FINAL REPORT

DIPCITY

A project co-financed by the INTERREG IIB programme

Partners:
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I. INTRODUCTION: THE NATURAL BOND BETWEEN INLAND PORTS AND CITIES/REGIONS

AN INTERREG PARTNERSHIP BETWEEN THE PORTS OF BRUSSELS, LIEGE, LILLE AND PARIS:

DIPCITY, THE DEVELOPMENT OF INLAND PORTS AS SUSTAINABLE TOOLS FOR THE CITY

On the 14th of April 2005, the port authorities of Brussels, Liège, Lille and Paris signed the convention which was the official start of the « DIPCITY » project (Development of Inland Ports as sustainable tools for the CITY), concluded in the framework of the INTERREG IIIB program of the European Union. Through this partnership, the ports intended to collaborate to exchange their respective experiences in a series of themes:

- transport of waste and recycling materials on the waterways;
- the attractiveness of the port area and port-city relations;
- multimodal transport;
- the role of inland ports in urban logistics;
- environmental and security issues in the port areas.

The project submitted by the four port authorities, with the Port of Brussels as the main partner, has obtained the approbation of the European authorities for co-financing under the INTERREG IIIB programme (North-West Europe) of an amount of 2.1 million euro. The objective of the INTERREG programme was to strengthen the economic and social cohesion in the European Union by promoting the trans-national, trans-frontier and inter-regional cooperation, as well as the balanced development of the territory. The DIPCITY project fitted closely in this perspective, since its objective is to realise new and innovating investments to pursue the development of the inland ports as tools for their respective region.

THE INLAND PORTS: A VISION OF SUSTAINABLE DEVELOPMENT.

The development of inland ports is effectively in line with the European transport policy and takes into account the necessity to strive for a sustainable transport: through qualitative investments, the ports aim to contribute to the economic, social and environmental development in their region.

The ports also represent themselves as leading-edge companies, through their participation in innovative initiatives for freight transport, in order to transfer freight from the road to the waterway and to develop new waterway transport markets.

Finally, the project partners intend to become an example for the urban integration and for the diversification of uses of the waterway. This development goes together with an increased awareness of environmental and security measures.
**Economic pillar.**

The inland ports have their role in the international trade exchanges to respond to the direct consumption needs in their region and to assure the supply and deliveries of companies. The pursuit of modernising the port areas must lead to reinforcing their role as interfaces of the different transport modes integrated in the European transport networks. In this sense, the ports must be able to propose, by means of the logistics companies located in their area, the services required to assure a seamless logistics chain from door-to-door. This concentration of companies means a diversification of the services offered and a potential cost reduction, which is necessary to maintain the attractiveness of the ports for clients and users. The port authorities thus present themselves as essential facilitators for the regional economic activity, due to the sustainable investments realised in infrastructure and port installations.

**Environmental pillar.**

For the conservation of the environment, the presence of a waterway means an advantage for the whole region: it allows for the supply of goods necessary to the economic activity by means of a transport mode which is respectful to the environment. The multimodal and intermodal aspects of ports are essential elements to further develop.

On the other side, the location of logistics and warehousing activities in the heart of a region is an asset for sustainable transport: the location close to the consumption markets favours an optimal delivery scheme through group loadings. The urban logistics are an asset for metropolitan areas, as well as the chain of recycling waste fractions.

**Social pillar.**

The inland ports are privileged locations for industrial and logistics activities. Through the stimulation of port activities, the ports contribute to the creation of a diversified job offer in their region. In this sense, the consolidation of port activities requires to take into account the urban network in which there are integrated, and thus the improvement of port-city relations. This means not only a physical integration (infrastructure, commercial surface, public spaces), but also a mental integration towards the population. The inland ports have to be a location of exchanges, of culture and social cohesion.

In this sense also, security of the port installations is an essential element in the social integration of inland ports in their region.
The partners of the DIPCITY project were conscientious of the role of their port as an important actor in urban planning in their region. It was their intention to underline this role in a context of transnational cooperation and to connect regions and cities having a common objective: in a transport market where transport on waterways is proceeding, this growth potential has to be commercialised while conserving the inland ports from real estate pressure. This necessity was taken into account by the NAIADES action program, which declared: “Spatial planning and economic policies are needed at federal, regional and local levels to safeguard waterside sites for logistics purposes.”

It was with enthusiasm that the project partners have tackled the DIPCITY program. Round tables were organised for each selected theme of the project, each partner being responsible to ‘lead’ a certain theme. The respective experiences were confronted and best practices determined. Studies were realised for innovative projects, of which some were reoriented from the initial project program. The realisations were implemented successfully, allowing each project partner to visualise the concrete results from the program.

As the project proceeded, each partner integrated DIPCITY and the INTERREG objectives in their communication, both the specialised communication and the general communication, which arose the attention from political actors as from the press.

The project further allowed to strengthen the network from the partners: DIPCITY was to them a “successful adventure », a symbol of the friendship between the inland ports and the European regions.

To us, DIPCITY was a success story. And it wouldn’t have been possible without the support from the INTERREG IIIB secretariat for North-West Europe: our interlocutors have supported us with their help and advice; they have read our intermediate reports with great attention and have advised us where reorientations were needed. We would like to take the opportunity to express our gratitude to them.

While arriving at the end of this project, it is with pride that the project partners would like to quote a honourable member of the European Commission: “The project DIPCITY has been successful to the extend it had been mentioned among the essential actions undertaken in the framework of the NAIADES action plan from the European Commission for the promotion of transport on the inland waterways in Europe: ‘The DIPCITY partnership is associated to one of 2 major Trans-European infrastructure projects, notably the canal Seine-Nord.’”
II. HOW AND WHY “DIPCITY” HAS BEEN LAUNCHED

Between the Ports of Brussels, Liège, Lille and Paris some kind of (theoretical) cooperation already existed within the network of the European Federation of Inland Ports. Within this Federation, several working groups exist where inland ports cooperate around specific themes, such as intermodal transport, implementation of the ISPS code, etc.

However, when the Port of Brussels was informed by its national contact point of the opportunity to prepare a project for the “Targeted Call for Projects” in August 2004, the Port quickly contacted some potential project partners to discuss this possibility. It seemed to be the right moment to organise a strong partnership between inland ports, which would eventually lead to real “in the field” results and a greater visibility for the inland port sector. It was felt that the inland navigation sector was receiving more attention from policy makers, after the Seine-Nord project was added to the list of priority TEN-T projects and after the publication of the European White Book on Transport policy in 2001.

In the preparation phase of the project, contacts were made with 6 inland port authorities (in 4 different EU member states), of which 4 eventually agreed to provide 100% cooperation in preparing an application form in very short delays. The 4 inland ports agreed, during a long brainstorming session, to cooperate around specific and actual port-related themes, which would be structured in working groups (so-called “round tables”).

These themes were identified as follows:

- Round table 1 “Waste and recycling products”;
- Round table 2 “Attractiveness”;  
- Round table 3 “Multimodality”; 
- Round table 4: “City distribution”; 
- Round table 5: “Safety, security and environment”.

All these round tables fit into the overall objective to develop the inland ports as sustainable tools for the city. Each round table will work following the same principles, and there will be interactions between them. A round table meeting will take ½ day, therefore 2 round table meetings can be organised on the same day.

The project was officially launched on the 14th of April 2005 with the signature of the DIPCITY convention between the project partners. This convention determines the conditions of cooperation between the inland ports of Brussels, Paris, Lille and Liège. The convention took place in Brussels with representatives from the 4 project partners, the European Commission and the INTERREG IIIB secretariat for North-West Europe.
Representatives from the 4 project partners, the European Commission and the INTERREG IIIB secretariat on the occasion of the official launch of DIPCITY on 14/4/2005
III. PRESENTATION OF THE PROJECT PARTNERS

DIPCITY is a transnational project within the INTERREG IIIB programme for North-West Europe, with project partners from 2 member states: Belgium and France. The project partners are: the Port of Brussels (project lead partner), the Port of Lille, the Port of Liège and the Port of Paris.

III.1 Port of Brussels

Brussels was born at the water’s edge, more than a millennium ago. Thus, the port-city displays a long port tradition. The port of Brussels is an efficient economic tool at the service of the region and its inhabitants.

The port of Brussels is accessible to river and maritime navigation. Up to 4,500-tonne sea-boats can access the heart of the capital of Europe. Such accessibility is remarkable for an inland port. With its ideal location at the centre of Europe, the port of Brussels is an invaluable asset for the city and the region.

Nearly 22 million tonnes of goods are shipped to the port each year, among which nearly a third are freighted by the waterway. This is the equivalent of 700,000 lorries of 25 tonnes, which, without the port, would congest the Brussels’ roads.

The economic impact of this traffic is important. No less than 350 companies are located in the area of the port of Brussels, providing more than 13,000 jobs, including 6,000 directly-linked jobs. The port zone provides an important source of employment, particularly in the ‘heavy’ secondary and tertiary sectors. Nearly one out of two port workers is a workman, of whom 60% live in Brussels. Therefore, the port is one of the last employment poles of this type in Brussels guaranteeing a high level of employment diversity in the area.

The port of Brussels is a logistics centre. It plays an essential role in the supply and redistribution of goods in the region and its hinterland.

A trimodal container terminal is operational in the outer harbour, in order to develop a transport mode in Brussels which holds an increasingly important position in world logistics.

