ANALYSIS OF INSTITUTIONAL AND ORGANISATIONAL SOLUTIONS IN THE DEVELOPMENT OF TRANSPORT AND LOGISTICS CENTRES
– Based on Illustrative Examples

Annex 3.2.2 to the Final Report

April 2007
PREFACE

This report has been written as part of the SUTRANET project (Work Package 3: Transport and Logistics Centres). SUTRANET (‘Sustainable Transport Research & Development Network in the North Sea Region’) is a project within Measure 2.3 of the European Commission’s (EC’s) Interreg IIIB North Sea Programme. The overall objective of SUTRANET is to establish sustainable and dynamic linkages between new research and development knowledge, concepts and information systems on the one side, and the practical applications and policy decisions on the other side.

The aim of the report is to present and analyse institutional and organisational solutions in the development of Transport & Logistics Centres based on illustrative examples. The report was made by FDT – the Association of Danish Transport and Logistics Centres.

The report is a part of a larger study, which has the objective to develop innovative intermodal transport systems and concepts through the use of transport and logistics centres. The strategic focus has been to research and develop in the area of transport and logistics centres in relation to transport and economic corridors.

Some editorial modifications have been added by Aalborg University in June 2007.

SUTRANET, June 2007

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<th>Description</th>
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<tr>
<td>CEP</td>
<td>Courier, express and parcel services</td>
</tr>
<tr>
<td>DGG</td>
<td>Deutsche GVZ-Gesellschaft (German Freight Village Organisation)</td>
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<td>EEIG</td>
<td>European Economic Interest Grouping</td>
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<td>FI</td>
<td>Freight Integrator</td>
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<td>FV</td>
<td>Freight Village</td>
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<tr>
<td>GVZ</td>
<td>Güterverkehrszentrum (= Freight Village)</td>
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<tr>
<td>GVZE</td>
<td>Güterverkehrszentrum Entwicklungsgesellschaft (Freight Village development company)</td>
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<tr>
<td>IDC</td>
<td>Intermodal Development Centre</td>
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<tr>
<td>IPC</td>
<td>Intermodal Promotion Centre</td>
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<tr>
<td>ISIC</td>
<td>Integrated Services in the Intermodal Chain</td>
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<tr>
<td>ISL</td>
<td>Institut für Seeverkehrswirtschaft und Logistik (Institute of Shipping Economics and Logistics)</td>
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<tr>
<td>PPP</td>
<td>Public Private Partnership</td>
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<tr>
<td>SME</td>
<td>Small and medium sized enterprises</td>
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<tr>
<td>SPC</td>
<td>Short Sea Shipping Promotion Centre</td>
</tr>
<tr>
<td>TLC</td>
<td>Transport and Logistics Centres</td>
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1. Introduction

Continuing globalisation of economic activities, changes in consumer behaviour and developments in advanced technologies have led to many developments in freight logistics.

According to the EU White Paper, the transport demand has been constantly increasing over the last 20 years against a steady decrease of the rail freight transport. The predictions are that the total freight transport will continue to rise significantly if new solutions are not found.

Over the past few years, companies have rationalized their production capacity meaning fewer locations and expanded geographical scale of their sourcing and distribution operators. The consequence of this is a wider logistic reach of companies in both supply lines and distribution. This is especially affecting transportation in urban areas, which has become more integrated with long distance transport but it also means more freight transport in general.

Companies not only rationalize their production capacity, but also their inventory capacity by fleet management and reorganisation of transport networks. The numbers of warehouses have been reduced and also outsourcing of specific transport activities has happened. A cooperation between transporters and shippers could optimise the use of and thereby reducing the number of warehouses in metropolitan areas. However, the needs for warehouses are not gone and this opens the opportunity for new business.

The freight and logistics market is rapidly transforming towards more consignments of a higher quality - often delivered at odd hours. This increases the total transport work, with negative consequences for e.g. the environment. This is where the Transport & Logistics Centres play an important role.

The report focus is presentations of collected examples on Transport & Logistics Centres. The cases may vary in information and detail level due to the accessibility of information about the cases and the stage of development of the Transport & Logistics Centres; therefore the case descriptions will not appear exactly the same for the different examples. It has been prioritised to present as much information as possible on the cases of the Transport & Logistics Centres related to organisational and institutional aspects.

2. Background, Definitions and Method

The general increase in freight traffic all over Europe creates considerable problems and challenges for the European freight transport sector. Handling this problem demands both traditional solutions i.e. increasing investments in roads, rail network etc. and new types of solutions aiming at a more efficient use of the existing infrastructure.
To ensure more efficient logistics solutions the concepts of Transport & Logistics Centres and Intermodal Transport are central.\(^2\)

Transport & Logistics Centres also support the intermodal transport development, because the close co-operation between transport and logistics companies within an organized Transport & Logistics Centre creates opportunity to plan international transport and optimise the use of transport equipment and resources. An important feature is the Transport & Logistics Centres’ tendency to co-operate nationally and internationally and hereby create efficient transport chains and network solutions for optimal cargo flow and distribution.\(^3\)

Another motivation for Transport & Logistics Centres is that experience shows that the Transport & Logistics Centres make a significant contribution to the territorial and economic development of the area they are located in. The Transport & Logistics Centre can offer the local productive system the best solutions in terms of logistics, transport and warehousing activities. This implies to control both the transport cost increase and the industrial productivity competitiveness. A Transport & Logistics Centre can in other words contribute to an attractive environment for companies and industries, provided that the Transport and Logistics Centre is managed in a single and neutral body, who is open for all interested transport partners, who would like to be a part of the Transport centre. Therefore the Transport and Logistics centre should preferably be managed as a public private partnership.

<table>
<thead>
<tr>
<th>Year</th>
<th>Road</th>
<th>Rail</th>
<th>Inland Waterways</th>
<th>Pipelines</th>
<th>Sea</th>
<th>Air</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>42.1</td>
<td>12.1</td>
<td>4.0</td>
<td>3.6</td>
<td>38.2</td>
<td>0.1</td>
</tr>
<tr>
<td>1996</td>
<td>42.3</td>
<td>12.0</td>
<td>3.9</td>
<td>3.7</td>
<td>38.0</td>
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<td>3.5</td>
<td>38.2</td>
<td>0.1</td>
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<tr>
<td>1998</td>
<td>43.0</td>
<td>11.5</td>
<td>3.9</td>
<td>3.6</td>
<td>37.9</td>
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<tr>
<td>1999</td>
<td>43.5</td>
<td>10.8</td>
<td>3.8</td>
<td>3.5</td>
<td>38.3</td>
<td>0.1</td>
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<tr>
<td>2000</td>
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<td>3.4</td>
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<tr>
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<td>10.2</td>
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<td>2002</td>
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<td>2003</td>
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<td>3.4</td>
<td>3.3</td>
<td>39.0</td>
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The globalisation, the freight transport increase, the rising competition among all the local productive areas, have been forcing the industries to ask for more efficient transport and logistics solutions: This means to remove bottlenecks and diseconomy. The Transport &

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\(^2\) See definition of Intermodal transport and definition of Logistics Centre on p. 12


\(^4\) “EU Energy and Transport in Figures”, European Commission, Directorate- General for Energy and Transport, 2005
Logistics Centre is a successful answer to this situation that is involving countries all over Europe.

Transport and Logistics Centres also help limit the traffic inside the city area. The development of logistics activities always implies the increase of the road goods transport. By creating and dedicating a logistics area to this type of goods makes it possible to reduce the transport effects on the environment, to support all the transport modes and to increase the lorry filling.

It is crucial for the success of a Transport & Logistics Centre that the location is right. Since an important element of the transportation of freight is optimisation – or rather reduction - of the transport time to the final destination or to the following passage of the logistics/transport chain, ensuring flexibility between all the transport connections and coordinating all the transport modes are important. This is a task for a Transport & Logistics Centre. Therefore a Transport & Logistics Centre should be located in an area where there is easy access to both interregional infrastructure and to urban areas.

A good location is considered along the major international transport corridors. Transport volumes are the largest along these corridors and the location in the interchange of different transport modes/corridors is the most favourable to a Transport & Logistics Centre, i.e. road entrance and connections, rail connections and connection with the port.

In addition to location an important issue to consider is environmental protection. A conflict between environmental protection of areas and the building of Transport & Logistic Centres in a protected area can delay the building of a Transport & Logistics Centre for years. Therefore environmental issues should be taken into account in the planning of Transport & Logistics Centre activities and not only in creating new projects but also in relation to enlargement of activities of a Transport & Logistics Centre or a Logistics operator, for example a port or an airport.

There are other aspects concerning the success of Transport & Logistics Centres as well. Analysis⁵ has shown some vital infrastructural characteristics necessary for the successful function and performance of Transport & Logistics Centres. In short the important aspects identified are:

- **Intermodal**: Linkage of different transport modes for quick transhipment;
- **Multifunctional**: All functions included in transport and logistics are represented through: carriers, forwarders, agents, stevedores, brokers, custom brokers, Authorities (port, custom);
- **Handling electronic information (IT)**: Access to telematics systems related to the transport, administration and supply chain;
- **Handling freight**: A wide variety of facilities for freight handling, i.e. distribution, container combi and cold storage terminal; storage hotels, etc.;

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⁵ E.g. FV-2000 etc. (Project concerning Freight Villages)
• *Openness:* Open for public and private companies to locate in and/or utilise the centre’s facilities;

• *Intersectional:* Intersectional through close and integrated relations to the business sectors, which are serviced with transport and logistics solutions;

• *Cost sharing:* Sharing storage facilities, IT-systems, service development and knowledge;

• *Services:* Filling stations, washing facilities, packaging, customs clearance, research activities.
2.2 Definitions

To emphasize the important concepts and to ensure the coherence and transferability of the concepts in the report, they will be defined.

Logistics Centres as a concept has diverse terms and meanings throughout Europe. Some of the used names are: transport centre, freight village, intermodal hub, logistic platform, Güter Verkehrs Zentren (GVZ), logistic node, intermodal terminal, interporto etc. This report will describe the concept using the term Transport & Logistics Centre.

A Transport & Logistics Centre is a centre in a defined area within which all activities relating to transport, logistics and the distribution of goods – both for national and international transit, are carried out by various operators on a commercial basis.

The operators can either be owners or tenants of buildings and facilities (warehouses, distribution centres, storage areas, offices, truck services etc.), which have been built there. In order to comply with free competition rules, a Logistics Centre must be open to allow access to all companies involved in the activities set out above.

