Indholdsfortegnelse

PREFACE ................................................................................................................................. 2
1. STRENGTHS AND WEAKNESSES ........................................................................ 4
2. OPPORTUNITIES AND THREATS ........................................................................... 5
3. TABLE OF STRENGTHS, WEAKNESSES, OPPORTUNITIES, AND THREATS .............. 11
4. CONCLUSIONS ............................................................................................................. 17

REFERENCES ....................................................................................................................... 19

APPENDIX: CHARACTERIZATION OF THE REGIONS IN THE ÖRESUND-HAMBURG AREA ........ 20

REGION OF SCANIA .............................................................................................................. 20
CAPITAL REGION OF DENMARK ........................................................................................... 22
REGION ZEALAND .................................................................................................................. 25
NORTHERN GERMANY ......................................................................................................... 27

Lübeck and Ostholstein ......................................................................................................... 27
City of Hamburg .................................................................................................................... 28
Preface

The purpose of this background paper is to look at how expected changes in the future external framework conditions will affect the transport and logistics companies after the building of the Fehmarn tunnel. This paper takes its origin in the elements of the SWOT analysis without being a theoretical exercise though. The paper will summarize the present internal situation of the transport and logistics sector from a regional perspective and even from a cluster perspective in the STRING region (City of Hamburg, Ost Holstein, Region of Zealand, Capital Region of Denmark and the Region of Scania). The present situation will describe the strengths and weaknesses of the sector in the paper.
We will then look at the future impact and influence the Fehmarn tunnel is expected to have on the same segments mentioned above but with a focus on identifying the expected opportunities and threats. These will form the base for involvement of and discussion with various stakeholders in the STRING region. This will be done through thematic workshops and establishing of project consortia with the purpose of making concrete pilot projects with special emphasis on greening of transport and/or logistics solutions. These activities will be carried out in the STRING Logistics Platform. The figure shows the intended process.

This paper is compiled of desk research from existing reports about the Öresund Region and reports from Northern Germany. The purpose of the paper is to create a foundation of relevant topics that can be discussed in workshops with triple helix participants, in order to identify initiatives to strengthen companies’ competitiveness and growth potential. Moreover a special focus will be put on greener transport and logistics and lowering of CO₂ emissions in the long run.
1. **Strengths and weaknesses**

The Öresund Region\(^1\) is the largest logistics hub in Scandinavia and one of the five biggest in Northern Europe. The regions’ share of GNP is approximately a quarter of the total GNP in Sweden and Denmark and makes this region an important driver for growth.\(^2\)

Today the greater Fehmarn region has a strong position in Northern Europe as a logistics node with several logistics centers. More companies have in later years realised these opportunities in terms of consolidation of storage facilities and thus having less costs for distribution by centralising to fewer nodes. The politicians in the region are quite aware of the necessity of a well-developed transport system and have increased their focus on this, and through the building of the Fehmarn Belt tunnel the transport system will be improved even further.

Moreover the Fehmarn tunnel is a strategic infrastructure investment for the European Union and the connection is one of the prioritized TEN-T\(^3\) projects which in term could help strengthen the STRING region’s attractiveness for business development and further development in for instance centralized distribution. These changes in framework conditions will be discussed under opportunities.

There are already several international Hubs in the STRING region and they mainly target the global market whereas the transport structure in Europe and inside the STRING region has other working terms. Here truck traffic is the dominant mode of transport, but the ports in the region also have an important function as part of a connected transport structure. Overall the five regions that make up the combined STRING region have very different transport conditions and functionality. At the same time they are functionally linked as crucial parts of a transport system which is closely linked to the development of business. This includes individual professions and their ability to compete and in which transport and logistics systems’ functionality are closely linked to their successful development.\(^4\)

However the transport sector in the northern part of the STRING region is unable to develop further in terms of increasing volumes. The current volume is either in stagnation or decreasing even if the amount of goods transported represent higher values than previously. The number of

---

\(^1\) Consists of the Region of Scania, Capital Region of Denmark and the Region of Zealand.  
\(^2\) Korridoren Fehmarn-Öresund, IBU-Öresund.  
\(^3\) The Trans-European Transport Networks in Europe  
\(^4\) The Green STRING Corridor and transport development, Povl A. Hansen
employees in the sector has also fallen significantly since the financial crisis giving a clear picture that the services offered have to shift more towards qualitative services rather than quantitative.

The tendency in dematerialization in the volumes of physical goods being transported is clearly a weakness in the STRING region as the region has traditionally been rather labour intensive and traditional in logistics and transportation. This puts new demands on the companies’ abilities to reorganize and re-think their services especially with the fixed link making transportation time shorter and faster.

Every individual region in the STRING region has identified several sectors as being their core strength and where opportunities can be found, and this might, in some instances, have been more true before the financial crisis took its toll. However, the interesting question here is whether the individual regions have been able to adjust to this new reality as several of these sectors have suffered severely.

2. Opportunities and Threats

With the establishment of the fixed link between Denmark and Germany the region will be tied closer to mainland Europe and furthermore the mobility of goods and people will be strengthened through this link. The link is expected to increase competitiveness, create growth and employment and create new opportunities for companies in the entire STRING region and beyond. From a German perspective the Fehmarn Belt tunnel along with the Öresund bridge will ensure close proximity to the entire Scandinavian market of almost 20 million inhabitants.5

It is expected that the Fehmarn tunnel will strengthen existing logistics centers in the region as more companies in later years have realised the opportunities in terms of consolidation of storage facilities and thus having less costs for distribution. The politicians in the region are quite aware of the necessity of a well-developed transport system and have increased their focus on this, and through the building of the Fehmarn Belt tunnel the transport system will be improved even further.