An advanced logistic centre is being built on the Carcoké’s former land field. This site will be linked to the waterway and will allow new perspectives for Brussels’ logistics.
The port of Brussels is preparing the extension and the modernisation of the present TIR centre (Transport International Routier - International Road Transport) with the building of the Brussels International Logistics Centre nearby. This project will allow the renovation of the present centre and the construction of the latest warehouses in order to meet the needs for urban distribution in the heart of the region.

The modernisation in progress will allow the port of Brussels to play a major economic role within the Brussels Capital Region.

**Distances and surfaces:**

- 120 km to the sea 5 hour-navigation from Antwerp;
- 14 km waterway in the Brussels Capital Region;
- 12 km of quays (including 2.8 km of maritime quays);
- 90 hectares of useful surfaces;
- 160,000 m² of storage in the TIR centre.

**Accessibility of the port:**

- 365 days a year, 24 hours a day;
- maritime ships and inland vessels up to 4,500 tonnes.

**Employment and companies:**

- 350 companies;
- 6,000 directly-linked jobs.
III.2 Ports of Lille

Created in 1948, Ports of Lille is a service of the “Grand Lille Chamber of Commerce and Industry”. With traffic of almost 9 million tonnes in 2006, it is one of the most active inland ports in France.

It is involved in land planning, logistics services, offices and warehouses rental, container terminals and multimodal lines management.

Ports of Lille manage several sites, strategically located alongside the Lys and the Deûle Rivers, in the densely inhabited and economically powerful Nord-Pas-de-Calais Region. The total represents more than 300 hectares.

Ports of Lille are also active as a major logistics player in the Lille Metropolis. With 220,000 m² of warehouses, a trained staff and a high-performance computerised stock management, the Port provides large international companies with supply chain management services (handling, storage, stock management, picking, etc.).

The Nord-Pas-de-Calais Region is strongly involved in international trade. Many containers arrive at or leave it through the closest seaports (Dunkirk, Zeebrugge, Antwerp and Rotterdam). It is the reason why, since 1990, Ports of Lille has created a container terminals network in the North of France. The first was launched in Lille (LCT Lille Conteneurs Terminal) and has been several times enlarged to respond to the traffic increase. Others have been created in Halluin, Harnes, St-Saulve. In 2006, the total traffic of these terminals was 81,876 TEU. Waterway lines have linked these multimodal terminals to the main seaports as soon as in 1991. They have shown reliability, flexibility and economical competitiveness.
Ports of Lille are also very active as a partner with local Authorities, especially for waste transport management. Since 1999, it has been involved in the logistic organisation of domestic waste transported by barge. The reliability of this system has convinced the Urban Community to use waterway transport on a large scale for waste transport between collecting and recovery plants.

The Ports of Lille credo consists of getting involved in logistics and transport and to commit itself at the same time to the environment and sustainable development.
III.3 Paris Port Authority

The Port of Paris is the leading inland port in France and ranks second in Europe, with 23 million tonnes transported by waterways (2006). Without this river and sea traffic several motorways would need to be doubled: each 5,000-tonne river convoy replaces 250 heavy goods vehicles. In 2006, more than 80,000 TEUs were transported by waterways (more than 250,000 TEU, counting all modes of transport).

In the area of tourism - passenger transport, amenities, leisure activities - the Port of Paris Authority, handling seven million passengers per year, is a major player in the Ile-de-France region’s tourist industry.

The River Seine, with its fine network of inland waterways spanning the territory of the Ile-de-France region, is a major infrastructure operating 24 hours a day, 365 days a year. It has enormous spare capacity: apart from the modernisation of existing facilities, the traffic can triple in volume.

The Port of Paris Authority boasts of 70 sites equipped for handling large volume transport, located along the banks of the Seine and its tributaries. The major sites combine various modes of transport: river, maritime, road, rail and, as in Gennevilliers or Nanterre, pipeline. Together, these sites boast of 1,000 hectares of port facilities, one million square metres of warehouses, offices and work premises (300,000 m² of which belong to the Port Authority).
In urban, densely populated areas such as the Paris and Ile-de-France region, which counts 11 million inhabitants, the Port of Paris acts as a gate through which the city is supplied with necessary goods, such as construction materials, petroleum products, and a wide variety of merchandise. Supplying the metropolitan area is one of the core businesses of the Port of Paris. This is done in a sustainable way, thus reducing congestion problems, since the Port has multimodal platforms where waterway, rail and road transport interact. The Port has also an important logistical function: situated close to both the main transport networks and the consumer centres, the Port facilitates the storage of goods, and provides additional logistic services (labelling, packaging, etc.).
III.4 Liège Port Authority

The first Belgian inland port and the third largest inland port in Europe after Duisbourg and Paris, the Liège Port Authority is ideally located at the heart of a dense network of multimodal communications. Its creation as a state port authority dates back to 1937, and it now manages 31 port areas (366 hectares available to users of the inland waterways) spread along the length of the Meuse and the Albert canal in the Liège area.

The Port of Liège is remarkably well situated close to the Netherlands, Germany and France, at the hub of the most tightly knit road, rail and river network in Europe. It is directly linked to:

- the port of Antwerp (129 km) via the Albert canal (draught of 3.40 m);
- the port of Rotterdam (250 km) via the Juliana canal (draught of 2.80 m) and the Meuse;
- the entire European river system (the Escaut, Rhine, Main, Danube, Mittellandkanal, etc.).

The Port of Liège boasts first-rate facilities (1-ha covered dock, container terminal, roll-on/roll-off dock, etc.) for the loading, unloading, storage and handling of all types of products: bulk, chemical products, steel and petroleum products, cereals, general merchandise and containers.

In terms of infrastructure: the Liège Port Authority also has two container terminals offering the full range of logistics services associated with processing containers (handling, storage, packing/unpacking, etc.). River shuttles link these trimodal terminals to the port of Antwerp and, on request, Rotterdam.

The Port of Liège is accessible for sea/river coasters up to 2,500 tonnes and for two-barge tow boats (4,500 tonnes). It also boasts regular Short Sea Shipping lines, to the United Kingdom in particular. Handling in excess of 21 million tonnes of goods annually - 74% of which is inland waterway traffic - the port’s activities generate more than 28,000 jobs in the Liège region, including some 12,000 directly employed, and accounts for no less than 15% of GDP for the entire province of Liège, according to a recent survey carried out by the Banque Nationale de Belgique. The Liège Port Authority stands out as a leading economic player in the region. These excellent results are due to a sustained level of economic activity, dynamic port activities and above all to its ambitious and large-scale investment policy and heightened promotion of the Liège Port Authority on the basis of very close links with the Port of Liège concession holders.

This sterling performance resolutely confirms the dominant role assigned to river transport in Belgian and European transport policy!
**Liège Trilogiport: a genuine “logistical village” at the heart of Europe!**

In response to the scarcity of port land and to ensure its own development into the future, the Walloon Region granted assigned Liège Port Authority a unique 100-hectare site located along the Albert canal, at Hermalle-sous-Argenteau. In the beginning of 2006, the Port of Liège, the Port of Antwerp and the SPI + (Economic Development Agency for the province of Liège) decided to join forces and announced the signature of an agreement to form an Economic Interest Grouping (IEG). Its mission: to promote the future and vast multimodal centre, christened “Liège Trilogiport”.

As its name suggests, Liège Trilogiport has three key advantages: three paths to the sea (Antwerp, Rotterdam and Dunkirk); three modes of transport (water, rail and road); and three cross-border European markets (France, the Netherlands and Germany). Its primary objective is to attract companies using the inland waterways, as well as large European distribution centres engaged in high added-value activities and generating many new jobs.

This major development will enable the Liège Port Authority to host new businesses in the future and underpin the growth in river traffic, while guaranteeing the long-term economic development of the Liège region. A genuine “logistical village”, Liège Trilogiport is one of the first economic redevelopment initiatives in the Liège region.

The cost of developing this multimodal centre (internal road system, container terminal, equipment, isolation area, parking, reception building, landscaping, railway, etc.) is estimated at EUR 29,150,000 (before VAT).

**2007: A record year for the Liège Port Authority!**

Following a period of decline in 2005 (after the closure of the hot phase sites of the Liège iron and steel industry) and stabilisation in 2006, the Liège Port Authority returned to growth in 2007. Waterway traffic through the port in 2007 totalled no less than 15.79 million tonnes, representing an increase of 9.54% in the overall tonnage for this mode of transport compared to 2006 (14.41 million tonnes). A record for inland waterway traffic for the Liège Port Authority! The Liège Port Authority recorded an overall tonnage in excess of 21.2 million tonnes for all types of transport (waterway, rail and road), an increase of 5.9% on the previous year. 2008 has had an auspicious start in terms of waterway transport, with an increase of 4.3% in the first six months, compared to the same period in 2007.

**Improvements to the Liège Port Authority’s port areas: investments!**

Supported by ERDF funds (the European Regional Development Fund), the Liège Port Authority has undertaken large-scale development and infrastructure projects at a number of ports valued at some EUR 15 million: development of a new port area at Loën (Albert canal); creation of a dock at Visé (Basse Meuse); modernisation of the sites at Monsin; deepening of the berthing area at Sclessin; new wharves at Hermalle-sous-Huy; development of the docks at Renory. All projects designed to attract even more traffic to Liege!
In addition, the opening of Biowanze in the port of Statte (upstream from Huy) is set to generate incoming traffic of some 750,000 tonnes of wheat (500,000 tonnes by waterway transport) and outgoing waterway traffic of 200,000 tonnes of bioethanol.

