight distribution. • Projects and their implementation for enterprises: analysis of freight flows; optimization of carriage and associated logistics processes; implementation and control.
Via Baltica Logistika	Kaunas	Services provided • Storage of different purpose freight and goods both, in the conventional and customs warehouse. • Loading and unloading works.

Logistics centre	Location	Services provided
		• Freight sorting, packing, measuring, weighing, marking; shipment grouping; organization of their distribution and collection; Execution of freight transportation documents; issue of VAT invoices. • Maintenance of full accounting of the goods movement in the warehouse; report preparation on operations performed. • Assurance of goods safety and preservation of marketable appearance. • Performance of conventional handling operations in the customs warehouse (assembly of completing items; adjustment; trial; reconstruction; division; package change, etc.). • Import – export procedures. • Other logistics services.
Kaunas railway station	Kaunas	Freight receiving and issuance; loading' execution of documents; customs services.

Organisation

Currently, the logistics centres are administered by the JSC "Lithuanian Railways" (in terms of railway services) and by the municipalities of Kaunas and Vilnius.

Competitors

Since Kaunas and Vilnius are most important rail and road transport nodes, both logistics hubs face competition from Klaipeda which due to its access to the Baltic Sea, the ice-free port and a free economic zone set next to the port can offer all types of services, namely, road, rail and seaway transportation services.

Sassnitz

Location

The Port of Sassnitz was founded in 1986 and extensively modernised from 1995 to 1998. It is considered as the most deepwater port located in East Germany at the Baltic Sea. Due to its geographical position, it is able to offer the shortest sea distances from Germany to Sweden, Denmark (Bornholm), Russia, Finland and the Baltic States. The location at the open sea provides easy access to almost all classes of ships operating in the Baltic Sea. Hindrances such as bridges, channels and locks do not exist. Even pilot service is not required – a fact which means cost savings for the clients of the port.

Hub area

The entire size of the port including the rail terminal Sassnitz / Mukran amounts to approx. 408 ha. Out of these 183 ha belong directly to the *port*. The remaining 225 ha belong to the *rail terminal*

In total, 11 berths with a total length of approx. 2.600 m and a max. water depth of 10.5 m are available. Modern quay facilities, a huge quantity of storage areas (roofed and open air) as well as numerous industrial halls and warehouses complete the supra- and infrastructural portfolio of the port.

Cargo turnover

In the following tables an overview on the ferry and the conventional traffic via Port of Sassnitz is given. All figures refer to the year 2011.

Table 5: Cargo turnover by ferry and conventional traffic

Ferry traffic	Units	Conventional traffic	Units
Railcars	34.218	Bulk Cargo	0.669 m. t
Lorries, Trailers, Busses	37.185	General Cargo	1.270 m. t
Cars	170.180	Others	0.103 m. t
Passengers	651.086	**Total**	**2.042 m. t**
Tons gross total	**2.873 t**		

Connections

With the completion of the new motorway A 20, the four lane feeder road to Rügen Island and the new construction of the B 96n on Rügen (section Altefähr – Bergen until 2015), the road hinterland connection will be / already has considerably improved.

A modern and fully electrified railway network connects the Port of Sassnitz with the mainland. The railway infrastructure has sufficient capacities to handle additional railway volumes, e. g. block trains and wagonload traffic. The most important European destinations are reachable within 48 hours.

Hub facilities

The Port of Sassnitz is offering modern facilities for storage and handling of all kinds of goods. Rail cargo, for instance, can be handled at the intermodal terminal of the port which is equipped with two portal cranes. Furthermore, forklifts and terminal trucks are operated by the port.

The local stevedoring company, Buss Sea Terminal Sassnitz GmbH & Co. KG (which is a subsidiary of the Buss Group in Hamburg) is responsible for handling all kinds of conventional cargo, e. g. pipelines for the Nord-Stream pipeline project. The terminal is providing handling equipment to its clients, such as 2 x Mobile Port Cranes LHM 400, grabs, spreader, conveyor belts as well as additional handling equipment.