A Logistics Centre must also be equipped with all the public facilities to carry out the above-mentioned operations. If possible, it should include public services for the staff and equipment of the users. In order to encourage intermodal transport for the handling of goods, a Logistics Centre should preferably be served by a multiplicity of transport modes (road, rail, deep sea, inland waterway, air).

To ensure synergy and commercial cooperation, it is important that a Logistics Centre is managed in a single and neutral legal body (preferably by a Public-Private-Partnership). Finally, a Logistics Centre must comply with European standards and quality performance to provide the framework for commercial and sustainable transport solutions.

Figure 1: Definition of Transport and Logistics Centres

In accordance with the Logistics Centre definition and the concept description a Logistics Centre mainly consists of Small and Medium sized Enterprises (SME), which basically operates on the commercial level. There are also interested parties such as public authorities in the Logistics Centres. The bipartition of physical operators in the Logistics Centre means that the focus on service concepts can be divided into several concepts, which have different objectives for the overall concept frame. Figure 1 above illustrates the entire frame of Logistics Centres. The logistics centres are already well developed in the Western Europe activating trade and multimodal transportation systems. The basic functions of these centres are transport, handling, storage, sorting, labeling, repacking, renting of commercial area, consulting etc. The centres posses an easy access to the highways, railways realizing intermodal transport as well as sea - land transport corridors.
**Intermodal Transport** is the use of several transport modes in the transport of cargo. The different types of transport modes that can be used in intermodal transport are:

- Maritime
- Air
- Rail
- Road

**Figure 2: Definition of “Intermodal Transport”**

When working with Transport & Logistics Centres, it is important to recognise that a Centre can go through different stages of development. Therefore when looking at different cases of Transport & Logistics Centres it is possible that they will show different features due to different levels in the development. Transport & Logistics Centres go through different stages of development, starting out perhaps only as a transport cluster or as a virtual logistics centre that creates the base for a physical Transport & Logistics Centre. The most developed form of Transport & Logistics Centres is the networking Transport & Logistics Centre. Development of Transport & Logistics Centres can be illustrated as shown in the following figure:

**Figure 3: Transport & Logistics Centres Development**

There are already established several Transport & Logistics Centres in Europe, that are in process of working as a network. The strategic characteristics of this highly developed stage of Transport & Logistics Centres are:

- To create physical integration of transport by road, rail, inland waterways and sea (and in the best case – air) - Intermodal Transport;

- To achieve economies of scale through co-operation internally and co-operation with other Transport & Logistics Centres;

- To create a freight concentration by providing the basis for establishing efficient international transport links;
To create a development environment for the transport sector;

To replace part of the fixed capital in the transport enterprises with a floating capital base.

Transport & Logistics Centres can be both private and public but usually they are built on private/public partnership (PPP) basis, initiated by national and/or local authorities. They are often established by and with an interaction with Municipalities, Ministries of Transport, Europlatforms EEIG\textsuperscript{6} association, domestic and foreign private investors and financial institutions.

Transport & Logistics Centres unite all the activities related with the transport and logistics. Based on competition principles the Transport & Logistics Centres are open for private and public transport as well as enterprises and companies. Consolidation of different companies serving and/or using transport services, through synergy effect increase the economic and productive performance of the companies and at the same time increase their economy of scale.

As mentioned earlier in the report it is important for a Transport & Logistics Centre to be located in an area that is close to a major international transport corridor and where there is access to different types of transportation.

Normally the Logistics Centres are located in a 40-150 ha territory, however, depending on the activities the size can reach up to 400-500 ha.

The infrastructure of the Transport & Logistics Centre should include the following:

- Warehouses
- Large-sized warehouses (for logistics activities)
- Public Warehouses for storage
- Warehouses wired up to the rails
- Controlled temperature warehouses
- Offices for administration activities, IT services, custom service
- Intermodal terminal
- Filling station
- Motel
- Restaurant/self service/bar

\textsuperscript{6} EEIG (European Economic Interest Group)
In the development of Transport & Logistics Centres it is crucial that the management of the centre is separated from transport, logistics and other service operations, in order to obtain a neutral management of the Transport and Logistics Centre.

The activities of a Transport & Logistics Centre should include:

1. To define the infrastructure necessities like road entrances and connections, rail connections and connections with the port.
2. To define the Transport & Logistics Centre layout like customer infrastructures, post/bank/insurance service, intermodal terminals and warehouses.
3. To work out the Business Plan. The management of a Transport & Logistics Centre also implies the investment and development planning on the basis of the layout.
4. To realize the general infrastructures, the warehouses and the integrated services. The management Company is responsible for the construction of all the infrastructures after planning the layout and the business plan.
5. Land subleasing to the transport operators/warehouses and offices leasing/sale of warehouses and offices. The management Company is responsible for all the procedures referring to the leasing or sell activities. It attends both the commercial/marketing and legal procedures.
6. Administrative, financial, commercial, operating management of the Transport & Logistics Centre.
7. Upkeep and management of common property.

The most common characteristics of a Logistics Centre are:

- The usual Logistics Centres are built on private-public partnership basis, initiated by national and/or local authorities. The reason for that is that experience shows that the Logistics Centres make a significant contribution to the territorial and economic development of the area they are located.
- The Logistics Centres are often established by and in interaction with Municipalities, Ministries of Transport, EUROPLATFORMS E.E.I.G. association, domestic and foreign private investors and financial institutions.
- The Logistics Centres unite all the activities related with the transport and logistics.
- Based on competition principles the Logistics Centres are open for private and public transport as well as enterprises and companies.
- Consolidation of different companies serving and/or using transport services through synergy effect increase the economic and productive performance of the companies and at the same time increases their economy of scale.
- The Logistics Centres supply with the most advanced IT infrastructure and solutions, which usually are exorbitant barriers for the individual company. The Logistics Centres constitute intelligent transport systems, where services are provided based on advanced technologies, i.e. EDI, communication and information systems.
- Normally the Logistics Centres are located in a 100-150 ha territory, however, depending on the activities the size can reach 4-500 ha.
• An important feature is the Logistics Centres’ tendency to co-operate nationally and internationally and hereby create efficient transport chains and network solutions for optimal cargo flow and distribution.

The general services that should be offered inside the Transport & Logistics Centre are:
  • Customs District
  • Post Office/public telephones/Bus service
  • Area for parking
  • Restaurant/bar
  • Filling station with vehicle washing facilities

The actors involved in the Transport & Logistics Centre are:
  • The state
  • Public Authorities on the territory planning subject
  • Chambers of Commerce
  • Banks
  • Insurance Companies
  • Local railway Company
  • Local transport Associations.

The most popular organisational structure model for the companies that manage Transport & Logistics Centres is the Private-Public-Partnership model.  

The sharing capital is owned by public and private partners who should participate in the profit sharing but, in most cases, the Management Company of the Transport & Logistics Centre decides to plough back profits into the business at least as long as the Transport & Logistics Centre is not completed.

The percentages of public and private funds change in each Country depending on the history of the goods transport policy and the Public Authorities organisation. The choice of the PPP model, so the participation of the public Authorities in the Transport & Logistics Centre share capital, is linked to the most important strategic activities of a Transport & Logistics Centre: Territory planning, development of the transport system and development of industrial systems.

For the transport and logistics companies the existence of a close co-operation within organized logistic centres will increase the opportunities of planning international transports

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7 For more details on the Private Public Partnership model see chapter on organisational aspects.
and optimizing the usage of transport equipment and resources. The logistic centre concept implies that a long distance international transport is planned in a competitive but close cooperation between the transport and logistic companies. It also secures that the transport and equipment is optimally utilized and the final distribution of goods is taken care locally.

Logistic centres are oriented to the requirements of the transport and logistics industry, significant emphasis has been put on the location choice in terms of sufficient road and rail access. In most cases the location is close to a motorway junction or has direct access to the main road network. As far as rail (and sea) access is concerned, the terminals are preferably located close to railway mainlines (and/or main ports).

List of Logistic Centre functions:

1) **Trimodal transport function.** Connections with the port, road entrances and connections, rail connections. The port wants to strengthen and enhance the efficiency of sustainable and environmentally correct transport of all cargo, by land, by rail and by sea. The ports have administrative, customs, and cargo receipt functions and are designed to receive containers, etc., and then to distribute cargo using various means of transport.

2) **Function related with openness and neutrality.** Open for all- small and large companies to locate in and/or utilize the centre’s facilities as well as to make better business conditions for small and medium size transport companies.

3) **Transport and logistics representativeness.** All functions included in transport and logistics can be represented through: carriers, forwarders, agents, stevedores, brokers, custom brokers, etc.

4) **Function related with access to electronic information (IT).** This function contains access to telematics systems related to the transport, administration and supply chain. Efficient use of modern information and communication technology.

5) **Function related with cost sharing.** Cost sharing includes sharing storage facilities, IT-systems, service development and knowledge.

6) **Function related with marketing and networking.** Marketing includes- attracting potential investors, attracting potential operators, assurance of financial sources, etc. Networks are used to improve knowledge and experience between ports and Logistics Centres as well as the operators.

7) **Functions which include value added services.** Value added services are unlike core services. They have unique characteristics and they relate to other services in a completely different way. They also provide benefits that core services can not. All value added services share the same characteristics: not a form of basic service but rather adds value total service offering; stands alone in terms of profitability and/or stimulates incremental demand for core service(s); can sometimes stand alone operationally, may provide operational and/or administrative synergy between or among other services – not merely for diversification.

**Value added services include:**

a. Custom clearance;

b. Veterinary authorities;

c. Weights and Measures Department;
d. Bank;
e. Trailer Rental;
f. Repair Facilities;
g. Welfare Facilities;
h. Filling Stations;
i. Washing facilities;
j. Packaging;
k. Research activities;
2.3 Method of Working

This report is one of the reports in WP3, which has the objective to develop innovative intermodal transport systems and concepts through the use of transport and logistics centres as well as the logistics centres in relation to transport and economic corridors. The report will follow the structure of the figure below:

![Figure 4: The structure of this report](image-url)
The background and definitions of the central concepts in the report – Transport & Logistics Centres and Intermodality - has been introduced above to build an understanding of the concepts.

The next step in the report is presentations of collected examples on Transport & Logistics Centres. The cases may vary in information and detail level due to the accessibility of information about the cases and the stage of development of the Transport & Logistics Centres, therefore the case descriptions will not appear exactly the same for the different examples. It has been prioritised to present as much information as possible on the cases of the Transport & Logistics Centres related to organisational and institutional aspects. Each case should be regarded as a good example of how to manage a Transport and Logistics Centre.