Key figures for the Liège Port Authority:

- 21.24 million tonnes transported in 2007 (15.78 million tonnes by inland waterways);
- 26 km of docks;
- 366 ha of port land;
- one covered dock (1 ha);
- one roll-on/roll-off dock;
- Storage tanks for petroleum products (200,000 m$^3$);
- 65 warehouses covering a total of 15 ha under roof;
- Grain silos with a total capacity of 50,000 m$^3$;
- a marina with a capacity for 120 pleasure boats;
- 11,800 employed directly and 16,280 indirectly.
IV. PROJECT OBJECTIVES

The general objective of the DIPCITY project is to realise new and innovative investments in NWE-inland ports so that these ports can develop further as sustainable tools for their hinterland, and for the metropolitan area which they serve. This can only be realised by innovative investments after transnational cooperation and common learning in the field of urban integration of port activities and establishment of an exchange of experiences permitting to define strategies for inland ports to develop.

To achieve transnational cooperation, the project partners have organised round tables on specific issues of inland port activities and searches for best practices in non-project partner ports by visiting the most innovative examples. This has improved cooperation and joint learning between inland ports. The realisation of the objectives and future projects described in their respective structural development plans (Master plan or ‘schéma directeur’) will thus be done in a more efficient and innovative way. The challenges inland ports are facing (see previous point) are similar for all of them and by approaching these challenges in a network of ports they can be tackled more efficient.

Once their strategies defined, the project partners have continued their efforts to invest in a multimodal, efficient platform, integrated in the urban fabric. This comprises the development of new and innovative activities, such as the transport of municipal waste on inland waterways, new concepts of urban distribution.

By doing so, another objective has been realised, namely shifting truck movements to sustainable modes of transport and thus lowering the ecological footprint of urban logistics. New concepts of logistics, such as the transport of palletised goods on inland waterways, contribute to this objective.

The urban integration of port activities can best be realised by raising the attractiveness of the port area. This means that ports develop strategies permitting the population to live with and nearby the waterway, without starting a process that is negative for the port activities. An example is the creation of green, public spaces where the population can enjoy the presence of a waterway in their city. The development of a waterfront for the city is a process where ports can learn from the experiences in cities with a longer tradition of urban integration (Paris, London, Brussels and Amsterdam).

The objective of a sustainable tool for the city also means that port authorities give priority to safety and security of port operations. This can be realised by implementing a risk assessment and a safety plan, appointment of a safety coordinator and the involvement of intervention services. The monitoring of the environmental performance of port operations is a tool to reduce complaints with the population.
V. PROJECT BUDGET

The DIPCITY project has been approved at the INTERREG IIIB NWE steering committee of 9 November 2004. The project was granted a maximum **ERDF support of EUR 2,133,326.53**, which represents a total project grant rate of 13.12% (total eligible cost for the project is EUR 16,256,294.4).

The project budget breakdown per budget line is given in the table below.

<table>
<thead>
<tr>
<th>Budget line</th>
<th>Budget (EUR)</th>
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<td>Preparation costs</td>
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<tr>
<td>Partner staff</td>
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<td>External experts &amp; consultants</td>
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<td>Investment</td>
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</tr>
<tr>
<td>General costs</td>
<td>3,000</td>
</tr>
<tr>
<td><strong>Total eligible cost</strong></td>
<td><strong>16,276,667 €</strong></td>
</tr>
</tbody>
</table>
VI. PROJECT THEMES

In order to understand the issues addressed by this project, grouped in 5 project themes, it is first necessary to recall some of the elementary functions and the “raison d’être” of inland ports. Next to that, the inland ports face some challenges and threats which are explained in a second point. The need for cooperation and development of innovative practices comes out of the confrontation between these elementary functions and the challenges/ threats which have to be faced in the coming years. This is described in a third point.

The “raison d’être” of inland ports

Inland ports are situated close to large consumption centres and in the vicinity of the main transport networks (Trans-European Transport networks). In fact, they are multimodal platforms where different transport modes cross (road, rail, and waterways) and goods are transhipped. They have an unmistakable role for the sea ports where they figure as multimodal hinterland connections for these sea ports. This role was clearly defined and recognised in the White Paper: European Transport Policy for 2010.

In urban, densely populated areas, inland ports act as gates through which the city is supplied with necessary goods, such as construction materials, petrol products and food products. Supplying the metropolitan area where they are situated with these goods is the core business of all inland ports. This is done in a sustainable way, thus reducing the congestion problems in metropolitan areas, since these ports are typical multimodal platforms where waterway, rail and road transport interact. Further, the inland ports have an important logistic function: situated close to both the main transport networks and the consumption centres, the ports facilitate the storage of goods, a number of additional logistic services (labelling, packaging, etc) and finally the distribution to the city in a way that respects the urban environment (with small trucks). In recent years, new, innovative concepts aroused with regard to this distribution function. An example is the transport of palletised goods on inland waterways which responds to the necessity to deliver small quantities. With innovative technology and frequent stops it allows waterway transport directly from the production centre to the final distribution centre.

In order to maintain these functions, ports must continue to invest in new infrastructure which attracts waterborne activities, in particular by construction and maintenance of (new) quay infrastructure, acquiring new grounds for waterborne activities, decontaminating soils, etc. Therefore, cooperation with public and private actors on all levels is necessary and private-public partnerships have to be encouraged and developed.

At the same time, developments of new port activities act as catalysts for urban development, by generating added value and new, diversified employment. Cooperation between inland ports and cities can thus be considered as a win-win situation.
The challenges and threats for inland ports

Where the importance and “raison d’être” of port activities is nowadays clearly defined and recognised, this was in the past not always the case. Due to their situation in a closely and densely populated metropolitan area, inland ports have to face pressure from several other functions: commercial pressure, housing, offices, environment etc. Ports had to defend themselves against these more ‘noble’ activities and pressure from powerful real estate promoters. However this pressure has nowadays diminished and the zoning of port activities is clearly defined in the regional structural development plans, it continues to exist and port authorities need to be proactive and defend their role for city logistics. It remains difficult for inland ports to acquire new grounds for waterborne activities.

Next to this, the role and even the existence of inland ports are often unknown to the population. The negative image of port activities (due to the presence of industrial activities close to densely populated areas, the visual nuisance caused by piles of sand and recycling materials along the waterway, the presence of ‘old industrial cancers’, often known as brown fields, such as heavily polluted sites, etc.) often outweighs the positive role these ports play for urban logistics. Therefore there is unmistakably a need to promote the port with the population and to create a more positive image of the port activities and giving access to the population for recreational activities in the port area. This is done by organising big public events, such as a ‘harbour day’, by creating a beach along the waterway (Paris plage, Bruxelles les bains), by organising visits to the port, etcetera. In order to maintain and increase the acceptability of port activities, there is a need to integrate these port activities into the functioning of the city. This is the so-called issue of city-port relations which has become a strong topic in recent years, especially for the inland ports. Therefore, certain inland ports have developed a strategy of urban integration which is described in their respective development plans and taken over in the regional structural development plans. This strategy consists of the creation of new public spaces in the port area, plantations, recreational activities, cycle-tracks along the waterway, etc. This strategy of city-port relations comprises the involvement of different stakeholders at local and regional level.

The nearness of a dense urban population also means a constant alertness for the safety of port activities. The implementation of a risk assessment and safety plan are important tools for port authorities. This comprises the appointment of a safety coordinator and the involvement of intervention services (fire brigade, civil protection, etc).

The menace of acts of terror has recently led to new legislation concerning the security of port activities (the loading and unloading of ships). The so-called ISPS code (International Ship and Port facility Security code, imposed by the IMO and a European regulation) has been implemented in all ports with maritime traffic, of which several inland ports (Paris, Liège, Brussels). The European Commission has further published in 2005 directive 2005/65/EC on port security, which will comprise the whole port area. The European Commission is also preparing an initiative regarding the security of the whole supply chain.

By realising a modal shift from road to rail and waterway, inland ports also have a considerable environmental impact on their hinterland. This impact can be quantified in
terms of a return on public investment for society. These types of calculations have for example been made for the master plan of the Port of Brussels.

Because the challenges are common to all ports, inland ports have a tradition of networking to handle these challenges. They cooperate for instance with the European Federation of Inland Ports on the issue of port security or on the subject of multimodality. Another existing network is the International Association of Cities and Ports (AIVP), where ports and cities cooperate and exchange practices in the field of city-port relations. In 2003, a seminar was organised in Brussels by AIVP, EFIP and the Port of Brussels on the subject “Inland Cities and Ports, strategies for sustainable development”.

The need for transnational cooperation and development of innovative practices

The challenges described in point 2 are equal for all the inland ports. Therefore, there is a real need for cooperation and common actions in order to further develop the inland ports as a sustainable tool for the city and to integrate these ports in the Trans-European transport networks. Some ports are pioneers in a field, and other ports can learn from their actions. An example is the transport of municipal waste on the inland waterways, where the Port of Lille and the Port of Liège are pioneers (with a different way of transporting the waste) and whereby the other partners could benefit from the best practices and success stories developed in these ports.

Other ports are pioneers in the field of creating an attractive waterfront (Brussels, Paris, Amsterdam, and London).