Furthermore, several logistics companies conducting their business in the rail terminal of Sassnitz offer equipment, facilities and infrastructure for the handling of goods (rail to rail and road to rail).

Employees

The Port of Sassnitz is one of the biggest employers in the Region Vorpommern. The port itself employs 59 people (data in February 2012). Port affine companies offering their services and products for the maritime branch on site contribute to another approx. 700 jobs. In total, approx. 760 people work directly or indirectly for the port.

Potentials for further job creation are seen in particular in the growing offshore (wind) industry.

Services

The Port of Sassnitz offers frequent and regular ferry services to numerous ports in the Baltic Sea. Among these are:

Table 6: Ferry services in the Port of Sassnitz

Destination	Shipping Company	Type of Vessel	Frequency	Duration of the trip
Trelleborg	Scandlines	Rail*/ Ro / Pax	5 times / day	4:00 hours
Klaipeda	DFDS Seaways	Rail** / Ro / Pax	3 times / week	19:00 hours
St. Petersburg	TransRussiaExpress	Ro / Pax	1 time / week	48 hours
Rönne (Bornholm)	Faergen	Ro / Pax	Seasonal traffic max. 2 times / day	3:30 hours

* European gauge
** Russian broad gauge

The development of further ferry services, e.g. to Baltijsk (Kaliningrad Region, Russia) and Ust-Luga (Russia) is envisaged and part of the Port of Sassnitz activities within the EWTC II project.

The Port of Sassnitz and its local partners are able to perform all transport related logistics and various other services, for instance, mooring of ships, waste water disposal, garbage disposal, bunker services, port access control (ISPS area), handling of all kinds of goods (general cargo, break cargo, bulk cargo, dangerous goods, project cargo, high & heavy etc.), tri-modal hub (handling of cargoes between different modes of transport, i. e. ship / rail / road), storage of cargoes (covered or open air storage), facility management, repair services and workshops etc.

A special feature of the port is the ability to handle Russian broad gauge railcars. This unique possibility provides customers of the port with direct rail-access to the emerging markets in the Baltic States, Russia, CIS and Belarus. In particular, high and heavy cargoes as well as project cargo is transported via ship and rail to destinations in the Far and Middle East.

Organisation

The Port of Sassnitz GmbH was founded in 1993. The shareholders of the port are the City of Sassnitz (90 %) and the State Mecklenburg-Vorpommern (10 %). Since 2005, the Port of Sassnitz holds 10 % of the shares of the Buss Sea Terminal Sassnitz (the remaining 90 % are owned by Buss Group).

Moreover, the Port of Sassnitz holds 80 % of the shares of the railway company Baltic Ports Rail Mukran which offers, e. g. shunting and logistics services. 20 % of Baltic Port Rail Mukran is owned by Torsten Meinke Eisenbahn GmbH.

Hub development

Future-oriented compilation of development measures

During the workshop on 24th January 2012 in Klaipeda and in the post-workshop work, every hub representative selected recent or planned investment measures of the hubs along the East-West-Transport-Corridor. These measures will be used in future in order to develop a "green corridor" according to the definition of the EWTC manual (can be found as EWTC II project result on homepage). According to their infrastructural, organizational or legal nature the measure are classified in following table.