The report will further include:

- Institutional aspects such as policy and framework conditions by EU.
- Organizational aspects concerning legal construction
- Development of Transport and Logistics Centres concerning political matters, legal matters and company construction.

The data is based on general information gathering by telephone and written contact to /interview with selected actors.
3. **Selected Examples of Transport and Logistics Centres**

In the following sections different examples of the Public Private Partnership Transport & Logistic Centres are presented and analysed. The examples of the Transport & Logistic Centres are selected in order to get the overview of different types of Transport & Logistic Centres and how they operate.

Each example will be based on the following parallel structure:

1) Introduction including short description
2) Organisational and institutional aspects

The selected Transport and Logistics Centres shows some of the best examples on how efficient Transport and Logistics Centres are operated.
3.1 BILK Kombiterminal - Hungary

Introduction

The construction of BILK Kombiterminal started in January 2002. In 2003 on the 17th of November the BILK Kombiterminal Co. Plc. was opened. BILK Kombiterminal is one of the main parts of the Hungarian combined transport system. It has also a main role in the Hungarian transit traffic as an up-to-date technical background. The good location, available capacity, realized innovative technologies on terminal, and role as environmental diversion reducer for capital city provide the important state for terminal.

Figure 5: BILK PPP Project (www.bilk.hu)

Organisational and institutional aspects

The BILK Kombiterminal is situated in the heart of Central – Eastern Europe, where the Trans European Lines (TEN) crosses each others. This is a good possibility for the logistic centre to be the main collector – distributor at this area, and paying more attention for he combined transport. The BILK is in the XXIII district of Budapest between the main road, the Budapest – Kelebia railway line and the Highway. The territory is 100 hectare and it has three different parts. 10% is the Soroksár Terminal Railway station, which is owned by the MAV Co. Ltd.
Almost 70% in the BILK Logistic Co. Ltd. Owned by the Waberer’s Holding Co Ltd. 22,3 hectare is used by the BILK Kombiterminal Co. Ltd., where it has complex services for combined transport in export and in import too.

The Logistics Centre has great connections with the traffic networks. From 2005 BILK has direct connection with the M0 Highway. The railway connection is also very good because the Budapest – Kelebia line is just next to the centre. The distance from the Logistics Centre and Ferihegy Airport is just 16 km, and from the MAHART Freeport of Csepel it is only 15 km.
3.2 Interporto Bologna SpA - Italy

Introduction

The Interporto Bologna SpA was established in 1971. It is managed by a Private-Public-Partnership.

The Bologna Freight Village is situated in Italy at a nodal point for load collection and distribution throughout the Peninsula and abroad.

The development is placed at the heart of the main traffic routes that cross Italy from north to south and where 75% of all goods exchanged in the country is carried by rail or road.

Figure 8: Interporto Bologna (http://www.bo.interporto.it/)
Organisational and institutional aspects

The share Capital amounts to about € 14.000.000,00 and the 52%\(^8\) is owned by Public Bodies: Bologna District, Bologna County, Bologna Chamber of Commerce, Italian Railway Company. The Private partners are mostly banks, insurance companies, industrial associations, and local transport associations.

<table>
<thead>
<tr>
<th>Organizational Structure</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Meeting of Shareholders</td>
</tr>
<tr>
<td>Board of Directors – Presidency</td>
</tr>
<tr>
<td>General Director</td>
</tr>
</tbody>
</table>

Figure 9: Organizational Structure

The objective of the Interporto’s activity is to plan and build (by the means of all the essential operations: purchase, sale, exchange, leasing etc) a united number of infrastructures and integrated services aimed at supporting the exchange of goods by all the transport modes.

---

\(^8\) Europlatforms EEIG, 2000
Table 2: Interporto Bologna SpA

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Surface</td>
<td>2,000,000 sqm</td>
</tr>
<tr>
<td>Expansion area</td>
<td>2,270,000 sqm</td>
</tr>
<tr>
<td>Covered warehouses area</td>
<td>250,000 sqm</td>
</tr>
<tr>
<td>Estimated annual traffic</td>
<td>3,500,000 ton</td>
</tr>
<tr>
<td>Number of transport companies</td>
<td>81</td>
</tr>
<tr>
<td>Daily number of trains</td>
<td>15</td>
</tr>
<tr>
<td>Annual n° of lorries (IN/OUT)</td>
<td>500,000</td>
</tr>
<tr>
<td>Total freight village investments</td>
<td>164 MIO €</td>
</tr>
<tr>
<td>Volume of business</td>
<td>300 MIO €</td>
</tr>
<tr>
<td>Annual Turnover of Interporto Bologna SpA (2002)</td>
<td>7 MIO €</td>
</tr>
</tbody>
</table>

The Bologna Freight Village consists of an integrated system of rail, logistics and road infrastructure. The area of the Bologna Freight Village is 2 million sq. m., where the building covers 250,000 sq. m. In this building the national and international transport companies for warehousing and logistics, freight transport and international forwarding operate.

A main aspect of the freight village is the railway terminal, which extends over an area of 277,000 sq. m. The railway facilities comprise both a Container terminal (147,000 sq. m.) and Intermodal terminal (130,000 sq. m.) with 15 tracks.

The freight village accommodates more than 81 national and international transport companies, the Customs offices, the public warehouses, a filling station with vehicle cleaning facilities, banks, a post office and refreshment areas.

236,000 sq. m buildings (offices and warehouses provided with raised docking bay or plain) have already been completed and sold.

Those operational comprise:

- 13 warehouses provided with raised docking bays and offices;
- 4 warehouses provided with raised docking bays and offices;
- 5 large warehouses;
• Public warehouses for storage;
• The customs district;
• The post office;
• The service and management centre;
• Areas for parking and loading/unloading operations;
• Italian railways intermodal terminals;
• Filling station with vehicle washing facilities.

The Bologna Freight Village is the first example in Europe of a cabled freight village.

The Bologna freight village is also the first European structure of its kind equipped with a telematic network. The Bologna Freight Village is one of the most essential freight villages on a European level nowadays.
3.3 Dresden GVZ – Germany

Introduction

The GVZ development Company Ltd was established in 1997. The Share Capital amounts to € 25.000,00. In Germany there are about 1200 GVZ enterprises. At the moment there are 40000 employees.

GVZ characteristics are as following:
• Settlement of transport-oriented companies, logistics service providers and logistics-intensive trade and production enterprises in a commercial area.
• Access to at least two modes of transport, in particular road/rail (inter modal terminal).
• Management function of local GVZ developer/operator, who initiates cooperative activities in order to make use of synergies.

GVZ advantages:
• High-level road/motorway access and proximity to conurbations (short reaction and delivery times).
• Intermodality increases commercial flexibility and investment security (present bonus or future option).
• Low conflict potential (round the clock operation).
• Wide service spectrum (truck service, customs clearance, etc.).
• Sufficient land size for logistics-intensive purposes with excellent transport access.
• Cooperative activities (cost savings for telecom, energy etc.).
• Support for investors and tenants by GVZ management.

Organisational and institutional aspects

At the beginning, the Share Capital was owned by the Deutsche Verkehrsbank (DVB) that accepted the engagement to develop the GVZ on the basis of the Regional Transport Ministry direction. The financial risk of this investment was reduced by the Ministry grant.

The DVB has been selling the shares over the years so that at the present time the Share Capital is owned by SVG (Road Haulage Cooperative)75% and Deutsche Bahn 25%.
In addition to excellent transport links, Freight Villages (GVZ) - compared to stand alone distribution centres - are generally located away from areas with “conflict potential” (i.e. high population density) and therefore allow round clock operations. They provide sufficient access to both the long-haul transport network as well as to delivery points in urban areas. GVZ offer cost savings for provision of important services (electricity, telecommunication etc.) and allow the provision of facilities that might otherwise not be economic to install, i.e.

• Truck service and support facilities;
• Customs clearance facilities;
• Centralised waste disposal;
• Centralised landscape maintenance;
• Enhanced security systems;
• Public transport connections;
• Additional commercial services (shops, restaurants etc.).

Figure 10: GVZ Dresden (http://www.gvz-dresden.de/index.php?id=55)
Figure 11: GVZ Structure (FDT, 2003)
Logistics operations in GVZ also mean taking a forward-looking approach. The option to use or to combine alternative transport modes increases flexibility and thereby contributes to high-level quality and reliability of logistics services.
3.4 Klaipeda Logistics Centre (KLC) - Lithuania

Introduction

The Lithuanian government has approved construction of Klaipeda Logistics Centre (KLC), and the first implementation stage of the project started in 2001. The project of the Logistics Centre has been strongly supported by both the national authorities and the European Union.

In the development process a private-public limited company Klaipedos Logistikos Centras is responsible for the Logistics Centre. KLC has the position as an umbrella organisation for the companies that are operating in it. When the total project is completed it is expected that private investors will own 85% of KLC. Public investors will own the last 15%.

Already local and foreign companies have expressed their interest in being located at the centre, and there is an ongoing search for further partners. The combination of low cost level and a good quality business performance is expected to attract new business. The planned Logistics Centre expects private investments of 130-300 million dollars. The Logistics Centre aims at attracting 180 companies to locate in the area and creating up to 1500 new jobs.

Organisational and institutional aspects

The KLC is planned to contain facilities for rail transport (warehouses, a new railroad branch and a terminal) as well as a cold storage, parking areas, supervised cargo storage area, value added services (e.g. packaging and labelling of goods), a bonded warehouse terminal, long storage warehouses and a cargo distribution centre. When complete, KLC will be able to organise intermodal deliveries including all modes of transport.

The centre already has an office ensuring marketing, sales and concept development services. The plan is that KLC later also will provide services like telecommunication, office and conference room rentals, consulting, administrative services (i.e. Customers and taxation procedures) as well as legal and insurance services. A long term plan also includes an inter-organisational IT platform that will offer telematic systems to facilitate the interoperability in the centre. Computer aided operating systems can be used to obtain an efficient use of the Logistics Centre’s resources and to enable smooth logistics operations, simulations and forecasting.

The advantage of placing a Logistics Centre in Klaipeda is its 21 million ton ice-see port with several potential future connections and a significant share of transit traffic. From Klaipeda, there are rail connections to several connections in Russia.