Just as the Öresund Bridge led to immediate changes in mobility and positive development in the surrounding regions, it could be expected that the fixed link over the Fehmarn sound will have large impact on Germany and Denmark as well as Sweden. The Fehmarn belt tunnel is a link between two countries with relatively different culture, language and administrative systems. The

5 Faktorer og trender for…..Report from Øresund Logistics (2010)
establishment of the fixed link could help to bridge these challenges; however it will not happen automatically. Several alliances and cooperation between regions, companies, cities and administrative systems as well as common planning processes could be expected in order to increase the integration in the region and a lot of different initiatives are already in progress. Some of the new opportunities and threats that will arise especially related to transportation and logistics will be enlightened in this chapter.

Although the acceptance of the Baltic countries and countries from the former Eastern Europe into the European Union gives access to new markets within the Baltic Rim this also creates a new threat towards the Öresund region, as labour in these member states is cheaper than in the Öresund region. To counteract this threat to the development process of logistics in the Öresund and in the entire STRING region, the region has to focus on co-ordination and design of supply chains and to cultivate logistics knowledge and sharing.

The fixed link to Germany is expected to increase and strengthen external mobility plus add to the cooperation and integration between the regions in the entire STRING region. Furthermore the connection will give better and faster access to markets in Europe, and companies and consumers will be able to get usage of the improved mobility of goods. This will result in a broader selection of goods and services and the consumer could experience lower prices due to increased competition. The local and regional authorities on each side of the Fehmarn Belt are already working intensively on establishing a common region with the Öresund Region serving as a model for this. A well-integrated region will increase the possibilities for cooperation in several sectors, exchange of knowledge between knowledge and research institutions, exchange of students and scientists, knowledge exchange on a public level and more. All this will be more accessible due to the increased mobility this connection will facilitate. Hopefully this paper can also serve as an inspiration for the regions in the STRING corridor either on a strategic level or preferable also on an operational level.

**Terminals and different modes of transportation in the corridor**

The greater Fehmarn region is already one of Europe’s strongest logistics nodes. For many companies the region works both as a gateway and a logistics centre for reaching the market in Northern Europe. Several of the dominant logistics companies and global shipping companies are already today located in the region. It is expected that the Fehmarn tunnel will strengthen the regions’ positions as logistics nodes even more. After the establishment of the fixed link it will, for instance, be easier to reach the Scandinavian market via multimodal transportation from Hamburg and vice versa. Furthermore companies will have a greater possibility to also improve co-modality facilities between sea, road, rail and air across three nations.
To further capitalize on the geographical advantage in distribution to Scandinavia and the Baltic Rim, the municipal actors in the STRING region could consider establishment of Industrial Parks and Free Trade Zones as seen in other parts of the world. These types of initiatives have proven effective in driving the logistics development as seen in, for instance, the Netherlands and Singapore, particularly with the trend of value-adding in mind.

The Öresund Region cannot compete with, for instance, the Netherlands as a node for the entire European market. However, as congestion becomes more of a problem in the Netherlands and elsewhere, the Öresund Region’s position as a distribution satellite to the Scandinavian market could develop further.

In order to drive the logistics development and branding of the region at the same time, regional actors could look into the possibilities of competition or awards in logistics, like the Asian Freight and Supply Chain Awards.

Today there are congestion problems and bottle necks in rail and road infrastructure especially in the major cities and their surroundings. As an example a single rail track connection between Germany and Denmark as well as the Öresund Bridge could hamper the future development of an efficient green transport corridor. All these congestion problems call for an increased demand for efficient, sustainable, and competitive modality solutions.

With a closer interlinked market the interregional competition between for example logistics centres, terminals and ports will most likely be even harder. This will also lead to the opportunity for increased specialization in logistics centres for specific clusters –i.e. perishables and chemicals and in order to attract new customers, terminal and logistics facilities will be improved and new interaction could be expected. Increased cooperation between ports in the Öresund region and increased specialization could be noticed in the Öresund region after the bridge, as seen with the cooperation and later merging of the Copenhagen Malmo Port.

Cross-border cooperation between terminals and harbours with potential development of a dry port concept is something that could benefit all three nations. A common STRING strategy for future investments to strengthen the region could help to boost this development.

Furthermore Hamburg and Copenhagen could jointly become Europe’s leading maritime cluster and a global player within control of operations, related services and technology development. At the same time the tunnel connects the port of Hamburg even closer to the companies in the Öresund Region.
Road trains in the corridor

The EU has a regulation that limits the maximum length for trucks in the EU and EEA to 18.75 meters. Sweden, Denmark and Finland already have an exception to that rule and are permitted to use trucks that are up to 25.25 meters long and weigh up to 60 tons. If road trains were permitted from Scandinavia to Hamburg the cross-border operations could be faster and less expensive, since it would no longer be necessary to reload the trucks. At the same time road trains through the corridor from Scandinavia to Germany could contribute to the reduction of the number of truck loads. Harmonization of regulations regarding truck lengths could also be followed with other types of harmonization like environmental zones.

Furthermore implementation of High Capacity Transport (HCT) with trucks beyond 30 meters (only in Sweden as experiment at present) in the corridor could also lead to a reduction in number of trucks on the road. Australia has long experience in using long vehicles and automatic surveillance of the trucks. In order to control the road trains different automatic control system, like the ones in Australia, could help to safely introduce longer vehicles in the corridor.

Traffic control and ITS in the STRING corridor

In order to regulate traffic in the Green Corridor easy methods like differentiated prices on the tunnel (day/night tariffs) could be used as well as more sophisticated road pricing systems. The experiences from the German Maut system could for instance be transferred to Scandinavia. An introduction of different tools to control the traffic could lead to a more effective and environmental friendly corridor.