Therefore a real cooperation between ports in North-West Europe can lead to win-win situations. A core group of partner ports will organise round tables around the theme of developing ports as sustainable tools for the city. These round tables will be open to other interested ports. Also visits will take place to pilot investments in other ports. These round tables should lead to investments in port infrastructure and common actions to promote the role and functions of inland ports.

The themes of the round tables will be:

- waste management and transport of waste and recycling products on waterways (exchange of know-how, facilities for waste reception)
- attractiveness of the port area (developing an attractive waterfront for the city, creation of green public spaces in the port, multiple uses of the waterway, organisation of big public events, lighting of the waterway at night, etcetera)
- multimodality (further development of inland ports as an efficient multimodal platform in the Trans-European transport networks. An example is a modal shift action from pure road transport to rail or combined transport for perishable goods transported from southern Europe to the Brussels Fruit & Vegetable Distribution Centre)
- city distribution (final distribution of goods to supermarkets and stores but also distribution to production centres: modern logistic concepts such as Just In Time delivery require a very efficient logistic chain delivering intermediate goods that are
stored in inland port warehouses “just in time” on the work floor; grouping of loadings)

- implementation of measures related to the environmental impact of port operations, port safety, port security
VII. PROJECT ACTION PLAN

The DIPCITY project was submitted under the 6th Call for proposals (‘Targeted Call for Proposals’) in September 2004 and approved by the programme steering committee on the 9th of November 2004. The targeted call for proposals was specific, since the ERDF granted to the project was based on actions realised before September 2004. Therefore, there was a ‘one shot’ audited payment claim and activity report based on which the ERDF was granted.

The project action plan therefore is slightly different from the actions plans from other projects, since it has a “phase 0”, which are the actions undertaken before the official approval of the project. Phases 1 to 4 group the actions undertaken between 01/01/2005 and 31/12/2008. It has to be noted that the original project application has been modified during the course of the project and that the project has received a project extension from 31/12/2007 till 31/12/2008.

Phase 0

Over the period May 2001 - October 2004, the 4 project partners have made undertaken several actions with the objective of developing their ports as sustainable tools for the city/region. These actions are listed in the table below:

| Action 0.1 | Elaboration of a master plan (= a structural development plan with horizon 2015) for the port of Brussels |
| Action 0.2 | Organisation of a big public event in the port of Brussels in 2002 and 2003 |
| Action 0.3 | Construction of an inland container vessel by the Port of Lille. See investment 1. |
| Action 0.4 | Development of new quays and reparation of existing quays in the Port of Liège (several sections in the Port of Monsin, Port of Seraing and Coronmeuse). See investment 2. |
| Action 0.5 | Construction of part of the roofing of the covered dock in the Port of Liège (Port of Monsin). See investment 3. |
| Action 0.6 | Adaptation of quays and covered dock to the dimensions of the actual inland vessels (with draught 3m40) and installation of transhipment zones more adapted to modern multimodal logistics. See investment 4. |
| Action 0.7 | Development of a buffer zone between the port operations and the city of Liège with the objective to reduce the visual impact of the port activities for the population (urban integration). See invest. 5. |
| Action 0.8 | Modernisation of railway tracks and multimodal terminals in the Port of Liège (Port of Renory) See investment 6. |
| Action 0.10 | Accessibility study for a city logistic centre in Brussels |
| Action 0.11 | Socio-economic impact study for the activities of the port of Brussels |
| Action 0.12 | Construction of a building for an intermodal platform in Port of Paris. See investment 8. |
| Action 0.15 | Organisation of a seminar on short sea shipping during the Belgian presidency of the EU |
| Action 0.16 | Works realised with foregoing studies for decontamination of soils by the port of Brussels. See investment 11. |
Phase 1. Composition of round tables and kick-off meeting

During a kick-off meeting between the project partners (action 1.1) the composition of the different round tables has been discussed. Each round table is basically composed of a lead partner and a representative from the other partner ports. The following agenda was adopted for this kick-off meeting:

- Which expertise is there in the partner ports on the subject discussed? Which ports have a project going on in this field?
- Which experts in the subject discussed will be invited to give input to the group.
- Which visits to innovative practices in other ports will be realised.
- Which other actors (public or private) will be invited to participate in the learning process. Is interaction possible with other existing port-networks and projects underway?

This kick-off meeting has been organised in March 2005. After this meeting the round tables have been formally installed and a report drafted which served as a basic action plan (with future agenda) for each round table (action 1.2).

The lead partner of the different round tables was:

<table>
<thead>
<tr>
<th>Round table</th>
<th>Lead partner</th>
</tr>
</thead>
<tbody>
<tr>
<td>Round table 1 “waste and recycling products”</td>
<td>Port of Lille</td>
</tr>
<tr>
<td>Round table 2 “Attractiveness”</td>
<td>Port of Brussels</td>
</tr>
<tr>
<td>Round table 3 “Multimodality”</td>
<td>Paris Port Authority</td>
</tr>
<tr>
<td>Round table 4: “City distribution”</td>
<td>Paris Port Authority</td>
</tr>
<tr>
<td>Round table 5: “Safety, security and environment”</td>
<td>Port of Liège</td>
</tr>
</tbody>
</table>

The agenda of the round table meetings included:

- A presentation by the ‘teacher’ on the theme of the round table: giving an overview of the legal framework, existing planning documents (European Spatial Development Perspective), white books (European White Book on Transport Policy), and a detailed description of the existing practices (for example for waste transport: what are the benefits of transporting the waste by barge, what are the disadvantages, what are the costs, is the project contributing to a more sustainable transport system, is it beneficial for the community, what are the obstacles);
- Presentations by experts on the themes discussed;
- On-site visits to best practices, organised by the ‘teacher’; The destination and purpose of the visits will be defined by the Steering Committee of DIPCITY, which will meet on a regular basis (see section 3 -project management structure);
- Discussion between the participants of the round table on the different topics resulting from the presentations, the experts’ advice, the visit;
- Conclusions: A report will be drafted after each round table meeting by the teacher, with the conclusions of the round table. All the documents, presentations as well
some pictures of the visits will be put on a CD-ROM and distributed among the project partners.

**Phase 2. Study-phase**

In the study phase each round table discussed the best practices existing (action 2.1) and some of these practices were also visited on site (action 2.2). Although no visits were planned to areas outside NWE territory, contacts with representatives from outside NWE could take place when they brought in valuable input in the project.

Experts (either from other port authorities, sector federations or academics) were invited to join a round table and bring their advice to the group (action 2.3). Eventually consultants drafted an independent study on the issues discussed in a round table (action 2.4). These studies were rather small-scale studies on very specific topics. References would be made to the structural development plans or master plans of the partner ports, but these studies always looked further than the national frontiers of the partner ports.

Sometimes meetings of 2 round tables could be organised on the same day as to avoid time loss and extra travel expenditure. Next to the round table meetings, the partners communicated as much as necessary and exchanged as much information as needed to realise the project. The lead partner was responsible for stimulating the interaction between the partners. The working language between partners was French, but all reports were drafted in English.

Interaction has been sought with other projects and networks working on the same subject (action 2.5). Interaction either took place with other INTERREG projects already underway or with non-INTERREG transnational projects (Ecoports). Interaction also occurred with the network of IACP (International Association of Cities and Ports), which represents more than 100 port cities all over the world.

The conclusions of the round tables have been formulated by each leader of a round table. These conclusions served as a basis for the investments in partner ports. The current report captures the conclusions of the discussions in all the round tables, the visits to other ports, the experts’ advice and external studies that have been carried out (action 2.6).
The first and second phases of the project were thus be organised as follows (Actions 2.1, 2.2, 2.3, 2.4 and 2.5 took place simultaneously):

**Phase 3. Actual innovative investments in the partner ports**

The conclusions of phase 2 as described in the report (see action 2.6) have been used to define new strategies in the partner ports to develop these ports further as sustainable tools for the city (action 3.1). These could either be (a) totally new investments or (b) innovative adaptations to existing projects which are defined in the structural development plans of the partner ports.

The investments have a direct link with the subjects of the round tables and serve the objective to make the port a more attractive, efficient, secure tool for the city.

The future actions and investments that received attention in the study phase and were picked up in the future development strategies are:

- The attractiveness of the port area and the integration of the port in its urban environment is a general theme of the project. All the project partners paid particular attention to this aspect. The Port of Brussels continued its efforts in this field and taught the other partners on its experiences. In the Port of Paris attention was paid to the mixed use of the waterway for cargo and passenger transport;
- A project on city distribution in the port of Brussels. A new logistic platform will be constructed in the next years with a loan from the EIB. In the DIPCITY project, the railway connection to this future logistic centre has been examined;
- Promotion and further development of transport of waste and recycling products by the Ports of Lille; extension on existing sites or on new transhipment platforms. Especially the Port d’Halluin has received attention, where the Port of Lille examined the possibility to transfer both waste containers and maritime containers;
- Studies and investments to further develop the intermodal (container) activities in the 4 partner ports. Further modernisation of infrastructure and common promotion actions has been examined. In Paris, the platform of Gennevilliers was further developed; in Lille the platform of Halluin;
- The Port of Liège has further developed its multimodal capacity in the port de Monsin, where a unique covered dock is situated which offers the possibility to tranship from inland vessels to coasters. The site is connected to the international rail and road network;
- The respective development plans ad master plans of the partner ports have been examined and actions undertaken on-site in an innovative way.