The services provided by KLC could be:

1. Transport services:
   - Intermodal transport services
2. Warehousing services:
   - Warehouses
   - Large-sized warehouses (for logistics activities)
   - Public warehouses for storage (“goods hotels”)
   - Warehouses wired up to the rails
   - Controlled temperature warehouses
   - Distribution centre

3. The general services:
   - Customs services
   - Post office, public telephones
   - Areas for parking
   - IT services
   - Filing station with vehicle washing facilities, fuel reservoirs and pumps

4. The “actors” of KLC:
   - State institutions
   - Regional administration, municipality
   - Chambers of Commerce
   - Banks
   - Insurance companies
   - National railway company
   - Local, national and international transport associations

Infrastructural characteristics:
- Klaipeda Logistics Centre will be situated in the suburb of Klaipeda city, close to all year around ice-free sea port of Lithuania, and will be developed in the territory of 92 ha.
- The land plot to be used for the implementation of the project is found at a strategically important place, that is by the motorway and railway line Vilnius.
- Klaipeda also including Moscow and Kiev is situated at the end of the international transport corridor IX B.
• KLC site is close to the industrial areas and far away from living districts of the town.
• There is about 10 km from the newly built container terminal in Klaipeda.
• The distance between the future KLC and Klaipeda Seaport is about 5 km., and closest railway lines 1-2 km. The Palanga airport is at about 25 km. close to Klaipeda.

The final Logistics Centre in Klaipeda is planned to comprise a land area of 100ha containing storage facilities, parking area, administration and other buildings and a green zone for recreation area.
3.5 Nordic Transport Centre (NTC) - Denmark

Introduction
Nordic Transport Centre (NTC) was founded in 1989 and the Centre started its activities in 1992. It is situated 10 km east of Aalborg and has the disposal of a total area of 592,000 m², which include 47,000 m² warehousing facilities and administrations offices plus a number of transport and logistics operators.

The Centre has been placed outside the city of Aalborg according to local policy. It is a proclaimed goal in the Municipal Plan to move transport activities outside the city of Aalborg for e.g. environmental and security reasons.

At the regional and local level, the authorities, i.e. the County Councils and Municipal Councils have been very positive towards the establishment and development of NTC. This has been a prioritised issue and NTC has received much support.

What is quite remarkable, is, that the regional authorities have managed to establish a co-operation with regional authorities from Southern Norway and Western Sweden down through Jutland, along the transport corridor known as the Nordic Link. These authorities are actively partaking in the creation and strengthening of a Logistics Centre network along this corridor.

Organisational and institutional aspects
The area where the centre is developed is built up around the Eastern Port of Aalborg where transport activities have been carried out years before the centre started its activities.
The infrastructure of NTC is well developed and the Centre is directly connected with the European rail and motorway network as well as the direct access to the quayside goods handling. NTC supports the concept of intermodal transport, thereby contributing to an efficient European transport system.

The Centre has both local/regional activities as well as National/European. NTC is the regional distribution centre in the northern part of Denmark (the North Jutland) and the city distribution centre for the city of Aalborg. NTC serves the trades and industries in the whole region. The existence of the Logistics Centre ensures that the transport and logistics needs of the companies in the region are met in order to stay competitive.

The geographical position of NTC in the north of Europe gives the Logistics Centre an opportunity to play an important role as the Nordic turntable between the Nordic countries and the rest of EU. In this context, NTC can play an important role in the Nordic Link Corridor and in the network of European Logistics Centres that is being created (EUROPLATFORMS EEIG) as a junction between the Nordic countries, the North Atlantic and the rest of EU. Today, NTC is still the northernmost Logistics Centre in the European Logistics Centre network under creation.

Intermodal transport facilities in the Eastern Port of Aalborg are governed by a number of factors of which the most important will be described in the following. There are the physical factors such as infrastructure, handling equipment, telematic systems (communication between the port and its customers as well as internally between the companies in the port) and other factors.

The infrastructure in the Eastern Port of Aalborg has been analysed to uncover strengths and weaknesses. Among the strengths is the fact that the port is placed away from built-up areas, which means good road access and almost unlimited expansion and functional possibilities.

The present rail connection to NTC via Aalborg Goods Yard (located in the city centre) involves extra expenditure on shunting as well as considerable delays and difficult operating procedures. The planning and commissioning of the new combined terminal in NTC (opened on the 1st of April, 1998) has solved these problems. A planned bypass south of Aalborg will make rail transport to and from NTC considerably more efficient, since it will enable rail traffic to avoid the centre of Aalborg. The integration of sea, railway and road will hereby be far better than today and the quality of the intermodal products will be improved significantly.

Northern Jutland is divided by a fjord (Limfjorden) from the rest of Jutland in the regional area of Aalborg. The fact that a tunnel and a bridge are the only connections between the regions causes bottlenecks for the traffic by road. This situation is expected to further deteriorate in the future, as traffic by road is expected to increase in the area and it is calculated that the two present crossing will reach their maximum capacity in approx 2015. A third connection to overcome this problem is at the planning stage, but since the former county of Northern Jutland could not make the final settlement about a new solution before the abolishment of the Danish counties, the decision about the third connection, is now at the planning stage.

Source: Kent Bentzen. This is still a part of development plans for NTC.
hands of the state, due to the Danish structural reform and the rearrangement of the planning responsibility. This means that the final decision is postponed indefinitely, as the interest in the third connection across Limfjorden is expected to be lower at a national level than at a regional level.

Facilities and services

NTC has a wide range of facilities and services available and is still developing. The Centre has large areas reserved for the continued extension, and it is open to all kinds of companies within the transport and logistic chain that wants to be located here. At the moment there are plans to build up new facilities.

The facilities and services available in NTC today are:

- Warehouse hotel and a public bounded warehouse.
- Warehouse for general goods, dry goods, refrigerated/frozen goods and classified goods.
- City distribution centre, national/international distribution.
- Equipment to handle all kinds of goods incl. sea-borne goods.
- Facilities for internal and external data communication and information that make the exchange of data concerning goods sitting and goods movement possible. There is also advanced digital telephone equipment with ADSL and prepared for integration with the latest computer systems.
- Bank, post and customs service plus training and research facilities.
- Diesel tanks plant, garage, washing facilities.
- Optimum navigation conditions, quays, RO/RO ramps and other port facilities.
- A transport environment combining road, sea and rail linked with direct connections to national and international destinations.
- Secured areas for parking of lorries and trailers.
- Common welfare facilities, canteen etc.
- Combi/intermodal terminal.
- Container terminal.

Integrated versus non-integrated

NTC is to a considerable extent working as an integrated Transport & Logistics Centre. For example, Sea borne goods is handled by ACO A/S when loading/unloading at the quay. Royal Artic Lineagentur A/S is the shipping agent working as a forwarder arranging the sea borne goods. Royal Artic A/S is carrying the goods by vessel to and from the port of Aalborg. The goods coming by rail into the port of Aalborg are also being handled by ACO. Storage/stripping/packaging/warehouse hotel facilities etc. are used by several of the transport
and logistic operators situated in the Logistics Centre as well as companies situated outside the centre located in the region of Aalborg.

Some companies in the Transport & Logistics Centre still work as non-integrated and have more or less no co-operation with the rest of the companies in the Transport & Logistics Centre. However, these companies can always be integrated at some point, if this turns out to be beneficial. Frigoscandia A/S is an example of a non-integrated company. The local branch office in NTC works more or less as a forwarder and transport related activities like storage of temperatured/regulated goods, parking/washing of trucks etc. take place in some of Frigoscandia’s departments situated elsewhere in Denmark/Europe.

Planning and environment

NTC is also subject to both a district plan and an environmental approval. NTC has from the beginning taken a very pro-active attitude towards these, in the planning and development of the general layout of the Centre.

The Centre is situated far from residential areas and is surrounded only by light industry, and the Fjord is recognised as sea corridor with priority to commercial sea traffic. This has ensured that the NTC area in the environmental approval is, on beforehand, approved for heavy polluting enterprises. Such enterprises must still obtain their own environmental approval from the proper authorities, but this has nothing to do with NTC.

The district plan stipulates how far the Centre can be developed, where new buildings must be located, building heights etc. as described in the general section on planning. The concept of NTC includes that all new buildings must be built and owned by NTC and then rented out to interested companies. Hence, new building activities can be initiated at once, without going through the lengthy procedure of developing a new district plan.

The conclusion is that there are strict regulations on all aspects of layout, operation and environmental matters of NTC and the companies within, and that the authorities have a formal control system to ensure that these regulations are complied to.

Management set-up

NTC has been through two different phases in terms of management structure.

NTC is established as a Limited Company. A large survey showed that this was the legal construction with the most credibility within the community of potential users/clients in the transport and logistics sector. During the first development phase up until 1992, the stockholders were, together with the daily management group, heavily involved in the establishment and development of NTC.

In phase two, which is the operational phase, the daily management has been reduced to a minimum. NTC Ltd. owns all the land in the Centre and manages only operation and development of infrastructure, buildings and facilities. NTC Ltd. is not involved in any transport and logistics activities. Hence, NTC Ltd. has only a Managing Director and a Board. The Board consists of public members from the port authorities and members from private and
public transport companies. The Board must approve new building activities and development plans of NTC Ltd.

Private companies establish themselves within NTC and co-operate within NTC. The companies are, on a contractual basis with NTC, committed to deliver certain specific services for the common good of all companies within NTC. This way, the management capacity of each company is utilised in the overall NTC management, reducing the management costs.

The organisation

NTC is organised after a unique concept, which ensure optimum utilisation of the resources within the Logistics Centre at the lowest cost possible.

NTC Ltd. acts as umbrella organisation, renting out and maintaining buildings and facilities, financing new buildings/facilities, managing the day-to-day operation of the centre and undertaking the overall marketing and planning of the centre. This is illustrated in figure 15 below:

The various transport companies located in NTC run the independent business units on a neutral basis. Companies within NTC are offered the services of these independent business
units at a special, low price, while the units run on a normal commercial basis with external customers.

Finally, a range of services and public control functions are located in NTC, servicing the companies located here.

*Future developments/business opportunities*

The future development opportunities of NTC are closely related to the on-going investments in new facilities. These are: The procurement of a gantry crane, the creation of a new section (pier 3; an area for classified goods with high safety precaution), the improvement of the Combi Terminal and the implementation of a new internal/external communication system. These new facilities make location in NTC more attractive and form the basis of new opportunities.

The integration with air and sea modes of transport must be expanded. The proximity to the local airport must be exploited, in order to expand and integrate the airfreight segment. With both the existing and future port and handling facilities, NTC is prepared for new Short Sea Shipping activities to potential markets around the Baltic Sea and the Nordic Sea.

NTC will also host other services/facilities, related to transport and logistics.