A large infrastructure investment like the Fehmarn belt tunnel will also be complemented with other types of intelligent traffic systems such as dynamic road signs, redirection of traffic, warning messages etc. The tunnel also creates a good opportunity to interlink these different ITS systems across the three nations and thereby provide the drivers with relevant information. For instance a sudden shut down of the traffic across the Fehmarn belt tunnel could be announced to drivers already in Sweden.

On railway transportation the implementation of the European standard ERTMS will simplify cross border passage in the region. The different electricity systems are still an obstacle for smooth passage with existing locomotives only adapted for the national systems.
Green fuel and e-mobility in the corridor

Both Sweden and Germany have experience in using CNG for the transport sector. Furthermore there are several different biogas initiatives in all three nations. The Fehmarn belt tunnel could be used as a catalyst to initiate a real biogas corridor through the three nations. A new initiative that focuses on biogas production and distribution of biogas to the transport sector could help to boost this development. Strategic nodes along the corridor should be identified in order to get the most out of the investment in new fuel infrastructure.

Germany, Sweden and Denmark all have projects in e-mobility as an alternative to fossil fuels. In general the e-mobility projects are limited to a specific city and thereby isolated from one another. By sharing experiences from the different project and across the borders a more harmonized development of e-mobility solutions could be achieved in the corridor.

As the transport sector is currently very oil dependent - and especially goods traffic - the sector is quite vulnerable to changes in the oil prices. With the development of an efficient Green Corridor with different modes of transportation as well as investments in future alternatives to fossil fuel, the region could be better prepared for higher oil price.

Furthermore, the introduction of harder SECA regulations can have big consequences on the maritime sector in Northern Europe and thereby the dominating logistics hubs. Cooperation along the corridor on for instance LNG infrastructure and different filter methods could help the regions’ companies to meet the new regulations. If regulations on for instance NOx and ballast water systems are not handled there is a risk of modal-back shift.

More cross border cooperation and initiatives in the corridor

Several new alliances and new cooperation opportunities will arise in the greater Fehmarn belt region. The tunnel could be used as a starting point for increased cooperation in various sectors i.e. the windmill industry, cleantech, food industry, pharma, biotech, health, maritime, nanotechnology, and tourism. All these sectors are dependent on logistics and transport services to various degrees. A specific triple helix cooperation on for instance “green transport” within research, education and different development activities could be organized through existing cluster initiatives and universities and support the development of a Green Corridor.

Today there is for instance a lack shipping engineers and other qualified labour force for the maritime sector in the region. Closer cooperation on education could help to bridge this gap.

The logistics industry in for instance Scania and the Region of Zealand is thought of as having a strong presence, but is considered to have more of a support function than of being an
independent cluster. However, the industry development is held back by shortage of logistics competence in the region. The general solution to this problem is thought to be more cooperation and partnerships between actors in logistics as well as in other industries.

Public private partnerships cross the borders could be used as a model to attract infrastructure investments along the corridor and thereby strengthen the STIRNG region. A common STRING strategy for future investments could help boost this development.

When we look at the STRING region as a whole it is possible to see potentials for future cross-border cooperation in other sectors. Even though the regions are different they all focus on similar areas such as life science, health care, food technology and logistics. Thus there is a solid ground for future business cooperation.
### Table of Strengths, Weaknesses, Opportunities, and Threats