	Initial scenario	Which Hub	Is a decision already made?	Development measure	"Green" influence
Infrastructural					
1.1	Limited Heights of container storage, because of power cables above	Taulov Transport-center	no	Power cable will be built under the ground.	Supports infrastructure
1.2	Port modernization and urban development in part of the port area.	Malmö Port	yes	New port with container and RoRo berths in operation since 2011.	Supports infrastructure and efficiency
1.3	Insufficient rail and terminal capacity	Malmö Port	no	New tracks in marshalling yard and in port area, Development of container terminal	Supports infrastructure and efficiency
1.4	Insufficient rail capacity	Malmö Port	no	New railway bridge in port area	Supports infrastructure and efficiency
1.5	Insufficient capacity	Malmö Port	no	Road bridge in port area	Supports infrastructure and

					efficiency
1.6	Congestion at port entrance	Malmö Port	no	Road fly-over at roundabout	Supports infrastructure and efficiency
1.7	Insufficient capacity	Malmö Port	no	Increased road capacity in port area	Supports infrastructure and efficiency
1.8	Insufficient capacity	Malmö Port	no	New railway access	Supports infrastructure and efficiency
1.9	Noise and disturbing road traffic in urban area	Helsingborg Port	yes	New access road	Supports infrastructure and efficiency, external effects
1.10	Rail congestion (passanger and freight)	Helsingborg Port	yes	New rail for meeting trains at access railway	Supports infrastructure and efficiency
1.11	Increasing demand for freight handling	Helsingborg Port	no	Development of close range dry-port	Supports infrastructure and efficiency, beneficial for rail transport
1.12	Replacement of fossil fuels	Helsingborg Port	no	Gas station for LNG and LBG	Reduced emissions
1.13	Port modernization and urban development in part of the port area.	Malmö Port	yes	New port with container and RoRo berths in operation since 2011.	Supports infrastructure and efficiency
1.14	Insufficient rail and terminal capacity	Malmö Port	no	New tracks in marshalling yard and in port area, Development of container terminal	Supports infrastructure and efficiency
1.15	Insufficient rail capacity	Malmö Port	no	New railway bridge in port area	Supports infrastructure and

					efficiency
1.16	Insufficient capacity	Malmö Port	no	Road bridge in port area	Supports infrastructure and efficiency
1.17	Congestion at port entrance	Malmö Port	no	Road fly-over at roundabout	Supports infrastructure and efficiency
1.18	Limited capacity of intermodal terminal in “Paneriai” station	Vilnius	yes	Development of new high capacity intermodal terminal in Vilnius (close to “Vaidotai” railway station).	Supports infrastructure
1.19	Limited capacity of intermodal terminal in “Šeštokai” station which is an intersection point between 1435 mm and 1520 mm width gauges.	Kaunas	yes	Development of new high capacity intermodal terminal in Kaunas (“Palemonas” railway station) at an intermediate end point of “Rail Baltica” line.	Supports infrastructure
1.20	No proper technology for semi-trailer transportation on rail ether in Klaipeda or Kaunas and Vilnius although high volumes of semitrailers and trucks coming to Klaipeda Seaport form Scandinacian counties and Germany.	Klaipeda/Kaunas/Vilnius	no	Terminals with proper equipment should be developed in all of the most important hubs.	More freight shifted onto rail
1.21	Increased demand for the ferry connection Rostock-Gedser	Rostock port	yes	Two new ferries will double the capacity on the connection. A new double ramp	Avoidance of detours and improved transport flow

				is being built to fit the new ferries and to ensure a continued loading time of only 15 minutes	
1.22	Increased demand for the ferry connection Rostock-Gedser	Gedser port	yes	Two new ferries will double the capacity on the connection (see above). The port is being restructured to accommodate the new ferries and improve the transport flow;	Avoidance of detours and improved transport flow
1.23	Traffic problems with truck transport from Gedser port	Nyköbing	yes	Construction of a new ringroad.	Improved transport flow

Organizational					
2.1	No single legal body managing the whole hub (infrastructure development) which resulted in lots of separate warehouses being built all over Vilnius. Every investor had to take care of needed infrastructure and make all spatial planning procedures. Most of the newly built warehouses have pour access to the rail.	Vilnius	yes	JSC “Lithuanian railways” together with Vilnius city municipality established public company responsible for development of “logistic park” close to newly constructed intermodal terminal.	Reduction of delivery distance and cost from intermodal terminal until warehouses thus fostering modal shift onto rail.