More public service and control functions, related to transport and logistics, could be hosted within NTC. Today, e.g. the veterinary authorities controlling the handling of food and foodstuffs already have an office within NTC, but the authorities for e.g. cargo registration and cargo control could also be situated within NTC in the future.

The Transport & Logistics Centre could also play a more active part in environmental management in the future. Issues like waste management - recycling, handling of return packing/wrapping or containers could be services to be offered internally at NTC.

Finally, research and development companies, working with transport and logistics, could be located here, to enhance the co-operation with the transport and logistics community and ensure a better dissemination and exploitation of the research and development results/products/applications. This could be companies working within e.g. partnerships, third parts logistics and intermodal transport solutions.

The integration of the Logistics Centres demonstrated by the formation of EUROPLATFORMS EEIG (that is planned to be further expanded covering the whole Europe) and the development of the TEN will give NTC new business developments and opportunities. The geographical position of NTC in the north of Europe gives the Logistics Centre an opportunity to play an important role in these networks including the Nordic Link Corridor as the Nordic turnable between the Nordic countries and the rest of EU plus the North Atlantic. In order to take advantage of the geographical position of NTC, the Logistic Centre must remain market oriented and comply with the needs of the potential transport buyers and/or the actors in the transport chain.
3.6 Bikakobo-Aparcabisa (Bizkaia) Transport & Logistics Centre - Spain

Introduction

Bilkakobo-Aparcabisa is a public funded society started by the Autonomous Government of the Basque Country. Aparcabisa is the owner of the Transport Terminal in Ugarte a comprehensive cargo logistics centre located only 7 km from the capital town of Bilbao. The complex was built in 1987-1990 to enhance and redevelop an obsolete industrial townscape. The overall land area is 20 hectares. The gross built surface is 57,000 square meters.

The terminal has the advantage of its strategic location along the Cantabrian (North-Spanish coast) motorway, at a gravitation point only 6 km., away from the airport of Bilbao.

Organizational and institutional aspects

The Aparcabisa Transport & Logistics Centre is managed by the Bikakobo-Aparcabisa Company. It is a public funded Society started in 1983 with the purpose of:
Managing all the essential infrastructures for the development of the transport sector.
Providing the Bizkaia city with a specific logistics area.
Enhancing and redeveloping an obsolete industrial townscape that is Communities of Valle de Trapaga and Barakaldo.

The Share Capital of the Company amounts to € 31.000.000. It is owned as follow:

Table 3: Shareholders participation

<table>
<thead>
<tr>
<th>Shareholders</th>
<th>Participation %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bizkaia’s Foral Deputation</td>
<td>79.20</td>
</tr>
<tr>
<td>Basque Government</td>
<td>19.94</td>
</tr>
<tr>
<td>City Council of Barakaldo</td>
<td>0.48</td>
</tr>
<tr>
<td>City Council of Valle de Trapaga-Trapagaran</td>
<td>0.30</td>
</tr>
<tr>
<td>Chamber of Commerce of Bilbao</td>
<td>0.08</td>
</tr>
<tr>
<td>TOTAL</td>
<td>100</td>
</tr>
</tbody>
</table>

Bikakobo-Aparcabisa Company Bodies:

- General Meeting of Shareholders
- Board of Directors
- Direction General
4. Network Building and Networking

Talking about the Logistics Centres it is also important to define the Logistics Centres network building and networking. By integration and cooperation in networks Logistics Centres can increase their competitive advantage on a national and international level. Furthermore it is assumed that that network dynamics and the resulting opportunities are some of the main factors that provide for the attractiveness of this form of cooperation.

Networks are organic structures due to the fact that the actors, exchanging activities and resources are always interrelated with each other in an interactive process. Creating a network means changing the relationships and patterns of interaction between several companies, which aspire to reach a common target. The members of a network have different roles and some of them are more attractive than others.

Often companies operate in several networks at the same time. Networks can be divided into four groups: business networks, industry networks, commercial networks and personal networks. These networks differ from each other by their goals. Business networks aspire to connect their members’ know-how and enhance total capacity. The aim of industrial networks is to connect similar companies, which have common interests to advocate. Commercial networks are networks that have been founded to provide development services, which are established to improve co-operation between companies. Personal networks support the flow of information and learning on the individual level.

Four different types of business strategic network are often described:

1. Loosely organised networks
2. Concept based networks
3. Company based network
4. Hierarchic network

These network types are a product of an increasing integration and coordination ranging from type 1 Loosely organised networks as the lowest, and type 4 Hierarchic Network as the most integrated.
The mentioned examples of Transport and Logistics Centres are containing or part of different kinds of network types. The Transport and Logistics Centre is so to say a framework for different kinds of networks, and can at the same time be a part of another kind of network with a more superior status. Which kinds of networks there a present in the Transport and Logistics Centre depends on the companies present in the Transport and Logistics Centre. A short description of the characteristics of each network is given below.

4.1 Loosely Organised Networks

As the title implies, this network deals with un-obligated/non-committed and lose working relations between Logistics Centres and their operators. In general this form of network seems to apply where cultural behaviour such as self-sufficiency, independence and flexibility are key components.

Loosely organised networks with non-committal characteristics contain an element of “free rider” syndrome, where the companies behaviour and internal competitive situation id conclusive in order to make the co-operation work: The competitive relation between the actors in the network means that many companies are more interested in “taking” than “giving” in the co-operation. With this factor the network can lack from reciprocity, which is fundamental in a network.
In general companies collaborate in commercially oriented matters, which mainly revolve around solutions of concrete tasks and a general exchange of information with participants/actors in and around a Logistics Centre.

### 4.2 Concept Based Network

This type of network in the transport sector is a formalisation of the loosely organised networks. The integration of the network has been increased in this type and more concrete agreements and settlement of principles for the function of the network.

This type of network is rather seldom yet – and in the existing types especially use of IT-support to the network are common. This network type is often based on an IT backbone, which coordinates the cooperation between the participants. The participants have influence on the continuously development of the backbone of the network, but there are no real centralised control pattern. This network type differs from the previous in terms of economic obligations (although often small) between the network participants.

The IT based network requires the familiarity with the use of PC and Internet. The IT network requires also that the companies very often update information about their free capacity or the need of capacity, and that is why it is a condition that IT is used on a daily basis.

The central element in the cooperation is the establishment of a common understanding and frame in the shape of a concept, which controls the co-ordination and working relations between the networks participants.

The most significant difference between loosely organised network and concept-based cooperation is the financial commitment.

### 4.3 Company Based Network

The Company Based Network type is a very close cooperation between transport companies in the network, which differs from other networks in terms of that the cooperation and networking are executed in a new (and especially for this purpose created) company. Through a commercial network between the independent participants the Company-based Network aims at creating a larger geographical coverage, development of new products – which all were not possible to offer from each company alone. The company-based network is based on a high level of coordination of areas such as sales, administration and production. Normally in this type of network each participant acts and functions on equal basis – based on equal ownership of the network company.
4.4 Hierarchic Network

This type of network is built on one company only, which defines the conditions for the other network actors participation and how the network functions. The operation of the network is based on a clear hierarchic relationship. This is quite comprehensive and integrated network cooperation between the central company and the other participating companies. The participating companies are integrated in the operation of the central company, where they normally execute the physical transport task – while the central company takes care of almost everything else (administration, sales, development, flow and logistics etc.). The central company has thus the strength (through its size) to negotiate e.g. serious discounts on fuel, trucks, insurance etc. on behalf of the participating companies.

The important factor for the development of the hierarchical network is commitment of the participating companies and the amount of resources that is used in order to create a sound business development.

The networking aspect of the transport solutions via the Logistics Centres is one of the main features crucial for successfully functioning of the Logistics Centres. Strategies in networks evolve gradually in the interaction between Logistics Centres in the networks and are seen as a dynamic process whereby Logistics Centres adapt to the circumstances and exploit opportunities. It is a process, which offers not just complementary resources, but more possibilities and advantages that can be achieved.
5 Transport Corridors

In this chapter the transport corridors will be shortly discussed which is an important aspect talking about the Logistics Centres. In figure 6.16 the cooperation between Logistics Centres on a fixed transport corridor (rail, road and maritime) is illustrated.

![Cooperation between Logistics Centres on a fixed transport corridor](image)

Figure 16: Cooperation between Logistics Centres on a fixed transport corridor (FDT, 2003)

The figure shows how different logistics Centres cooperate in a region, and in this way increase the market share. The more companies working together the more cooperation partners are often possible and the stronger the corridor will be.

### 5.1 East West Transport Corridor

The transport corridor Vilnius-Esbjerg via Klaipeda/Kaliningrad, Blekinge and Öresund is an essential connection between east and west in the Baltic Sea Region. Universities, authorities as well as private stakeholders are willing to take a joint initiative in order to strengthen the corridor, which is contributing to sustainable growth and development along the corridor. Looking at the east-west direction it can be seen that transports are noticeably growing in the Baltic Sea Region. Planning of transports as well as infrastructure is still made with national boundaries as point of departure. Transnational co-operation is important in case if the opportunities of integration shall be capitalized. Although transport growth from Asia and the Black Sea is quite strong, the corridor which is going between Vilnius-Esbjerg and continuing to the North Sea/UK and Benelux covers several issues that slow down the development. The purpose of the project “East-West Transnational Transport Corridor” is to strengthen the
corridor through a wide range of activities dealing e.g. with infrastructure improvements, development of an overall strategy for the corridor as well as new solutions for business and logistics and also strengthened transport research and co-operation between researchers.\textsuperscript{10}

Specific tasks are as following:

- Transnational Transport Corridor Development Strategy
- ITS a Tool for Innovative Actions in the Corridor
- Improvements of Infrastructure Bottlenecks
- Development of business and logistics
- Knowledge development

One of the overall purposes concerning east-west transport corridor is to establish a framework for co-operation where different kinds of actors would be participating. Therefore, the partnership consists of organizations from both public and private sectors. IKEA, Karlshamns AB, Railog, Smelte and LISCO are some of the enterprises involved. Ports and universities are also important partners. National as well as regional and local authorities are represented. This project involves 47 partners from 4 countries. Region Blekinge is Lead Partner. Total budget for this project is about 3,24 M€.\textsuperscript{11}

### 5.2 Trans European Transport Network, TEN-T

The trans-European transport network, TEN-T, has been developed by the European Community during a period of 15 years. In 2004 was a decision taken by the European Parliament and the Council on new Community guidelines for the development of the Trans-European Transport Network, (1). The guidelines include now the TINA networks (a Common Transport Infrastructure Needs Assessment in the candidate countries for accession). In 2004 was a decision taken by the European Parliament and the Council on new Community guidelines for the development of the trans-European transport network, (1). The guidelines include now the TINA networks and a revised list of prioritised projects, which now consist of 30 projects at 30 priority axes. The concept of Motorways of the Sea was included as a new project.