When required a feasibility study and impact assessment for the planned investments were be carried out (action 3.2).

After fulfilment of all the legal conditions, the actual investments started (action 3.3). All investments were realised within the timeframe of the DIPCITY project (before end of 2008).

Several meetings were organised during the course of 2008 to discuss the progress of the investments. This follow-up included the exchange of pictures between the partners. This action replaced the mutual visits foreseen in the original action plan (action 3.4).

**Phase 4. Publicity and diffusion of results**

Interaction with stakeholders was an important aspect of this project. Therefore, several public and private actors were involved and consulted in the study-phase of the project.

Further, the current final DIPCITY report will be diffused among the partners’ stakeholders, either on cd-rom or in paper version (action 4.1).

The project partners will join their forces to organise a press conference to diffuse the results of the project (action 4.2).

Information on the actions undertaken and the final report will be put on the respective websites of all partner ports (action 4.3).

Stakeholders and local and regional authorities will be invited to the 4 ports to show the results of the project (action 4.4).
VIII. ROUND TABLE MEETINGS

Phases 1 and 2 of the DIPCITY action plan were mainly focussed on organising the exchange of expertise on specific themes of managing inland ports. These exchanges took place in the round table meeting which were regularly organised by the project partners between June 2005 and December 2006. These exchanges were not limited to the project partners, but involved other actors within North-West Europe, such as port authorities, researchers, municipalities, regional authorities and so on.

For practical reasons, sometimes 2 round tables (on different themes) were organised on the same day.

A description of each event is given below.

VIII. 1 Round Table of 29 June 2005 in Liège

The Port Authority of Liège was the organiser of the first round table held on 29 June 2005 to discuss “Port Security”.

The schedule for the day was structured as follows:

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:00</td>
<td>Welcome</td>
</tr>
<tr>
<td>09:30</td>
<td>Visit by houseboat to the ports of Renory and Monsin</td>
</tr>
<tr>
<td>11:00</td>
<td>Return and technical presentations</td>
</tr>
<tr>
<td>12:30</td>
<td>Lunch</td>
</tr>
<tr>
<td>13:30</td>
<td>Presentations</td>
</tr>
<tr>
<td>15:00</td>
<td>Questions &amp; Answers, dialogue</td>
</tr>
<tr>
<td>16:00</td>
<td>Closing of the debates</td>
</tr>
<tr>
<td>17:00</td>
<td>Steering committee meeting</td>
</tr>
</tbody>
</table>

This round table included a tour of some of the 29 port areas in the port of Liège. The purpose of this tour was to share the experience acquired by the Liège Port Authority in the area of port security (ISPS\(^1\)).

The tour started out at the Ile Monsin, the first port to be taken over by the Liège Port Authority when it was formed in 1937. The Port of Monsin is the busiest port and covers an area of some 93 hectares with 20 or so concession holders. Monsin features a covered dock. It is an ISPS area.

The boat then headed for Renory (upstream from Liège). This port offers a coils terminal and a container terminal (daily river shuttle to Antwerp). On the way, it was possible to observe the ports of Eclatement, Coronmeuse and Yachts.

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\(^1\) ISPS code = International Ship and Port Facility Security code, imposed on all maritime port facilities by the IMO in 2004.
The purpose of this round table was to assess progress on the application of European Regulation 725/2004 on enhancing ship and port facility security.

In addition to representatives from the ports of Paris, Lille, Brussels and Liège, the Captain of the Port of Antwerp and port security officers from ISPS-certified facilities from the Liège Port Authority also attended.

Lest we forget, the issue of port security came to the fore after the strikes on 11 September 2001 in New York.

Faced with the growing threat of terrorism and on the instigation of the United States, the I.M.O. (International Maritime Organisation) adopted the ISPS code (International Ships and Ports Security Code).

Europe followed the measure by adopting regulation 725/2004 on 31 March 2004, which imposes security measures on all ships of 500 gross tonnages and upwards engaged on international voyages and on all port facilities servicing these ships.

The aim of this first day was to outline progress in the application of this regulation in the relevant Belgian and French ports.

Although Europe opted for a regulation rather than a directive, which could be open to different interpretations in the Member States, the risk of disparate enforcement of the measures in the regulation could lead to significant distortions in competition.

This first day of international meetings provided the opportunity to assess the implementation of port security policies in the European regions represented by the round table participants.

Mr. Emile-Louis BERTRAND, Chief Executive Officer, f.f. of the Liège Port Authority had taken part in a colloquium in Nantes held to discuss this subject. He was thus ideally placed to give an overview of the situation globally and reported that 94% of signatories of the SOLAS (Safety of Life at Sea) convention have approved the security measures for 97% of their port facilities.

This issue concerns no fewer than 40,000 sea-going vessels of 500 gross tonnage and upwards and 16,000 port facilities.

The round table was delighted to welcome the Captain of the Port of Antwerp, Captain J. Verbist, who outlined the importance of this regulation for large seaports.

The General Representative of the Service Public Fédéral (Federal Public Service) at the Department of Maritime Transport, Mr. P. Colpaert, in turn explained the legislative process leading to the formation of the Federal Committee and Local Committees in Belgium.
The Chairman of the Local Committee on Port Security at the Liège Port Authority, the Director and Coordinator of the Federal Police Force, Mr. Claes, was present and had the opportunity to answer the many questions put to him.

The Security Officers of the firms, CTB Magemon and Somef presented their facilities and their security measures.

The Ports of Brussels, Lille, Paris and Liège then had their say with a presentation of their respective situations.

Stage two of the directive could form the basis of security measures covering the entire supply chain (Supply Chain Security).

Additional plans include transferring responsibility for security audits from government bodies to the private sector, as is the case of quality or environmental certification.

The lessons learned from this study day can be summarised as follows:

- Two European countries have set the pace for security in Europe, i.e. the Netherlands and Belgium, in the main through the importance of their flagship ports (Rotterdam, the leading European port and Antwerp the second largest);
- Security culture varies between countries. EU inspections will be required;
- Waterway transport is in direct competition with rail and road transport. Voices are being raised against the securities measures that apply only to the waterways, which amount to a distortion of competition.
VIII. 2 Round tables of 20 September 2005 in London

The round tables held on the subjects of “Attractiveness of the Port Area” and “Transport of Waste” where held on 20 September 2005 in London. They were organised by the Port of Brussels and the Ports of Lille, responsible respectively for these subject areas.

The visit to London was inspired by the policy from the Mayor of London to safeguard and reactivate some of the wharves along the Thames for freight transport. There are also plans to increase water transport on London’s other waterways, including for the planned Olympic Zone.

The program was composed as follows:

19th September  
arrival in London of DIPCITY delegations

20th September  
10:00 - 12:00 Round table ‘waste management’
Visit to Wallbrook Wharf

13:00 - 18:00 Round table ‘attractiveness of the port area’
Visit by boat to London docklands

Round table “transport of waste”

This round table was organised in collaboration with Transport for London and the Corporation of London and comprised a visit to the Wallbrook Wharf, a waste transfer station situated along the Thames in London’s historical city centre. The transfer station is managed by the Corporation of London since 1985.

The Wallbrook Wharf handles about 60,000 tonnes per annum of household and business waste which is packed into ISO containers by three large compactors.

The site is arranged on two floors with all of the tipping area totally enclosed. Once loaded the full containers are placed on a barge using a 25-tonne Container crane.

Once the barge has been loaded it is towed down river for unloading at Mucking in the Thames Estuary, where at present the waste is land filled.

The barge has a loading capacity of 2 layers of 13 containers. The colour of the containers is neutral gray, so that the loading/unloading facility along the Thames does not attract a lot of attention. Severe measures are taken to reduce odour impact of the waste: the transfer station is sprayed with perfume.

Next to the visited Wallbrook Wharf, there is a second waste transfer station along the Thames. In total, 400,000 tonnes of waste are thus transported by waterway.
The extra cost for transporting waste in containers is the purchase of 9 container cranes, (GBP 1.2 million each) and 150 containers (EUR 5,000 each). The investment in the waste transfer station was EUR 5 million. Next to this, 8 tugs and 58 barges were purchased.

“Attractiveness of the port area” Round table

The programme for the round table on the “Attractiveness of the port area” consisted of a boat tour of the London Docklands and the port facilities on the Thames, followed by a meeting in London’s City Hall.

13:00  Boarding at Tower Hill for the boat tour of the Thames

Visit to the port facilities in East London, between Tower Bridge and the Thames Barrier, with commentary by Mr. Reid (senior planning strategist, Greater London Authority).

16:00  Meeting in the conference room at London’s City Hall (the Queen’s Walk)
Presentation by Mr. Huygens, President of the European Federation of Inland Ports and Chief Executive Officer of the Port of Brussels.
Presentation by Mr. Reid

Discussion on how cities and ports can coexist.

During the boat tour, Mr. Reid, senior planning strategist with the Greater London Authority (GLA), provided the commentary. The GLA controls 33 local government authorities, including the City of London, i.e. a total area of 1,579 km² or 7.5 million inhabitants. The Mayor of London at the time was Ken Livingstone.
Amongst the responsibilities of the GLA is the strategic planning for London. The foundation strategic planning document for the terminals in the London Port is “Safeguarded Wharves on the River Thames - London Plan Implementation Report”. While a large number of terminals were closed during the 1960s and 1970s, the 1980s saw the emergence of large-scale commercial development projects in the Docklands area, driven by the liberal policies of the time. Examples of these include Canary Wharf and other prestigious developments which emerged in the former river basins.