2.2	No single legal body managing the whole hub (infrastructure development) which resulted in lots of separate warehouses being built all over Vilnius. Every investor had to take care of needed infrastructure and make all spatial planning procedures. Most of the newly built warehouses have pour access to the rail.	Vilnius	yes	JSC “Lithuanian railways” together with Vilnius city municipality established public company responsible for development of “logistic park” close to newly constructed intermodal terminal.	Reduction of delivery distance and cost from intermodal terminal until warehouses thus fostering modal shift onto rail.
2.3	Railway tracks of certain ferry types did not fit with railway tracks on ramp	Port of Sassnitz	yes	Reconstruction of berths 4 + 5: Additional railway track	Development of additional east-west rail ferry services facilitates modal shift from road to rail and ship
2.4	Railway tracks of certain ferry types did not fit with railway tracks on ramp	Port of Sassnitz	yes	Berth 5: New switch on Rail/Ro main deck	Development of additional east-west rail ferry services facilitates modal shift from road to rail and ship
2.5	Lack of adequate rail track capacities	Port of Sassnitz	yes	Transformation of broad gauge railway tracks in the Rail Terminal Sassnitz/Mukran	Facilitation of east-west rail ferry services; modal shift from road to ship and rail

2.6	Lack of required rail track capacities	Port of Sassnitz	yes	Upgrade of Russian broad gauge rail tracks in Rail Terminal	Upgrade of broad gauge tracks is a pre-requisite for rail and seaborne transport of project cargo to Russia; facilitation of modal shift from road to ship and rail
2.7	Building and technical facilities of railway control center have been in bad condition; building and facilities have been selected to host new founded rail company "Baltic Port Rail Mukran" (BPRM); conditions for start of operations of BPRM had to be full filled	Port of Sassnitz	yes	Modernization of railway control center (building, technics), which is used for BPRM's operations	Well-functioning railway control center is a necessary pre-requisite for any east-west railway traffic, rail ferry services via Sassnitz and for BPRM's activities
2.8	Creation of conditions allowing start of BPRM's operations	Port of Sassnitz	yes/ no	Rolling material (locomotives) and sites for operations of "Baltic Port Rail Mukran" (BPRM)	Sites and rolling material are necessary pre-requisites for all operations of BPRM – further development of railway transports and rail ferry services via Sassnitz

					wouldn't be possible without BPRM's services
2.9	Parts of the upper ramp are in bad condition and subject to wear	Port of Sassnitz	no	Berth 5: Overhauling of upper deck Rail/Ro ramp	Functioning upper deck Rail/Ro ramp is a necessary pre-requisite for further development of east-west railway traffic and rail ferry services via Sassnitz
2.10	Use of out of date technology	Port of Sassnitz	no	Reconstruction of ramp control center (modernization relais technology)	Functioning ramp control is a necessary pre-requisite for any east-west railway traffic and rail ferry services via Sassnitz

Legal					
3.1	No simplified spatial planning procedures for development of hubs.	Vilnius/Kaunas	no	Some clauses in local legislation should be made for preparation of spatial planning documents for objects related to hub development. On governmental and municipal level some encouraging measures should be included for companies to have better incentives to	Fostering of hubs development

				settle in designated hub areas close to intermodal terminals.	
3.2	Unequal charging for infrastructure from road and rail carriers where only rail carriers have to fully pay for the infrastructure they use.	Kaunas/Vilnius	no	EU legal acts should be amended setting common “Polluter pays” principles in order to make equal conditions for all EU members as none of them would be keen to do this on their own being afraid to lose in competitive market of transit clients.	Fostering of model shift onto rail in connection between hubs.
3.3	Application for a new MoS project	Rostock, Gedser, Nyköbing	yes	Approval – investments and parts of the project are described in 1.21-1.23	Improved accessibility and transport flow