### 5.3 Summary of TEN-T Guidelines (Act – Decision N° 1692/96/EC, (1))

The concept for the trans-European transport network (TEN-T) is the common political transport infrastructure development concept of the European Union and the Member

\textsuperscript{10} http://www.eastwesttc.org/websites/eastwest/sd_page/2/1/index.php

\textsuperscript{11} http://www.eastwesttc.org/websites/eastwest/sd_page/2/1/index.php
States/Project Promoters. The TEN-T guidelines are the legal basis for the implementation of the TEN-T. The trans-European transport network comprises infrastructures (roads, railways, waterways, ports, airports, navigation aids, inter-modal freight terminals and product pipelines), together with the services necessary for the operation of these infrastructures (e.g. ITS or industrial projects like GALILEO).

The TEN-T concept is based on the following political objectives:

- To ensure mobility of persons and goods,
- To offer users high-quality infrastructures,
- To combine all modes of transport,
- To allow the optimal use of existing capacities,
- To be interoperable in all its components,
- To cover the whole territory of the Community,
- To allow for its extension to the EFTA Member States, for the countries of Central and Eastern Europe and the Mediterranean countries.

Geographically, these networks cover currently the 25 Member States. Furthermore, there is already an agreed network for the accession countries Bulgaria and Romania. A Memorandum of Understanding of the South East Europe Core Regional Transport Network defines a network for Croatia, which shall be considered as a possible TEN-T network. In Turkey, the definition of a possible TEN-T network is underway, currently being defined by the study “Technical Assistance to the Transport Infrastructure Needs Assessment for Turkey”. In addition to the infrastructure projects of the general TEN-T network, 30 Priority Axes have been defined which indicate the most important TEN-T activities. The main TEN-T effort is concentrated on these.

*The priority measures about TEN-T concern:*

- The completion of the connections needed to facilitate transport;
- The optimisation of the efficiency of existing infrastructure;
- The achievement of interoperability of network components;
- The integration of the environmental dimension in the network.

*Characteristics of the road network:*

- It comprises motorways and high-quality roads and will be supplemented by new or adapted links;
- It comprises infrastructure for traffic management and user information, based on active cooperation between traffic management systems at European, national and regional levels;
- It guarantees users a high, uniform and continuous level of services, comfort and safety.

**Characteristics of the rail network:**
- It comprises the high-speed network and conventional lines
- It offers users a high level of quality and safety thanks to its continuity an interoperability and thanks to a harmonized command and control system.

**Characteristics of the inland waterway network and inland ports:**
- This system comprises a network consisting of rivers and canals, a network consisting of branch canals, port infrastructures and efficient traffic management systems;
- The technical specifications correspond at least to class IV.

*Ports* provide the link between sea transport and other modes of transport. They provide equipment and services for passengers and goods (ferry services, etc.).

*The airport network* consists of airports of common interest situated within the territory of the Community, which are open to commercial air traffic. The regional components of the network facilitate access to the core of the network or help to open up peripheral and isolated regions.

*The combined transport network* comprises railways and inland waterways which, combined where appropriate with initial and/or terminal road haulage, permit the long distance transport of goods between all Member States. It also comprises installations permitting transshipment between the different networks.

*The information and management network concerns* coastal and port shipping services, vessel positioning systems, reporting systems for vessels transporting dangerous goods, communication systems for distress and safety at sea.

The *air traffic control network comprises* the aviation plan (air space reserved for general aviation, aviation routes and aviation aids), the traffic management system and the air traffic control system.

The TEN-T railways- and road network are shown in the following maps.
Figure 17: TEN-T Roads
A prerequisite for developing an efficient Transport and Logistics Centre is that the centre is placed on the TEN-T corridors. In this way there are greater possibilities for the centre to get a share of the European transport market within the field of consolidation of goods. An approach for how to develop the TEN-T to encompass the North Sea Region is given in the NMC II project, which among others focuses on the shipping routes along the coast of Norway. Along this route it will be a good idea to develop inland Logistics Centres to help consolidating the goods arriving and departing by ship along the coast of Norway. The
Transport and Logistics Centres mentioned in this report shows examples of and thereby gives inspiration to, how new centres could be managed and structured.

### 5.4 Motorways of the Sea

By introducing the Trans-European Transport Network (TEN-T) in the beginning of the 1990’s the European dimension of infrastructure planning was highlighted. The role of maritime transport in the transport chain was strengthened in 2001, when the seaports were included in TEN-T. The Motorways of the Sea concept, which is now integrated in the revised TEN-T guidelines, will even more emphasize the role of maritime infrastructure in order to develop an efficient, safe and environmentally friendly transport system.

The Motorways of the Sea concept aims at improving cohesion and access to peripheral and island regions and states and/or reducing road congestion (Decision 884/2004/EC, art. 12a). New logistics facilities, corridors and hubs will be built having an impact on regional development, spatial planning and on ICT infrastructure.

The integration of the new member states in EU policies and systems and the foreseen growth of international transports will lead to huge investments in modern transport and supporting ICT infrastructure. Therefore one of the key elements in the Northern Dimension transport market is the concept of the Baltic Sea Motorways aiming at promotion of maritime transport, multi-modality covering also hinterland and logistics in general.

The “Motorways of the Sea” concept aims at introducing new intermodal maritime based logistics chains in Europe, which should bring about a structural change in our transport organisation, within the next years to come. These chains will be more sustainable, and should be commercially more efficient, than road-only transport. Motorways of the Sea will thus improve access to markets throughout Europe, and bring relief to our overstretched European road system. For this purpose, fuller use will have to be made not only of our maritime transport resources, but also of our potential in rail and inland waterway, as part of an integrated transport chain. In this case Transport and Logistics Centres plays an important role as facilitators for the Motorways of the Sea. The hinterland facilities are a very important part of the supply chains, which includes sea-based transport. Important aspects to remember are in this connection:

- In the hinterland there are several elements that can be developed and have an positive impact on MoS, especially if they are organised, cooperating and networking efficiently
- Globalisation of production and the corresponding supply chains increase the need for efficient Logistics Centres.
- Reduce administrative barriers by developing of the single window/one stop shop concept.
- Improve logistics capacity in ports through development of the corridor infrastructure, IT supporting system, co-modality and efficient logistics centres in the supply chain.
The selected cases of Transport and Logistics Centres are good and well functioning examples of hinterland connections, which play an active role for the connection between land and sea-based transport in the region, in which they are located.

The Motorways of the sea's essential objectives are:

- Reducing the Union's terrestrial motorways congestion through modal shift from the road to the sea
- Massification of the transport of goods on determined lines to reach the profitable critical mass. The selected maritime liaisons have to be sure, regular, frequent and competitive and the ports to be well connected to terrestrial means of transport (road, rail, waterways) in the backcountry without being congested.
- Reinforcing the regional development and the economic and territorial cohesion to link islands and regions on the periphery of Europe with the centre.

Four corridors have been designated for the setting up of projects of European interest:

- **Motorway of the Baltic Sea** (linking the Baltic Sea Member States with Member States in Central and Western Europe, including the route through the North Sea/Baltic Sea canal) (by 2010);

- **Motorway of the Sea of western Europe** (leading from the North Sea and the Irish Sea via the Atlantic Arc to Portugal and Spain) (by 2010);

- **Motorway of the Sea of south-west Europe** (western Mediterranean, connecting Spain, France, Italy and including Malta and linking with the Motorway of the Sea of south-east Europe) (by 2010).

- **Motorway of the Sea of south-east Europe** (connecting the Adriatic Sea to the Ionian Sea and the Eastern Mediterranean, including Cyprus) (by 2010);
6. Institutional Aspects

The objective of this chapter is to give a general overview of European policies in the field of Transport & Logistics Centres and intermodal freight transport. The initial problem is that there is not a single transport policy in the EU, but many intermodal freight transport policies. The policies therefore, are different in the various countries and have changed over time.

Transport policy is a central element of shaping Europe and its legislation. European transport policy creates the prerequisites for a single market in which the free movement of persons, services and goods is possible. But it also lays down the rules for competition among the various modes of transport in order to ensure a uniform market with fair and equal opportunities.

6.1 Safety of Routes

An important objective of EU transport policy, which has obtained an increased focus during the latest years, is to further improve safety on Europe's roads and hereby reduce the number of traffic accidents. Therefore the EU has decided that:

“Uniform standards must be introduced in all safety-related areas and there must be effective monitoring to ensure that there is no chance of individual countries opting out at the expense of safety. Transport policy must be regarded as sustainable economic policy and must therefore be oriented to the Lisbon Strategy in such a way that it promotes economic growth and employment without neglecting environmental concerns.”

Especially the soft road users are a vulnerable group of road users, which hopefully can be more secure in traffic, when coordinated measures are implemented from central European stage. But also the safety of the drivers has come in focus. A new approach is therefore the implementation of secure rest places, and in this process the Transport and Logistics Centres can play an important role in supplying these rest facilities.

6.2 Policy Actions in General

In general there are numerous elements influencing the policy actions. First of all, it is important to stress the meaning of liberalisation in the transport sector. The deregulation has opened a large spectrum of opportunities to integrate ports, rail yards etc. in the Transport & Logistics Centre concept, which intends to create an open and competitive environment for open-access hereunder multi-user solutions.

12 The text is an extract from: http://www.eu2007.de/en/Policy_Areas/Transport_Telecommunications_and_Energy/Transport.html
Secondly, the recognition of lacking interoperability is a key factor to create a more efficient way to harmonisation of interoperability (i.e. harmonisation of containers, rails, mains etc.) has caused several international disagreements but nevertheless is the initiative of great importance. These two initiatives will in general benefit the Transport & Logistics Centre.

Today there are many influences of the politicians in the area of intermodal freight transport. Some of the most important developments and policy aspects are listed below:

- **Agenda 2000** and the proposed new Structural Fund regulations which emphasise “urban areas in difficulty”, local development and social inclusion as well as growth and competitiveness in the lagging regions; the adoption of reinforced pre-accession strategies for candidate countries;

- The European Spatial Development Perspective (ESDP) emphasising the need for balanced and polycentric urban development and hereby a transnational co-operation between national, regional and local authorities aims to promote a higher degree of territorial integration across large groupings of European regions, with a view to achieving sustainable, harmonious and balanced development in the EU and better territorial integration with candidate and other neighbouring countries.