Today, the river terminals still operating in the heart of London are very few. The majority of the merchandise transhipped to these terminals is aggregates (construction materials) and household waste. 1997 saw the city of London adopt a policy of safeguarding its terminals and reactivating others which are not currently operational as river terminals.

In 1997, 32 river terminals located west of the Thames Barrier were safeguarded. Four others lost their status, but another 25 terminals were safeguarded in the same region. The updated version of the ‘London Plan Implementation report’ recommends that 3 of these 25 terminals should lose their status, as they are no longer considered viable for handling cargo. To date, 50 or so terminals have been safeguarded, but only a few of these are located in the heart of London.

Two factors play a role in determining the status of terminals:
- first, the national and regional planning context;
- second, the trade potential to 2015 (by the PLA), the related port capacity and developments in the handling of cargo since 1997.

In 2001, London Port handled 53.1 million tonnes, 10.7 of which were transhipped in the Greater London region. This volume is forecasted to rise to 74.8 million tonnes in 2015, representing growth of 40.92% compared to 2001.

The greatest predicted growth is in the container sector (up 205%), followed by aggregates (up 60%).
### Volume of goods transhipped in London Port, 2001 and 2015 (forecasted) in thousands of tonnes.

<table>
<thead>
<tr>
<th>Region</th>
<th>2001</th>
<th>2015</th>
<th>Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greater London</td>
<td>10,757</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Essex</td>
<td>35,604</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kent</td>
<td>6,763</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>53,124</strong></td>
<td><strong>74,860</strong></td>
<td><strong>40.92%</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cargo</th>
<th>2001</th>
<th>2015</th>
<th>Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Containers</td>
<td>4,348</td>
<td>13,300</td>
<td>205.89%</td>
</tr>
<tr>
<td>RoRo</td>
<td>7,497</td>
<td>10,500</td>
<td>40.06%</td>
</tr>
<tr>
<td>Petroleum products</td>
<td>18,429</td>
<td>20,800</td>
<td>12.87%</td>
</tr>
<tr>
<td>Aggregates</td>
<td>10,023</td>
<td>16,100</td>
<td>60.63%</td>
</tr>
<tr>
<td>Household waste</td>
<td>680</td>
<td>680²</td>
<td>0%</td>
</tr>
<tr>
<td>Other</td>
<td>12,147</td>
<td>13,480</td>
<td>10.97%</td>
</tr>
</tbody>
</table>

Mr. Reid went on to explain that the safeguarded terminals also come under pressure from the property market. For two of these terminals (Orchard Wharf and Peruvian Wharf, owned by a commercial developer), the Greater London Authority has not reached an agreement with the owners and has announced that it will resort to a compulsory purchase order at industrial prices. Several river operators have already expressed an interest in using these terminals.

The difficulty facing the GLA in assigning safeguarded terminals to river traffic is also related to the fact that there are no “zoning” plans in England like in most of continental Europe.

² The volume of waste transported on the inland waterways is not forecasted for 2015.
When we arrived at the Thames Barrier, Mr. Reid explained that the barrier is closed six or seven times a year for 12 hours each time. With rising sea levels (as a result of global warming), the barrier is closed more frequently in these last few years. As a result, the Thames Barrier has become an increasing barrier to navigation on the Thames. A bypass will be created in the future to allow boats to pass when the barrier is closed.

Thames Gateway is located east of the Thames Barrier. This is a vast area extending over 80,600 hectares with huge development potential, especially for housing and job creation (300,000 jobs from now until 2031). The Thames Gateway is identified in the “Regional Planning Guidance for the South East” as a national priority for economic redevelopment, and in the “Sustainable Communities plan” as one of the four priority areas for the construction of new housing in the South East of England.

After the boat tour, participants headed for City Hall where they held a discussion on the relationship between cities and ports.
Mr. Huygens, President of the European Federation of Inland Ports and Chief Executive Officer of the Port of Brussels gave a brief presentation on the DIPCITY project.
Then, Mr. Reid explained that whereas the Port of London Authority, a state authority created in 1908, owns the docks, it does not own the river terminals themselves. It is responsible for managing navigation.

When asked about possible nuisances (noise, dust, visual impact, etc.) produced by activities on the river in the heart of London, Mr. Reid explained that the GLA leaves it up to the terminal operators (who also own the terminals) to resolve these problems and that, generally speaking, there are no complaints. As regards the Waste Transfer Station in London (Wallbrook Wharf visited during the morning), the GLA has requested the operator to reduce the visual impact by using dark grey for the containers and the gantry crane. To reduce the olfactory impact, the site is deodorised during operations.
VIII.3 Round table of 20 October 2005 in Paris (Gennevilliers)

A round table on the subject of “Multimodality and urban distribution” took place in Paris on 20 October 2005. It was organised by the Paris Port Authority.

The programme was broken down as follows:

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:00</td>
<td>Welcome</td>
</tr>
<tr>
<td>10:00 - 12:40</td>
<td>Presentations</td>
</tr>
<tr>
<td>12:40 - 13:00</td>
<td>Discussion</td>
</tr>
<tr>
<td>13:00 - 14:30</td>
<td>Lunch</td>
</tr>
<tr>
<td>14:30 - 16:00</td>
<td>Boat tour of the Port of Gennevilliers</td>
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The round table kicked off with accounts from loaders and users of the inland waterways on the subject of “multimodal transport”. This was followed by a discussion where the DIPCITY project partners shared their own experiences. A second series of presentations covered the subject of “urban distribution”.

![The “DIPCITY” delegation visiting the Port of Gennevilliers](image)

**Presentation by REP**

REP is a subsidiary of ONYX (VEOLIA ENVIRONNEMENT) specialising in waste management. Waste is routed via the inland waterways between Gennevilliers and Claye Souilly (duration of the return trip: 48 hours). This represents a tonnage on the inland waterways per year of 110,000 tonnes of waste. The target is 220,000 tonnes.

In 2004, REP was partially exempted from the French tax on polluting activities because of its policy of transporting waste on the inland waterways. This measure was not renewed in 2005; however REP stressed that renewal of the exemption would lead to an increase in this mode of transport.

**Presentations by SCAT**

The Société Coopérative Artisanale de Transport has 120 barges. It aims to innovate to meet the needs of shippers and the requirements of new markets. For example, SCAT
designed new boats in response to a request from REP to be able to carry containerised waste on the River Marne.

Presentation by UPM

UPM presented a plan to shift the transport of 160,000 tonnes of paper from the roads to the waterways (representing 800,000 km less road transport per year). The project is due to be launched in January 2007 and represents 3 years’ work, close collaboration between 11 partners and investments totalling in excess of EUR 13 million.

The Port of Brussels announced that it is currently researching a plan to shift the transport of household waste from road to river transport.

The Port of Liège announced that it has formed an Economic Interest Grouping with the Port of Antwerp, the first such Grouping on a national scale in Belgium. The Port of Liège owns 31 port sites spread over 50 km of waterways. A planned trimodal centre covering an area of 100 hectares will serve markets in the Netherlands, France and Germany. The Ports of Liège, Lille, Brussels and Antwerp are part of the European MARCO POLO project aimed at shifting container transport from road to sea.

The Port of Lille intends to develop small terminals in northern France, especially along the river Oise.

The City of Paris wants to create two major freight areas on the edges of Paris, along the River Seine, to allow break of load from and to the inland waterways. The City of Paris also aims to develop “time-shared” ports (shared between freight and leisure activities).

Presentation of the Seine Express project by Didier Depierre from the Paris Port Authority
A feasibility study to examine the possibilities of creating an urban express freight service along the Seine was conducted in 2004, in the framework of a partnership between an express freight company, the City of Paris and the Paris Port Authority. A pilot is scheduled for 2006.

Presentations on waterborne urban distribution by Christian Muller of CMC Consultants
A study conducted by CMC shows that replacing a land cross-docking platform with a sorting barge would significantly reduce the logistics costs and the number of truck journeys (a barge carrying 400 pallets reduces truck traffic by 3,000 journeys per year). The main obstacle to modal shift from road to river transport is habit.

Presentation of the research on shifting transport from road to river conducted for Galeries Lafayette, by François PEYREL
The logistics costs in the commercial sector, such as those incurred by Galeries Lafayette in France (Galeries Lafayette includes the Nouvelles Galeries, BHV and Monoprix stores),
accounts for 9% of the company’s turnover. This 9% consists of 2% for transport and 7% for handling.
60% of its products come from exports (via le Havre), and are purchased four to five months in advance. The inland waterways are therefore viable.

VIII.4 Round tables of 10 March 2006 in Paris

Two round tables were held in Paris on 10 March 2006 covering “Urban distribution” and the “Attractiveness of inland ports and the integration of ports into the city”. The first round table was organised by the Paris Port Authority in cooperation with the European Federation of Inland Ports (EFIP). The “Attractiveness of inland ports” round table was organised by the Port of Brussels. The partners in the project were represented at the seminar, as well as urban planners from the Brussels regions and the local authorities of Molenbeek and Anderlecht.
There were a total of 60 participants for the day.