<table>
<thead>
<tr>
<th><strong>Strengths</strong></th>
<th><strong>Weaknesses</strong></th>
<th><strong>Opportunities</strong></th>
<th><strong>Threats</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A. Infrastructure standard</strong></td>
<td><strong>A. Infrastructure standard</strong></td>
<td><strong>A. Infrastructure standard</strong></td>
<td><strong>A. Infrastructure standard</strong></td>
</tr>
<tr>
<td>- The infrastructure is overall well developed in the region with the motorways' being nearly expanded and with specific plans for the railway lines i.e. electrification</td>
<td>- Existing congestion problems and several bottle necks in rail and road infrastructure especially in the major cities and their surroundings</td>
<td>- Implementation of ERTMS will simplify cross border passage for rail transport in the region</td>
<td>- congestion problems and bottle necks in rail and road infrastructure especially in the major cities and their surroundings may get worse</td>
</tr>
<tr>
<td><strong>B. Nodes/facilities</strong></td>
<td><strong>B. Nodes/facilities</strong></td>
<td><strong>B. Nodes/facilities</strong></td>
<td><strong>B. Nodes/facilities</strong></td>
</tr>
<tr>
<td>- Many effective distribution facilities in the region</td>
<td>- Different ATC systems (Automatic Train Control) in Sweden, Denmark and Germany</td>
<td>- Improvement of access to and from harbours, container terminals, central storage facilities, distribution centres etc. will strengthen the region’s position as a central hub</td>
<td>- Too little space for goods and goods handling in some of the established logistics centers and no common strategy on where to place logistics hubs</td>
</tr>
<tr>
<td>- The Copenhagen Malmo Port has good experience in merging ports and cooperation across boarders</td>
<td>- Different electrical rail systems in Denmark, limits the potential to use all existing locomotives in the three nations</td>
<td>- Companies have possibility to improve modality facilities between sea, road, rail and air across three nations</td>
<td>- The access to several harbours in the region is not sufficient and could lead to sub optimization</td>
</tr>
<tr>
<td>Strengths</td>
<td>Weaknesses</td>
<td>Opportunities</td>
<td>Threats</td>
</tr>
<tr>
<td>----------</td>
<td>------------</td>
<td>---------------</td>
<td>---------</td>
</tr>
<tr>
<td>several other large airports such as, Malmö Airport and Flughafen Hamburg. - One of the world’s major container ports, port of Hamburg, with the automated Container Terminal Altenwerder (CTA) is situated in the region together with several complementing container ports. - Several complementing deep sea ports on the German side as well as numerous feeder ports for the entire Baltic Sea Area in Denmark, Sweden and Germany.</td>
<td>nations for cross-border operations - New bottlenecks in both road and rail will arise after the Fehmarn Belt connection - The condition of the motor way system in the Baltic sea countries is still one of low standards</td>
<td>specific clusters – increased specialisation i.e. perishables - Improve terminal and logistics facilities and their interaction - Expansion of cooperation between terminals and harbours with potential development of a dry port concept - Increased use of macroeconomic calculations when prioritizing rail transport - Opportunities to create new rail shuttles between Scandinavia and Germany through the Fehmarn tunnel</td>
<td><strong>C. Intermodal/co-modal</strong> - Regulations on SECA, NOx and ballast water systems will encourage modal-back shift</td>
</tr>
<tr>
<td><strong>B. Nodes/facilities</strong> - Logistics nodes and terminals are often developed from a local and/or a national perspective</td>
<td></td>
<td></td>
<td><strong>D. Freight flow/traffic</strong> - It is difficult to influence growth in road traffic on a national level - The positive socio economic effects of the Fehmarn tunnel can be hampered if high speed trains are not implemented - Increased transit traffic has no value in itself for the STRING region - Increasing goods flows and international trade will put increased demand on efficient logistics, competitiveness, transport, and terminal services - Trucks are not allowed to unload during all hours of the day for instance in the cities - The price for crossing the tunnel will</td>
</tr>
<tr>
<td>Strengths</td>
<td>Weaknesses</td>
<td>Opportunities</td>
<td>Threats</td>
</tr>
<tr>
<td>----------</td>
<td>------------</td>
<td>---------------</td>
<td>---------</td>
</tr>
<tr>
<td>D. Freight flow/transport activities</td>
<td>rail for freight transport</td>
<td>Öresund corridor will give an incentive for consolidation of goods e.g. through block trains.</td>
<td>be decisive for the amount of road (truck) traffic</td>
</tr>
<tr>
<td>- The region works both as a gateway and a logistics node for Northern Europe for many companies</td>
<td>- Lack of collaboration between different modes of transport and usage of different modes of transportation in parallel</td>
<td>- Differentiated prices on the tunnel (day/night tariffs) could regulate traffic and goods thus making it more efficient</td>
<td>- Increasing oil prices and road pricing lead to increasing demands for efficient transport and logistics solutions</td>
</tr>
<tr>
<td>- The region has a long and strong tradition in the food production and agriculture sector, a sector that is transport intensive</td>
<td>- Monopolistic situation with a small number of dominating train operators as well as logistics operators</td>
<td>- Opportunity to implement common road pricing systems for heavy transport in order to better control traffic</td>
<td>- Even with the Fehmarn tunnel there will still be alternative connections from Trelleborg harbour to Northern Germany</td>
</tr>
<tr>
<td>- Several companies distribute products from the region to the entire market in Northern Europe</td>
<td>- Few coordination activities between the regions intermodal terminals</td>
<td>- Implementation of High Capacity Transport (HCT with trucks beyond 30 meters (only in Sweden at present) in the corridor could lead to a reduction in number of trucks on the road</td>
<td>E. Cross-border cooperation</td>
</tr>
<tr>
<td>- Provides alternative of several transport routes in and through the region</td>
<td>D. Freight flow/transport activities</td>
<td></td>
<td>- Lack of re-thinking and lack of wish for change hampers innovative and cross-sector solutions. There is no longer a connection between economic growth and goods flows</td>
</tr>
<tr>
<td>E. Cross-border cooperation</td>
<td>- Rail transportation of people is often prioritized before transportation of goods</td>
<td>E. Cross-border cooperation</td>
<td>- The region is influenced by the investments plans and strategies from three nations</td>
</tr>
<tr>
<td>- Strong tradition for trading</td>
<td>- STRING is not a common or a known brand neither in the region nor outside</td>
<td>- A common STRING strategy for regional municipalities for future investments to strengthen the region</td>
<td>- National interests can lead to regional sub optimisation of infrastructure investments</td>
</tr>
<tr>
<td>Strengths</td>
<td>Weaknesses</td>
<td>Opportunities</td>
<td>Threats</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>and controlling international value chains, including the capacity to adapt to changing market demands</td>
<td>- Not a common strategy for the STRING region on infrastructure investments</td>
<td>- region enabling increased cross-border cooperation</td>
<td>- Psychological, cultural and fiscal barriers between the three countries</td>
</tr>
<tr>
<td>- The region is an excellent market with one of the most populated areas of northern Europe and a high purchasing power.</td>
<td>- No harmonized road toll system for the three nations</td>
<td>- Possibility of harmonizing regulations regarding environmental zones, truck length etc.</td>
<td>- Different rules and regulations in the region which influence the possibility of common development</td>
</tr>
<tr>
<td>- Political willingness and readiness to improve infrastructure in most the region</td>
<td>- No harmonization in regulations when it comes to environmental zones, loading capability on rail wagons, maximum allowed length of heavy vehicles etc.</td>
<td>- Opportunity to create and establish a new brand both inside and outside the Region (The STRING brand or another brand)</td>
<td>- Lack of shipping engineers and other qualified labour for the maritime sector and education collaboration</td>
</tr>
<tr>
<td>F. Logistics and transport companies</td>
<td>- Lack of interest for investing in the Fehmarn link among German stakeholders</td>
<td>- Increased cooperation opportunities in various sectors i.e. the windmill industry, cleantech, food industry, pharma, biotech, health, maritime, nano technology, and tourism. All these sectors are dependent on logistics and transport services to various degrees</td>
<td>- Danish national requirements for shipping</td>
</tr>
<tr>
<td>- Several of the dominant logistics companies and global shipping companies are located in the region</td>
<td>- Low population density in the area close to the future fixed link between Germany and Denmark is a potential challenge for growth in parts of the region</td>
<td>- The Öresund region as a “destination” region</td>
<td>- Other sectors like tourism are damaged by increased transit traffic but not compensated</td>
</tr>
<tr>
<td>- Availability of comparatively cheap land for business activities in close proximity to</td>
<td>- No common funding programme for projects in the region</td>
<td>F. Logistics and transport companies</td>
<td>- Politicians have national, regional, and local agendas – not international agendas</td>
</tr>
<tr>
<td></td>
<td>- Cultural barriers</td>
<td>- Opportunity to connect Hamburg Harbour closer to companies in the Öresund region</td>
<td>- Protection of nature is very important on the German side</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Opportunity to connect Copenhagen Airport closer to companies in Hamburg and</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>F. Logistics and transport companies</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Other shipping nations have increased their efforts towards developing the shipping sector and</td>
</tr>
</tbody>
</table>
## Strengths
- The fixed link.
- The industry structure in the region is multifaceted
- Unused port handling capacity in the region so the ports have capacity to cope with future expected growth, at least in the short run.