- The EU 1997 commitment to the Kyoto Protocol, adopted by the Third Conference of the Parties to the UN Framework Convention on Climate Change, which contains legally binding targets for the reduction and limitation of greenhouse-related emissions. The EU and Member States are parties to the Convention and intend to be parties to the Protocol;

- The review of the 5th Environmental Action Programme providing for the development of a comprehensive approach to urban issues with special emphasis on the assistance required to support actions by local authorities to implement the Programme and Local Agenda 21;

- The Treaty of Amsterdam which establishes sustainable development as an explicit EU objective and strengthens requirements for policy integration as new fields of action;

- The 6th and 7th Framework Programme, which sets out to strengthen the scientific and technological bases of Community industry and encouraging it to become more competitive at international level. Especially making rail and maritime transport more effective and more competitive, addressing the interoperability of transport modes and assuring intelligent and safe transport of freight.


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Talking about communication on freight transport logistics in Europe the Council of the European Union came up with the following recommendations.

- The globalisation of production and the increasing flows of goods between the major transport hubs all over the world increase the need for advanced logistics solutions where combinations of all modes of transports are integrated in the transport chain. In this way the negative effects of transport such as pollution, congestion, traffic accidents, noise etc. can be decreased.

- That logistics can contribute to enhanced cohesion and improved links to peripheral areas and islands;

- That effective logistics enable a better use of scarce transport infrastructure capacity;

- The lack of reliable statistic data on logistics which precludes monitoring developments in freight transport logistics and assessing the impact of policy measures;

### 6.3 Health and Safety Issue in the Danish Transport & Logistic Centres

There is a comprehensive set of rules of regulations within the health and safety area, to which all Danish companies must comply. NTC is a good example of how health and safety issues have been integrated in the management of the Transport and Logistics Centre in Aalborg.

Apart from complying with the minimum norms and standards of Danish law, NTC has begun a process of applying common norms and standards within the Logistics Centre area. One of the potential benefits of the Logistics Centre idea is the co-operation and sharing of common services. It is an objective for the companies within NTC to align their norms and standards, in order to minimise or totally avoid the risks and dangers to the employees, which occur where two companies interact or two modes meet in the transport chain.

When it comes to the daily operations and safety and environment, it is the responsibility of the single company to comply with the rules in question and whether to go beyond the regulations/rules set by the legal instances. As long as the single company complies with the rules NTC does not interfere.

Safety and environmental regulations/rules applying to the whole Centre involves NTC, the port authority (Port of Aalborg) and the local authorities including the fire brigade. The Municipal Council controls the environmental approvals. A general emergency plan is developed and is under the responsibility of the public emergency force. The focus on inventory reduction has caused many organizations to look closely at the quality of the inbound delivery service they receive from suppliers. At the other end of the marketing channel consumers have become equally demanding in their service requirement. The
challenge to the organizations aspiring to be leaders in service performance is to recognize the service requirements of the different segments that their service and to restructure their logistics processes around the achievement of those service requirements.

Every company in Denmark with 5 or more employees must have a safety representative per department or work area, elected between the employees. The supervisors and the safety representatives form a safety group in the company. Companies with more than 20 employees and more than 2 safety groups must form a safety committee. This consists of two supervisors, 2 safety representatives and the company manager.

The company must provide the safety representatives with the time and resources necessary to acquire sufficient knowledge or education for undertaking the duties of a safety representative. At the same time the safety representative has the legal protection as a shop steward and cannot be dismissed on ground of his/her work as safety representative. The safety groups and safety committees must be included in the planning, advising and control of health and safety aspects in the company. If an agreement is established between the company and the employees, the scope of the safety organisations can be extended to include environmental aspects, specific to the company.

Each company must work out a written company evaluation with respect to health and safety aspects. This must be updated every time changes in the company make this necessary or at least every third year. This evaluation must include:

- Identification and analysis of health and safety aspects;
- Description and evaluation of health and safety problems;
- Prioritisation and development of a plan of action for the redressing of these health and safety problems;
- Instructions for the follow-up of the plan of action.

### 6.4 The Danish Environmental Protection Act

When developing a new Transport and Logistics Centre in Denmark the laws of the Danish Environmental Protection Act must be studied and complied with. The act specially aims at:

- Prevent pollution of air, water, soil and subsurface as well as pollution from vibrations and noise;
- Provide rules and regulations, based on hygiene, of importance for the environment and for human beings;
- To limit the use and waste of raw materials and other natural resources;
- To promote the use of cleaner technology;
- To promote recycling and limit the problems related with the disposal of waste.
All enterprises must therefore to the widest possible extent be based on the use of the least polluting technology, this being appraised as a balance between the costs of the technology and possible benefit obtained by the technology. Furthermore, the enterprise must be designed and have a layout, which minimize pollution, as well as have measures for the prevention of pollution.

The Minister of the Environment can recommend minimum quality standards for air, water, soil and noise level. The Minister can also issue binding minimum standards for the quality of water, air, soil as well as acceptable noise level.

It is illegal to deposit, bury or discharge products, substances and materials, which can pollute ground water, surface water, soil or subsurface without permission.

The Minister of the environment issues a list, containing all the types of enterprises, infrastructure systems and devices, which must obtain a special environment approval. Companies included on this list cannot be established before such an approval has been obtained. For existing companies extensions cannot be started before a new approval has been obtained. The environmental approval lay down the terms for the establishment and operation of the company, with respect to environmental matters, i.e. discharge of waste waters, disposal of waste, quantities and concentration of discharged substances etc. and noise level.
7. Organisational Aspects

Usually, concrete Transport & Logistics centres are formed as (limited) companies, whereas virtual centres are run as associations. For example both Nordic Transport Centre (NTC), founded in 1989, and Klaipeda Logistics Centre (KLC), founded in 2001, are real organisations (as opposed to virtual) and both have the legal form of a company.

The creation of centres is often financed through public-private partnership, and in some cases the centres have been founded as a result of EU financed projects.

All over Europe it has been proved helpful for the Logistics Centres developer to gain competence in the logistics sector. This can be an important advantage for the competition with other locations relevant for the settlement of transport and logistics companies. For example, if Logistics Centres developers are also involved in the planning, construction or even operation of intermodal terminals they can directly influence the modal split of the Logistics Centres and the target of sustainable transport solutions. This competence function can only be fulfilled, if Logistics Centres developers/operators have a sufficient economic basis for own business activities related to the requirements of the Logistics Centres tenants. Therefore, this aspect has to be addressed already in a very early phase of Logistics Centres development.

Logistics centres developers who are only involved in the sale of logistics estates, in some cases only on behalf of the municipality, might face difficulties when the implementation and settlement phase will be over and the operational phase starts. By then, an economic basis for a Logistics Centres operator should be ready to ensure the long-term existence of the Logistics Centres operator and to enable him to take an active position in the fulfilment of the LC development objectives. One of the main challenges of Logistics Centres developers and operators remains the efficient and effective use of synergies through the establishment of cooperative business activities.

7.1 The European Model: Private Public Partnership (PPP)

The Private Public Partnership (PPP) is the most widespread and efficient organizational structure for companies managing Logistics Centres. Share 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 Logistics Centre 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 Logistics Centre 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 Logistics Centre,
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.

PPP covers the institutionalised approach of co-operations between the main actors of
different social systems to solve complex local and regional problems. It provides for the
execution of large projects with public and private partners to meet a public good.
Recommendation is PPP as a workable framework for the execution of a logistic centre.

The PPP is a form of collaboration between a public and a private partner for a well-defined
period of time and related to one of more specific phases of a planned project. The
responsibilities of both the private and public partners are explicitly defined in the Partnership
Agreement.

PPP is a major instrument for regional development of a Logistics Centre. The PPP process
could begin with the search for partners (attracting partners) and the exchange of ideas to
generate common visions, identification of stakeholders and key individuals of the project and
the necessary preparations for the implementation of the project. Permanent auditing of the
PPP process by a selected steering committee is necessary for the successful implementation
of the project activities. After written commitment of the key stakeholders and partners are
received, project tasks and responsibilities should be divided, detailed business plan and a
feasibility study should be prepared, and strategic planning and team development should take
place, the PPP concept is finally implemented.

PPP framework enhances:

- Transparency;
- Visibility;
- Accountability (external auditing);
- Clear commitment from all partners;
- Early stage involvement from all partners;
- Clear structure and responsibility.

**Seen from a regional perspective**, the PPP framework can be beneficial as it supplies capital
and reduces fiscal burden to the government, assists with technology selection and
development, reduces corruption, and provides for the cost and risk sharing.

**For the commercial interest of the private side** the PPP safeguards acceptable return on
investment, provides for the clear assessment of risks, increases long term revenues, increases
brand prestige, streamlines Public Relations (PR), enhances and preserves reputation, supports
growth and diversification, and provides better market opportunities.
From the public point of view, the PPP framework is beneficial as it provides access to corporate funding, utilizes private management expertise, enables the concentration on core competencies, and covers the needs of clients and speeds up processes.

From the lender’s perspective, PPP framework is of commercial interest; again it provides for the acceptable return on investment, supports large scale and long term investments, provides for the clear assessment of risks and increases long term revenues.

PPP as an instrument for allocation of limited resources supports communication, cooperation, co-ordination, collaboration & trust among all stakeholders. There must be the clear sense of commitment from all stakeholders and penalties must be set up for all in case that they do not fulfil their duties.

The role of regional and national government is crucial as the facilitator of the LC-project rather than just being the provider of capital. Infrastructure development is the precondition for the implementation of the project and welfare of the region, where sustainable development is a key issue. Government plays a role as a partner for private investors as well as of local / regional authorities.

7.2 General Model of PPP for Transport & Logistics Centres

Logistics centres serve as nodes for the collection and distribution of cargo, which is essential for local and regional distribution networks and city logistics. They promote investments in the regional economy and transport infrastructure as well as the development of national and international trade. The following figure illustrates the general model of Public Private Partnership for Logistics Centres. It depicts model structure, potential participants and their possible functions in the PPP:

![Figure 19: The general model of PPP framework for Transport & Logistic centre (FDT, 2003)](image-url)
7.3 Advantages of the PPP Solution

There are considered to be certain advantages by using the PPP framework when building a Transport & Logistics Centre.

- It is the most popular organisational structure model for the Companies that manage Transport & Logistics Centres in Europe.