The programme was divided into three: the morning session with presentations on the theme of urban distribution; the afternoon session with a tour of the Ports of Bercy, Tolbiac and Ivry; and a round table discussion to close the day on the “Attractiveness of inland ports”.

Morning session

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<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>09.00-09.30</td>
<td>Welcome coffee</td>
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<tr>
<td>09.30-09.55</td>
<td>Opening by Mr. Dalaise, President of the Port Autonome de Paris</td>
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<tr>
<td>09.55-10.40</td>
<td>Presentations</td>
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<tr>
<td>10.40-11.00</td>
<td>Coffee break - Opportunity for networking</td>
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<tr>
<td>11.00-11.20</td>
<td>Presentation</td>
</tr>
<tr>
<td>11.20-11.45</td>
<td>Questions and Answers with the attendees</td>
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<td>Debate on urban integration</td>
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<tr>
<td>12.15-12.30</td>
<td>Conclusions by the EFIP Presidency</td>
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<td>Introduction to the afternoon visit by Mrs. Girault from the PAP</td>
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<tr>
<td>12.30-14.30</td>
<td>Lunch and tour of Paris by boat (upstream)</td>
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Afternoon session

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<th>Time</th>
<th>Event</th>
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<tr>
<td>14.30-15.30</td>
<td>Visit of the ports of Bercy, Tolbiac and Ivry</td>
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<tr>
<td>15.30-17.00</td>
<td>Round table “Port attractiveness”</td>
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<tr>
<td>17.00</td>
<td>Return to the port of Grenelle</td>
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Round table on “Urban distribution”

During the morning session, the Chairman of the Paris Port Authority stressed the vital role of inland ports for cities and regions. He stated: “quite simply, without inland ports there is no inland navigation. Without an appropriate facility and nodal points, alternative modes of transport will come into play” Mr. Dalaise added that waterway infrastructures have not yet reached full capacity.
The Chief Executive Officer of the Port of Brussels and President of the European Federation of Inland Ports, Charles Huygens confirmed that one of the EFIP’s missions is to promote the interests of inland ports with decision-makers in Europe. However, its role does not end there: the EFIP is the forum for inland ports to share their experiences and to come together in search of better solutions and best practices aimed at the sustainable development of the transport network.

Ms. Bacot and Mr. Dalaise of the Paris Port Authority and Mr Huygens of the Port of Brussels

Marie-Anne Bacot, Chief Executive Officer of the Paris Port Authority and Vice-President of the EFIP, gave a presentation on the urban integration of industrial facilities in cities. She stressed the crucial role of inland ports in the bid to achieve sustainable development in our cities. She added that “the problem with ports is the exact opposite to the problem encountered with the high-speed train (TGV): everyone wants the station but not the track, whereas for inland navigation everyone wants the line but not the station.” She underlined the fact that, for the Port of Paris, construction materials account for 28% of land use and more than 70% of transport by inland waterways. Madame Bacot continued her presentation explaining that the port has two functions: its traditional mission, which is that of a port for imports and exports, and a distribution function for the delivery of merchandise in the city. She highlighted a contradictory attitude: while the population has developed a green conscience and wants to use the banks of the river, it also tends to reject urban ports, which are necessary to achieve the aims of sustainable development and sustainable forms of transport in the city. In 2005, for example, there were 8,400 less trucks on the roads in the Paris region. For Madame Bacot, an essential condition for the integration of an inland port in the city is the quality of its management and the condition of its infrastructure and facilities.

Alain Snakkers, Chairman of UNICEM³, outlined the point of view of specialist clients in the aggregates sector. He highlighted these contradictory expectations and stressed the need to achieve a good balance between leisure and industrial activities along the river banks. As an example, he referred to a charter entitled “Sable en Seine” agreed between

³ (French National Union of Mining and Construction Materials Industries),
the users and managers of the port facilities. This charter aims to improve the integration into the environment and the landscape of all existing port facilities in the Ile de France region, with particular emphasis on ready-mixed concrete plants. It is absolutely vital to maintain existing infrastructure and to develop new multimodal platforms. Furthermore, the activity generated by the existence of an inland port is essential to achieve reductions of greenhouse gas emissions into the atmosphere.

Professor Jacques Charlier followed with a presentation on construction materials firms established in the Port of Brussels. He explained that the Brussels Canal has the second best maritime access of all European waterways. He also highlighted the dominant role played by the construction materials sector for the Port of Brussels: approximately 50% of imports and exports are due to the transport of construction materials.

In the afternoon, the participants visited the construction materials facilities in the Ports of Tolbiac, Bercy and Ivry.

The Mayor of Ivry, Georges Gosnat, explained the contribution of the Port of Ivry in terms of job creation and added value for his city. New companies have located to the region. With the support of the French government, an operation of national interest was launched to promote the redevelopment of the economy in the regions, including Ivry. The port plays a vital role in this operation. He also stated that it is important to retain industrial activities in the heart of the Paris region, instead of concentrating only on leisure activities. Mr. Dalaise concluded that it is essential to achieve a balance between shared interests. He praised the commitment shown by Mr. Georges Gosnat.

“**Attractiveness of inland ports**” round table

As we mentioned above, a round table on “Attractiveness” was held at the end of the day during which the DIPCITY project partners shared their points of view on the issues covered during the seminar.

The Port of Lille commissioned a study by consultants to calculate the environmental benefits (in terms of carbon footprints) of transporting sand by water rather than by road. Similar studies were conducted at the Port of Paris by UNICEM and by the Port of Brussels in the framework of its Master Plan. This type of research can prove a useful tool in the communication and promotion strategy for inland ports. The Port of Lille also pointed out that construction waste is re-used to build roads.

The issue of “nuisances” resulting for port activities for nearby residents was also broached. The Port of Brussels explained that there are measures that can be implemented to deal with this issue. For example, he requested that a company produce a route plan for its trucks.

According to the Port of Liège, the integration of existing port facilities is not too problematic; however new projects, such as the planned TriLogiPort at Hermalle-sous-Argenteau, tend to give rise to strong reactions on the part of nearby residents. A buffer zone between the industrial areas and residential areas may help to reduce nuisance while at the same time increasing the appeal of the port area. A residents’ committee was
created to campaign against the new container terminal at the TriLogiPort. The Port of Liège brought in consultants specialising in conflict resolution to find solutions in agreement with residents.

Urban planners in the Brussels Region and the local authorities of Molenbeek and Anderlecht also outlined their views on the integration of the port into the city. The Anderlecht local authority confirmed the importance of the waterways and the port facilities for the town. One of the roles that the local authorities could assume here is to increase the attractiveness of the port facilities (landscaping) and to encourage companies to minimise nuisances, for example by producing a route plan.

According to the Port of Paris, the approach adapted by the authorities in the Île-de-France region is more cross-functional than before. Since 1994, particular attention has been paid to the supply chain in the SDRIF (Master Plan for the Île-de-France region). The Brussels Region has seen similar developments with the IRIS plan. The AATL (Land and Housing Planning Administration) in the Brussels Region created a “mobility” unit to take part in assessing building permit applications. Hence, a trend towards an increasingly cross-functional approach is evident. Also important in this regard is to ensure sufficient interaction between the port authorities and the local authorities.

The Molenbeek local authority stressed mixed use. The Belgian Plan Régional d’Affectation du Sol (PRAS; Land Zoning Plan) provides for a degree of mixed use, but this does not always materialise.

The Île-de-France region is currently working on two master plans to conserve industrial sites. The local authority wants to create a new port at Bobigny. There can be inconsistencies in the laws at different levels with respect to the zoning of some sites.

The Paris Port Authority has three studies underway to look at goods distribution systems in urban areas:

- A study examining express freight by boat at peak times. This project could lead to a 50% reduction in light truck traffic on the roads.
- A study examining the use of barges for storage.
- A study examining supplying a commercial area via the inland waterways.
The DIPCITY project partners organised a round table on 27 April 2006 on “Multimodality”. This round table entailed a tour of the Meerhout and Willebroek river terminals in the Flanders Region. These terminals in the hinterland of the large seaports of Belgium and the Netherlands handle and store sea freight containers originating overseas before distribution to their final destination in Europe.

The day’s programme was the following:

- **08:45**  Departure for Meerhout
- **10:00 - 11:45**  Arrival and tour of WCT Meerhout
- **12:00 - 13:15**  Lunch at the Rembrandt restaurant in Meerhout
- **13:15**  Departure for Willebroek
- **14:15**  Arrival and start of the tour of the TCT Willebroek terminal
- **17:00**  Return to the Port of Brussels

### Water Container Terminal Meerhout

The terminal was inaugurated in 1996. Water Container Transport is an equally owned subsidiary of two family companies, Maes and M+M Shipping. Its infrastructure includes eight hectares of land and a 350-m dock. In 2005, the volume carried on the inland waterways was 176,000 twenty foot equivalent units (TEU). A hundred jobs are linked to the terminal, 31 of which are employees of WCT. These employees are local people, because of the hours and flexibility required (for unloading the barges).

The terminal is being developed in two stages:

**Phase 1:**
- 200 m of dock built by the Dienst voor de Scheepvaart as a PPP (WCT paid part of the costs);
- 4 ha in a concession agreement with the IOK for 30 years (Dock price > land price).

**Phase 2:**
- 150 m of additional docks built as part of a PPP (where the Flanders Region is responsible for 80% and WCT for 20%), with guaranteed traffic of some 12,000 TEU (otherwise, the 80% must be repaid);
- Purchase by WCT of an additional 4 hectares of land. A rail connection is installed there (2 x 300 m) with a rail shuttle to Zeebrugge due to start in May (departure twice weekly).