## Weaknesses

### F. Logistics and transport companies
- Logistics sector in some parts of the region consist of several SME’s with a low margin and lack of long term visions
- The STRING region is close to countries with low labour costs which are a threat to the region’s internal labour market
- The logistics sector is very sensitive for changes in price level, such as congestion fees, prices for ferry connection etc.

## Opportunities
- Schleswig-Holstein
  - Consolidation opportunities for distribution companies in the region plus centralisation of logistics hubs in the region will lead to reduced logistical costs for both Swedish, German, and Danish companies
  - Optimisation of supply chains in order to avoid back-trucking plus relocation of storage facilities in the region will lead to reduced logistics costs
  - One stop logistics shops
  - Increase access for the maritime sectors to growth markets in China, India and South America
  - Opportunities to increase value added services from the logistics companies
  - A common brand could attract more shipping companies and other maritime activities to the STRING region
  - Hamburg and Copenhagen can jointly become Europe’s leading maritime cluster and a global player within control of operations, related services and technology development

## Threats
- Related sectors which makes competition harder
- Increasing congestion problems in road traffic which lead to decreasing mobility and increased demand for efficient, sustainable, and competitive modality solutions
- Longer supply chains and global production networks are a challenge to supply chain management
- The costs for personnel is above EU average in the region
- Transport buyers and sellers are habitual thinkers and are not prone to change
- Increasing demand regarding sustainability, safety and securing of goods transport means increased costs for transport
- Wages on Danish ships and on shore are higher compared to other countries
- Fees on the Öresund Bridge and the future Fehmarn Belt tunnel will

## G. Education level
- Availability of many diverse educational programmes within logistics and transportation in the region
- The region has a strong position in research and innovation in general
- Overall the region has a good supply of a well-educated workforce
- The education level in the region is above EU average

### G. Education level
- Language barrier
- People employed in the logistics sector have, in general, a low educational level
- The region has a weak position
<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
<th>Opportunities</th>
<th>Threats</th>
</tr>
</thead>
</table>
|           | in research and education in logistics, supply chain management, transportation etc | *Position towards Russia*  
**G. Education level**  
- Opportunities to 3 helix cooperate on "green transport" within research, education and development activities | make it expensive to reach the entire interregional market from just one distribution centre  
- Engagement of the companies in the sector |
|           |           | **H. Environment**  
- Opportunity for increased cooperation in biogas and the creation of a biogas corridor  
- Increase usage of less climate and environmentally harmful fuels for instance biogas in a biogas corridor through 3 nations.  
- E-mobility as an alternative to fossil fuels  
- Large agricultural sector as well as food sector are opportunities to increase production of alternate fuels for the transportation sector  
- Re-educate unemployed to match the requirements of the sector | |
|           |           | **H. Environment**  
- Oil dependent goods traffic (trucks and sea especially) are vulnerable to changes in the oil prices  
- SECA regulations can have large impact on the dominating logistics hubs in Northern Europe  
- Problems with noise and pollution | |
4. Conclusions

External experts and project partners were asked to reflect upon the SWOT table and to rate the five most important issues under each topic; Strengths, Weaknesses, Opportunities and Threats. The framework for the discussion of the present situation (strengths and weaknesses) was the STRING geography whereas the framework for the discussion of the opportunities and threats were the STRING geography with the Fehmarn tunnel, future SECA regulations, rising oil prices and development of green corridors.

The conclusions from the external experts and project partners were:

**Top five strengths:**
1. One of the world’s major container ports, port of Hamburg, with the automated Container Terminal Altenwerder (CTA) is situated in the region together with several complementing container ports.
2. Several of the dominant logistics companies and global shipping companies are located in the region.
3. All modes of transports are available in the region.
4. The region works both as a gateway and a logistics node for Northern Europe for many companies.
5. The region compromises the largest airport in Scandinavia, Copenhagen Airport, as well as several other large airports such as, Malmö Airport and Flughafen Hamburg.

**Top five weaknesses:**
1. Logistics nodes and terminals are often developed from a local and/or a national perspective.
2. No harmonization in regulations when it comes to environmental zones, loading capability on rail wagons, maximum allowed length of heavy vehicles etc.
3. Lack of collaboration between different modes of transport and usage of different modes of transportation in parallel.