- It would involve the local Public Authorities that automatically would be in some way responsible for the economic development of the project and then of the local territory.

- The support of the Public Authorities could allow a flexible management of the logistics centre.

- A transport and logistics specialised Company could offer a very high level of professionalism. This is a strong guarantee for the potential investors.

- The investors would exactly know where the destination of their investments is.

- To establish a Company on the basis of the European model could be a plus to receive European funds.

Successful PPP depends on the effectiveness of the national and municipal legislative and regulatory structures. The effectiveness and impact of a PPP depends to a large extend, on the regulatory mechanisms used to influence and guide the parties and in particular the private sector decision-making process.

The analysis of a national and sectoral regulatory framework has four main purposes:

- To identify elements that could impede private sector participation, affect viability or distort advantages to be gained.

- To consider the need for restructuring of current operators ahead of a PPP with respect to their legal status and the flexibility of their mandate and articles of association.

- To identify the need for and design sector specific regulation making private sector participation possible and effective including the development of institutional structures to oversee and regulate private operators.

- To identify which regulations that need to be incorporated into PPP contracts, to identify their impact and to identify if safeguards against regulatory risk needs to be included.
National legislative structures will not always be conducive to PPP arrangements, but certain methods can be adopted to facilitate their introduction, including:

- Choosing a private sector arrangement that reduces risks associated with the deficiencies of the legislative structure, for example using a fee based management contract for distribution if collection performance or requirements for providing subsidized services pose unacceptable revenue risk to the private partner.
- Choosing a private partner best able to manage legislative/regulatory risk, for example in the case of adverse foreign currency or profit repatriation rules then contracting local companies may be viable.
- Incorporate explicit safeguards in contracts.
- Encourage the development of effective regulatory and watchdog mechanisms.

A PPP will involve numerous parties and therefore a corresponding number of contractual arrangements. While the nomenclature may change, the main contractual documents include:

- Project Agreement- this is the main legal document setting out the rights and obligations of the contracting authority and the contractor. Many model contracts exist, but changes will need to be made to account for national and project specific requirements.
- Performance Specifications- these will include all of the technical, financial and service requirements of the contracting authority and must be specifically referred to in the project agreement as constituting an integral part and defining the parties obligations in relation to them.
- Collateral Warranties- these provide for direct links between the Contracting Authority and the individual sub-contractors appointed by the contractor. Their main purpose is to give the contracting authority the benefit of an independent obligation in relation to the work carried out by sub-contractors. They will also allow for step-in rights.
- Direct Agreements- these regulate the relationship between the contracting authority and outside founders including the Commission through the financing memorandum.

Other contractual documents of importance include construction and operating contracts and financial security and guarantee arrangements. It is crucial that these documents are prepared in a transparent manner and that clauses are fully understood by concentrated parties.

### 7.4 The Free Economic Zone solution

The idea of this solution is to place the Transport & Logistics Centre in an existing Free Economic Zone. This solution is cheaper but it will also mean less involvement by the Local Public Authorities. Difficulties in obtaining funds from private investors and difficulties in obtaining European funds could arise because it is not clear to whom the funds are addressed.
One of the examples concerning Free Economic Zone (FEZ) could be:
A greater involvement of the FEZ Joint Stock Company (STC) could imply the creation of a new Transport & Logistics Department inside the current FEZ JSC structure whose task would be the management of the logistics centre inside the FEZ area.

7.5 Transport & Logistics Department

The FEZ Transport & Logistics Department, consisting of two/three skilled people, would be responsible for the strategic development of the logistics centre and for the management of all the activities related to the logistics centre.

Advantages
This solution would be the simplest and the cheapest. It would imply an increase in the current FEZ JSC staff by employing one or two skilled people whose task would be the management of the Logistics Centre inside the FEZ area.

Negative aspects
- The Local Public Authorities would be less involved;
- Difficulties in obtaining funds from private investors;
- Difficulties in obtaining European funds because it is not clear to whom the funds are addressed.

The European Union has no possibility to know if the local authorities have approved the project.
8. Development of Transport and Logistic Centres

When developing Transport and Logistics centres there are several important aspects to keep in mind. The first initiatives for the development of Logistics Centres in Europe did already start in the sixties and seventies, particular in France, Italy and Spain. Some of the main driving factors were—despite of the differences between the notions:

- Lack of warehousing space in the periphery of urban areas;
- Start of intermodality with hinterland transport by rail of sea containers (ISO) as first standardised loading units (demand for inland transhipment facilities);
- Increasing conflicts generated by delivery lorries in city centres;
- Capacity restrictions in seaports with the demand for the development of “external” handling and storage facilities (either in the port environment or in the hinterland);
- Significant growth in freight transport with road freight being the main beneficiary of the increase in transport volumes;
- Initiatives on the national railways to stop the decrease of the market share of rail freight by promoting intermodal solutions.

In recent years Logistics Centre developers faced the following main challenges:

- To establish alternative investment and operation concepts for the Logistics Centres intermodal terminals and to integrate them into existing transport networks.
- To react on the ongoing process of restructuring of the transport and logistics industry leading to a higher degree of concentration and internationalisation (tendency for bigger companies with own logistics networks, partly outside the Logistics Centres network).
- To react on the fact that the logistics industry as key Logistics Centres target group is changing from traditional transport and warehousing business towards complex supply chain management (SCM).

Considering self-evident differences between Logistics Centres in Europe, there are several common characteristics as promotion of multimodality, provision of incentives for modal shift, open-access and multi-user approach as well as the requirement for a neutral Logistics Centres developer/operator. These characteristics can also be seen as success factors, which enable Logistics Centres to combine flexible reaction on changing market conditions with the realisation of political objectives (e.g. modal shift).
8.1 Experiences from Denmark - Spatial Planning

The authority responsible for the spatial planning in Denmark is the Ministry of the Environment, hereunder the Nature and Forest Agency is the administrator of the Danish Planning Act, and hereby functions as the professional unit for controlling and administrating the spatial planning. The Danish system is build on a framework based management system, where the authorities on lower level in the administrative system have to respect the planning made on a superficial level. The 1st of January 2007 a structural reform of the Danish administrative system was undertaken. This also had an impact on the Danish planning system. The new system will be structured as showed on figure 21 to the right.

![Figure 21: The old structure of the planning system in Denmark and the new structure of the planning system after the structural reform](image)

The biggest difference in the new planning system will be that the regional level will lose much of its planning responsibility. Instead the regions should focus on a more development oriented perspectives, where visions and strategies to promote the different regions are in focus. The planning responsibility, which the regions used to have, will instead be transferred to the state and to the municipalities. But even though the regions lose much of the competences the spatial planning system will still be divided into four hierarchic levels:

1. Overall country planning, undertaken by the Minister of Environment and other ministries as for instance the Ministry of Transport and Energy. This national level makes directives and the regulatory framework for the planning authorities for the lower level authorities to follow.

2. Regional planning, undertaken by the regional councils. In Denmark there are 5 regions. Which should develop 3 kinds of plans:
   a. The Regional Development Plan
   b. The Regional Business Development Strategy
c. The Regional Agenda 21

3. Municipal planning, undertaken by the Municipal Council. In Denmark there are 98 municipalities. The development for each municipality is described in the municipality plan which consists of:

   a. A policy part with the overall objectives for the development of the municipality, including regulations for land use.
   
   b. A part including the framework for the district plans within the municipality. Of relevance, this could include: technical systems, traffic systems, and regulations for the development of new areas/buildings/industrial estates.

4. District planning, undertaken within the municipalities by the Municipal Council. Before any development can take place the municipality must work out a district plan and construction on a plot/area can take place. A district plan can include regulations for e.g. description of the activities that can take place in the area, size and location of buildings on the area, traffic systems, dimensions and design of buildings, necessary shielding to prevent noise pollution etc.

In this hierarchy of plans, the regulations and stipulations of a plan must always be in accordance with the regulations and stipulations of a higher order plan. This co-ordination is ensured through a formal and lengthy process between the three levels of public authorities.

Lastly, the Regional Council and the Municipal Council share the responsibility of controlling that regulations and stipulations are respected and followed.

With this modification of the Danish Planning system it can be feared that the planning for transport and logistics will be neglected compared to other issues. This concern is due to the fact that transport planning will no longer be a mandatory part of neither the regional nor the municipal planning. In stead it will be up for the individual planning authorities to decide, how much emphasis they intend to put on transport and logistics planning. Hopefully the planners are aware that it is important to make coordinated planning for the transport sector in order to cope with the increasing challenges of separating the growth in economy form the growth in transportation.

An advantage of the Danish Planning system is the possibility to make local plans where all development possibilities are scheduled in advance. This means that an existing Transport and Logistics Centre often will have the possibility to develop continuously, as long as the development plans for the Transport and Logistics Centre are within the framework of the local plan. Integrating new development perspectives or physical facilities are in many other countries a much more troublesome process, which can last for many years.
9. Conclusion & Recommendations

The freight and logistics market is rapidly transforming towards more consignments of a higher quality - often delivered at odd hours. This increases the total transport work, with negative consequences for e.g. the environment. This is where the Transport & Logistics Centres play an important role.

An added value service is a fundamental function within the Logistic Centre concept, which is one of the key attractors and reasons why many smaller companies combine their efforts and collaborate instead of competing.

Logistic centres are oriented to the requirements of the transport and logistics industry, significant emphasis has been put on the location choice in terms of sufficient road and rail access. In most cases the location is close to a motorway junction or has direct access to the main road network. As far as rail (and sea) access is concerned, the terminals are preferably located close to railway mainlines (and/or main ports).

All over Europe it has been proved helpful for the Logistics Centres developer to gain competence in the logistics sector. This can be an important advantage for the competition with other locations relevant for the settlement of transport and logistics companies.

Successful PPP depends on the effectiveness of the national and municipal legislative and regulatory structures. The effectiveness and impact of a PPP depends to a large extend, on the regulatory mechanisms used to influence and guide the parties and in particular the private sector decision-making process.

- Globalisation of production and the corresponding supply chains increase the need for efficient Logistics Centres.
- Logistics is becoming increasingly important - not only within Europe but also for Europe’s international business relations.
- Integrate LC’s in transport infrastructure policy and planning.
- Priority of LC’s in transport infrastructure investments.
- Increase the return of transport infrastructure investments with LC’s.
- Use LC’s as framework for new business opportunities and commercial growth.
- Market and business integration through European co-operation with other major logistics centres in the world (e.g. with the US, Russia, Japan, China, India, Brazil) will need to be ensured.
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