---

6 Participants from among other: DI Transport, Region Skåne, Region Zealand, Capital Region, Copenhagen Business School, City of Malmö
4. Monopolistic situation with a small number of dominating train operators as well as logistics operators

5. Rail transportation of people is often prioritized before transportation of goods

**Top five opportunities:**

1. There is an opportunity of transferring more goods from road transport to rail and sea through multi modal planning and expand cooperation between terminals and harbours with potential development of a dry port concept

2. Opportunities to 3 helix cooperate on ”green transport” within research, education and development activities

3. Optimisation of supply chains in order to avoid back-trucking plus relocation of storage facilities in the region will lead to reduced logistics costs

4. PPP - Public private partnerships could give new opportunities for infrastructure investments

5. Hamburg and Copenhagen can jointly become Europe’s leading maritime cluster and a global player within control of operations, related services and technology development

**Top five threats:**

1. Lack of re-thinking and lack of wish for change hampers innovative and cross-sector solutions. There is no longer a connection between economic growth and goods flows

2. National interests can lead to regional sub optimisation of infrastructure investments

3. congestion problems and bottle necks in rail and road infrastructure especially in the major cities and their surroundings may get worse

4. Transport buyers and sellers are habitual thinkers and are not prone to change

5. Oil dependent goods traffic (trucks and sea especially) are vulnerable to changes in the oil prices

The summarized SWOT analysis will be presented to the Dialogue Forum for Transport and Logistics Cluster early 2013. New input to the SWOT table could be expected from these discussions. However, the task with the SWOT analysis is now completed and future input will be handled by the STRING logistics platform.
References

Reports
4. Öresundregionen – en potentiel logistikhub

Web pages
6. Region of Skåne – www.skane.se
10. Media Evolution – mediaevolution.se
11. ESS Scandinavia – ess-scandinavia.eu
12. Capital Region of Denmark – www.regionh.dk
15. Copenhagen Airport – www.cph.dk
16. Region of Sealand – www.regionsjaelland.dk
Appendix: Characterization of the regions in the Öresund-Hamburg area

Region of Scania

Food technology

The city of Helsingborg is the main transit hub in Scandinavia for food imports and exports, and serves as the logistics hubs for companies such as Schenker, DHL, Frigoscandia, DFDS Transport and Geologistics. This sector is quite dependent on all types of logistics services and all modes of transportation and is still a sector of major importance in the region. Major global companies with production units in the region include: Nestlé, Campbell Soup, Dole, Findus, Orkla Foods, Unilever, and Pernod Ricard (Absolut vodka).

Packaging

Many modern types of consumer packaging originated in the region, for instance Tetra Pak and Åkerlund & Rausing. The main reason for this is most likely the proximity to the research and knowledge institutions in the region with which the companies can work closely in development of new packaging materials. The tendency in packaging in recent years is that it has become lighter and smaller shifting the sector’s demands for transportation.

Life science

The Region has a strong international profile skilled researchers and the success of many innovative local companies have made Skåne an important centre for Life Sciences in recent decades. Moreover, Skåne is part of the cross-border Life Science cluster Medicon Valley. However after the financial crisis some companies faced closures and the international company Astra Zeneca closed their facility in Lund.

Facts and figures:

Area: 11,027 km²
Population: 1,214,758 (2008)
GDP per capita: € 31,650

7 All information for this region has been gathered at various websites such as www.skane.se and www.invest.skane.com
8 http://invest.skane.com/content/food-technology
9 http://invest.skane.com/content/packaging
10 For instance Lunds Tekniska Högskola, Malmöss Tekniska Högskola and others
11 http://invest.skane.com/content/life-science
12 http://www.mediconvalley.com/
The fact that the international research community has chosen Skåne for two major international research centers bodes extremely well for the future of the region. The ESS (European Spallation Source) and Max IV (synchrotron) are currently under construction and will enable researchers to study the materials of everyday life.

**ICT**

The ICT cluster has faced a lot of changes with Nokia and Sony-Ericsson leaving the region and placing the production elsewhere. In general the transportation need of this sector has diminished quite substantially as the products have become smaller and lighter and with assembly facilities close to the consumer.

**Cleantech**

Southern Sweden aims to be one of the world's most progressive and dynamic regions in terms of sustainable development and Cleantech. Environmental awareness has long been a driver of the region’s public policy. Thus, new initiatives supporting green freight transport is likely to grow in fertile soil here.

**ESS – European Spallation Source**

The European Spallation Source is a Partnership of 17 European Nations committed to the goal of collectively building and operating the world's leading facility for research using neutrons by the second quarter of the 21st Century.

The European Spallation Source (ESS) aims to be the brightest source of neutrons in the world for scientific research. By the end of this decade it will be generating long pulses of neutrons. These will be used in parallel experiments that will foster major advances from aging and health, materials technology for sustainable and renewable energy, to experiments in quantum physics, biomaterials and nano-science.

The ESS will be located in Lund, Sweden, co-hosted by both Sweden and Denmark and will be funded and operated by a partnership of 17 European countries. The ESS and its partners are currently engaged in a technical design review that will act as the blue-print for the construction of ESS to start in 2013 and to become operational in 2019. This facility is expected to generate numerous work places but most likely not a lot of transportation needs apart from taking people from one place to another.

---

13 [http://invest.skane.com/content/information-communication-technologies](http://invest.skane.com/content/information-communication-technologies)

14 [http://invest.skane.com/content/cleantech](http://invest.skane.com/content/cleantech)

Capital Region of Denmark\textsuperscript{16}

The Capital Region is connected with mainland Europe and the Nordic countries. This gives the region a strategic position as a gateway to the rest of Scandinavia and the Baltic Sea Region.

The major industries in the Capital Region are cleantech, life science, ICT, Creative/Entertainment, Transport and logistics, and Maritime. Most of these companies can be found in clusters around the capital in towns such as Høje Taastrup, Hvidovre, Brøndby, Greve, and Køge.

Life Science\textsuperscript{17}

Medicon Valley is a bi-national life science cluster that spans the island of Zealand in Eastern Denmark including Copenhagen, and the Skåne Region of Southern Sweden.

Being one of Europe’s strongest life science clusters, it attracts great attention from international investors, mainly because of the well-driven biotech companies which provide a stimulating flow of news based on sound portfolios of new products.

Global companies such as Novo Nordisk, Novozymes, GlaxoSmithkline, and Boehringer Ingelheim are found here.

Cleantech\textsuperscript{18}

Copenhagen wants to be a European hub for cutting-edge cleantech companies, research, development, test facilities and a market full of early adapters.

Copenhagen aims to become the world’s first CO2-neutral capital and is also home to the Copenhagen Cleantech Cluster. The Capital Region represents more than half of the 720 Danish cleantech companies and 120,000 full time employees and some world-leading research institutions. Particular opportunities in the cleantech sector are found in: Wind energy, biomass, biofuels, biogas, smart grid, electric vehicles and many more.

Renowned companies such as Siemens, Haldor Topsøe, Oland, and SEAS-NVE are found here.

Facts and figures:

Area: 2,561 km\textsuperscript{2}  
GDP per capita: € 50,000 (2010)

\textsuperscript{16} http://www.regionh.dk/  
\textsuperscript{17} http://www.copcap.com/content/us/doing_business/industries/life_science  
\textsuperscript{18} http://www.copcap.com/content/us/doing_business/industries/cleantech
The maritime sector in the Öresund Region is mostly made up from the Danish activities in the area as Denmark undertakes 10% of the transport of global trade, which is approximately 1 billion tonnes.

The maritime sector is Denmark’s most globalized business area and the Danish shipping industry has annual earnings of 18 billion euro, which is 10% of the Danish gross national product.

Despite the fact that the Öresund Region is the largest transportation hub in Scandinavia it is comparably much smaller than other regions in terms of volumes. Rotterdam, the biggest harbour in Europe, had a turnover of goods of 430 million tonnes in 2010, which is approximately ten times the total goods volume of the biggest harbour in Scandinavia, Gothenburg.

<table>
<thead>
<tr>
<th>Harbour</th>
<th>Tonnes goods</th>
<th>TEU containers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copenhagen Malmö Port</td>
<td>14.789.000</td>
<td>1.391</td>
</tr>
<tr>
<td>Lübecker Hafen-Gesellschaft</td>
<td>17.854.000</td>
<td>2.010</td>
</tr>
<tr>
<td>HafenEntwicklungsgesellschaft Rostock</td>
<td>19.489.000</td>
<td>16</td>
</tr>
<tr>
<td>Port of Helsinki</td>
<td>10.953.000</td>
<td>3.193</td>
</tr>
<tr>
<td>Port of Stockholm</td>
<td>4.435.000</td>
<td>147</td>
</tr>
<tr>
<td>Port of Trelleborg</td>
<td>10.828.000</td>
<td>0</td>
</tr>
<tr>
<td>Port of Rotterdam</td>
<td>395.763.000</td>
<td>85.929</td>
</tr>
<tr>
<td>Port of Hamburg</td>
<td>104.520.000</td>
<td>61.791</td>
</tr>
<tr>
<td>Port of Gothenburg</td>
<td>42.938.000</td>
<td>8.556</td>
</tr>
</tbody>
</table>

In a report from Lund University from 2005 it is recommended that the Öresund Region specializes in handling various types of goods in order to increase regional competitiveness. Both harbour and airports of the region could get advantages in the international competition by

---

19 Source: [www.detmaritimedanmark.dk](http://www.detmaritimedanmark.dk)
20 Source: Web pages of the harbours
21 Öresundsregionen – en potentiell logistikhubb
offering value added activities and cooperation with other service companies. Development of logistics hubs (for instance around the harbours) where all modes of transport are gathered could be of interest for the entire STRING Region in the years to come.

**Copenhagen Airport – Kastrup**

Copenhagen Airport, Kastrup is the main international airport serving Copenhagen, Denmark and the Öresund Region. It is located on the island of Amager, 8 kilometers south of Copenhagen city center, and 24 kilometers west of Malmö city center on the other side of the Öresund Bridge. It is the largest airport in the Nordic countries, and one of the oldest international airports in Europe.

Copenhagen Airport handles 60 scheduled airlines and serves more than 62,000 passengers per day; 22.7 million passengers passed through the facility in 2011, making it the busiest airport in the Nordic countries, with a maximum capacity of 83 loadings/hour and with room for 108 airplanes.

Unlike other Scandinavian airports, a considerable share of the airport’s passengers are international. The domestic part of the annual passengers is lower than 10%. The airport is owned by Københavns Lufthavne, which also operates Roskilde Airport. The airport employs 1700 staff (excluding shops, restaurants etc.).

Copenhagen Airport also handles substantial amounts of cargo – divided into inbound, outbound and transfer. In 2010 the total cargo volume amounted to 309.236 metric tonnes with the majority of this being transfer cargo.

However with the planned opening of the new international airport in Berlin in 2013, the airport will face severe competition both on the passenger and goods transportation side. The rail service to and from the airport is considered a bottleneck as its limit has been reached and without a fast service between Hamburg and Kastrup the airport will weaken its position in both the short and long term as the proximity to Berlin will be an obvious choice for many of the current passengers.

---

Region Zealand

Region Zealand works to develop and support the business community in the region. Cleantech, green energy, tourism, food and agriculture, pharma and medico, and Fehmarn Belt are some of the targeted areas even if they do not receive a major part of the region’s budget.

Cleantech and energy

There is a some potential for companies working with cleantech, green energy and environment and the region also has a wish to become one of Europe’s leading climate regions. The region has initiated more than 40 projects to support this development which makes the sector the highest prioritized in the region.

Cluster Biofuels Denmark

Cluster Biofuels Denmark, CBD is a cluster initiative promoting bio-refinery projects. The activities of CBD are concentrated around the world’s largest 2nd generation demonstration plant in Kalundborg INBICON producing ligno-cellulosic bioethanol from biomass such as straw.

CBD provides business development services and strives to facilitate the creation of international partnerships within bio-refinery technologies. INBICON is a cooperation between the companies Statoil, Novozymes and DONG Energy.

Research center Risø

Risø DTU is one of Europe's leading research laboratories in sustainable energy and is a significant player in nuclear technologies. Risø DTU creates pioneering research results and contributes actively to their exploitation, both in close dialogue with the wider society.

Pharma and medico

Pharma and medico are considered to be one of the strengths of the region. However they do not make out a substantial amount of the region’s gross domestic product. The extensive research in medicines and production of the same in the Öresund Region is an important factor of this strength position and as this sector is facing difficulties in the current of the financial crisis this also

---

24 www.regionsjaelland.dk
has an effect on the region of Sealand’s ability to develop this sector further. The establishment of The European Spallation Source in Lund, Sweden will also be an important tool in connection to the future strategy of pharma and medico in the region.
Northern Germany

Northern Germany has several strengths in terms of being a hub for international goods traffic and also being a hub for European goods transport. The harbours in this part of the region have expanded their services and competitive edge substantially through the expansion of number of quays and with new ferries and ferry routes enacted.

Lübeck and Ostholstein

The protection and strengthening of Ostholstein as an attractive location in terms of life, work, economy and recreation is a very important development goal for the district.

The services industry, characterised by the tourism and healthcare business, traditionally constitutes the most important economic sector in Ostholstein.

Tourism, as the main pillar of the economy in Ostholstein, boosts many sectors, as for example craft and commercial activities, which have become steady economic factors. Farming makes a significant contribution to the economy in Ostholstein as well.

The Hanseatic City of Lübeck is the second-largest city in Schleswig-Holstein and has one of the major ports of Germany. Situated on the river Trave, Lübeck is the largest German port on the Baltic Sea

Sectors with special focus in Lübeck are food and food technology, health care and MedTech, Logistics and Distribution, and Wind Energy plus more.

Food and Food Technology 27

The food industry, with its 100 companies, is Lübeck's largest production cluster and third largest export cluster. Over the centuries, numerous food processing companies have located in the city. Parallel to this, an excellent interconnected infrastructure for the food industry consisting of lots of service suppliers and a strong supplier industry has been built up.

Facts and figures:

Area: 1,606 km²
GDP per capita: n/a

Logistics and Distribution

Łübeck's two main distinguishing factors as a location are its unique position as Europe's most southwestern Baltic Sea port, in close proximity to Hamburg, and the trilateral land, sea and air infrastructure.

The A 1 autobahn is the most direct road link between western Europe and Scandinavia, with an approximate travel time of 30 minutes between Łübeck and Hamburg. The A 20 Baltic Sea autobahn is the direct route to Stettin in Poland. Even destinations in the neighbouring countries to the south are reachable within a day. It is only 40 miles (65 km) from Łübeck to Hamburg. However both rail and road to and from Hamburg and Łübeck face major challenges as they need to be extended. Furthermore a direct line from Łübeck to Berlin avoiding Hamburg would be a great advantage and is a major weakness at this point of time as there are no current plans for extending in this direction.

Three of the largest logistics companies in Schleswig-Holstein are located in Łübeck and furthermore extensive 3rd party logistics services are carried out here employing more than 4,000 persons working in more than 120 high specialized logistics enterprises.

City of Hamburg

Hamburg is the major transport hub in Northern Germany.

Logistics services play an important and natural role in Hamburg as the city has access to all modes of transportation directly from the harbor. One of the world’s major container ports, Port of Hamburg, with the automated Container Terminal Altenwerder (CTA) is situated in the region together with several complementing container ports. Out of a labour force of 2.1 million in the Hamburg Metropolitan Region, it is estimated that 332,000 persons are employed in the logistics sector out of which 177,000 persons are employed in the logistics sector solely in the City of Hamburg. However, a major weakness of the city is the lack of sufficient rail lines in order to get goods in and out efficiently of the city.

The number of logistics companies in the City of Hamburg amounted to 7,295 in 2010 out of a total of 101,246 registered companies in the city.

Facts and figures:

Area: 755 km²
Population: 1,800,000 (2012)
GDP per capita: €52,460 (2011)

**Modes of transport:**

All modes of transport are found in Hamburg giving the city enormous strength both regionally and internationally. However the city faces capacity problems especially with the rail services in and around the city as the current ones are hampering a more efficient goods handling in and out of the city as there is not enough tracks for passenger and goods trains.

**European XFEL**

A new centre for leading-edge research is expected to give a boost to economic growth to the region. Already in the start-up phase, the European XFEL project is expected to provide more jobs, revenue and income as well as major innovations for the participating firms.

The European XFEL is a research facility currently under construction in the Hamburg Area. From 2015 on, it will generate extremely intense X-ray flashes to be used by researchers from all over the world.

\[^{29}\text{http://www.xfel.eu/}\]