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\(^4\) Campine Inter-Municipal development
The terminal is located along the Albert canal, which has a clearance of 4,500 tonnes and a bridge height of 6.70 m. It is just before the Ham lock.

At the moment the terminal is bimodal, but it is to become trimodal (with the opening of the railway in May 2006).
WCT provided complete financing for the superstructure (grids, offices, gantry cranes, reach stackers, rails, etc.)
The terminal has two gantry cranes and six reach stackers.

The waterway is operated with four push-tugs and eight barges leased on an annual basis.
A barge has the capacity to contain 96 TEU on two levels or 144 on three levels.
Per journey (two barges): ± 200 boxes: 1 barge with three full layers + 1 barge with two layers (empty containers + High box).
An agreement has been organised with road hauliers for the trucking (customers have the containers delivered or come to pick them up).

Frequency of river shuttles:
- to Antwerp: seven - eight per week (70 km - night-time navigation);
- to Rotterdam: four - five per week;
- to Amsterdam: twice weekly (new terminals).

Warehousing function: some customers store their goods temporarily in the terminal.

Lessons to learn from WCT’s experience:

WCT was forced to wait four years for its operating licence (distrust of the project’s financial viability);
Extending the terminal’s frontage road eastwards comes under the responsibility of the province of Limbourg (WCT to Antwerp); 5-km detour for trucks;
Congestion in the Antwerp terminals: WCT has an agreement with P&O and PSA granting it “windows”: If the barge arrives during specific hours and with sufficient volume (min.<volume<max.), it will be given priority for loading or unloading. To bulk its volumes, WCT groups its transfer points by barge.
Collaboration with other inland terminals: previously, WCT worked with the Gosselin terminal in Deurne. This collaborative effort ended, because the barge travelled by night to ensure the profitability of the system, which was not compatible with stops at other terminals.
Possibility of extending the land eastward, but not the dock.
**TCT Willebroek**

The terminal was inaugurated in December 1999. First called the “Inland Container Terminal” (50% RCT Verbeke - 50% ECT), it was renamed “TCT Belgium” in 2001 (100% ECT, belonging to the Hutchison Whampoa Ltd. group).

The terminal has an operational area of 6.5 hectares, with plans for a 3.5-ha extension and a 350-m dock. The site has a rail link (temporarily disabled due to poor service reliability).

The trimodal terminal is equipped with a Gottwald mobile crane (up to 40 move/h, depending on the crane operator) and four reach stackers. 12 points for reefer containers are planned. The river shuttle is operated on the basis of an annual contract.

In 2005, the volume carried on the inland waterways was 87,500 twenty foot equivalent units (TEU). The volume predicted for 2006 was 100,000 TEU. In terms of employment, the terminal has 23 TCT employees and accounts for 200 to 300 indirect jobs at customers’ warehouses.

Frequency of the river shuttle:
- to Antwerp: twice daily (60 km from terminals - navigation: two to three hours for Delwaidedok, and three to four hours for Deurgangdok);
- Rotterdam: once daily (navigation: 12 to 13 hours for Maasvlakte II);
- Zeebrugge: two to three per week (via PortConnect).

Almost all the containers are imported from Rotterdam. More than 50% of exports go to Antwerp, as the container carriers first go to Rotterdam (then Bremerhaven, Hamburg, etc.) and finally Antwerp.

The terminal has a warehousing function and on the day of the tour, 1,400 boxes were stored in the terminal (700 full and 700 empty).
Lessons to learn from TCT:

The terminal has a hinterland extending from 20 to 500 km, although the majority of clients are within a radius of 30 - 50 km. Overly rapid expansion in 2005 caused difficulties for TCT. It collaborates with the Port of Grimbergen for container transfers and with Brussels (towards Rotterdam) for very small volumes. The majority of full containers are for export: TCT has to bring in empty containers on a regular basis.

VIII.6 Round table of 3 May 2006 in Amsterdam

Amsterdam was the host city for the round table held on 3 May 2006 to discuss attractiveness of the port area and an innovative concept in river transport. In response to the friendly invitation from the Port of Amsterdam, a debate took place between the DIPCITY project partners and the Port of Amsterdam, represented by Mr. Gerson, president and CEO, and Mr. Journée, Director of Strategic Development.

The day’s schedule was:

10:30 Introduction by Mr. J. H. Gerson, President and CEO of the Port of Amsterdam
   Presentation by Mr. H. Journée, Director of Strategic Development for the Port of Amsterdam
   Introduction to the DIPCITY project
   Presentation by Mr. R-J. Zimmerman, Mercurius Scheepvaart Group

12:00 Lunch

13:00 Departure for a guided tour of the Port of Amsterdam

15:00 Close

Mr. Journée’s presentation outlined an innovative concept for the transport of goods in highly congested areas: the Mercurius Scheepvaart Group crane barge.

Accessibility is an increasingly decisive criterion for companies thinking of locating to a region. Some 60 million tonnes of merchandise are transported by road in the Amsterdam region. A truck on the road costs EUR 40 per hour and hauliers are now quoting shippers an hourly rate, instead of an overall price.

The Port of Amsterdam developed a new logistics concept in cooperation with the Mercurius Scheepvaart Group where a crane barge provides a daily connection between a company and the departure points for international deep sea, short sea and hinterland connections, which is part of the door-to-door supply chain. The innovation lies in the fact that the barge is equipped with its own crane for loading and unloading the containers (auto-handling). As a result, the barge can load and unload containers directly at the customer’s premises, eliminating the need for the significant investment of a gantry crane.
The barge is currently in use in the heavily congested region of Amsterdam and offers the potential for connections to Rotterdam, Antwerp, Willebroek and the Rhine. Its maximum capacity is 131 TEU. The handling capacity is comparable to that of a gantry crane: 20 to 25 TEU per hour. The barge was developed by the Mercurius Scheepvaart Group, which currently has some forty boats in service.

Mr. Journée also gave a few figures to illustrate the socio-economic importance of the Port of Amsterdam. The port creates 37,000 direct jobs and handles 75 million tonnes of merchandise per year. The advantages offered by the Port of Amsterdam are high added value and the availability of additional land reserves. The port’s facilities include covered terminals suitable for the handling of merchandise in all atmospheric conditions. Cargo to be transported from an all-weather terminal to another need not be packaged.

A short presentation on the DIPCITY project followed, given by Ms. Chloé Perreau, researcher at the Research and Development Department of the Paris Port Authority, and by Mr. Anthony Callens, economic attaché at the Port of Brussels Marketing & Development Department.

Mr. Zimmerman, Mercurius Scheepvaart Group, owners of the crane barge, explained the operation of the barge in more detail. Organising a network of departure and delivery points solely for sea containers is too restrictive. In order to reduce operating costs, other barge freighters had to be found. New users were located in the waste processing and construction materials sectors. Waste processing in the area is handled by a commercial company, owned by the City of Amsterdam. Whereas this company was obliged to double its incinerator capacity for municipal waste, it could not add another truck to its road fleet. Hence, another mode of transport was required for the 500,000 additional tonnes of waste.

It is important for users of the crane barge that a “neutral” structure is put in place to operate the barge. A survey of some 50 companies revealed that freighters do not want logistics companies with a commercial interest to be associated with organising the transport.

Key success factors for the crane barge:
- firm support from a few large companies is crucial;
- the support of government;
- a guarantee that the system will operate for a minimum of three years.

The initial experience with the crane barge is as follows:
- it is used for 20-ft and 40-ft containers;
- the capacity of the crane on the barge is almost the same as a crane on the dock;
- a “neutral” structure is needed to organise the transport;
- some companies see access to the inland waterways as a strategic advantage;
- waste is carried in closed and open-top containers;
- there is no fixed pattern for the barge at present.

In the afternoon, the participants went on a guided tour of the Port of Amsterdam, focusing on the relationship between the port and the city.
VIII.7 Round table of 31 May 2006 in Rotterdam and The Hague

On the 31st of May the DIPCITY partners organised a visit to some waste collection and treatment installations in the Rotterdam/the Hague region. The visit was organised jointly by the Port of Lille and the European Federation of Inland Ports, who also is working on the subject of waste transport. The round table was organised through the kind collaboration from the waste management group A.V.R in The Hague.

The proposed program was as follows:

The Hague
11:00 - 11:45     Conducted tour AVR the Hague
11:45 - 12:30     Lunch
12:30             Depart from The Hague to Rotterdam

Rotterdam
13:15 - 13:45     Conducted tour AVR Rotterdam
13:45             Depart from Keileweg to Brielsehaven
14:15 - 15:00     Conducted tour AVR Rotterdam
15:00             Depart from Brielselaan to Rozanburg

Rozenburg
15:45 - 16:30     Conducted tour AVR Rotterdam

AVR is active in the whole waste management chain (collection, transferring, recycling, processing, treatment, and landfill). The group’s turnover in 2004 was EUR 507 million. It employs 2,300 people and includes 50 companies in 60 locations. It is one of the most important companies in the field of waste management: it is part of the Top 3 in Benelux and the Top 10 in Europe.

AVR collects and transports 1,016,625 tonnes of waste per year. But it is only for collection. When you add the recycling (795 thousand tonnes) and the processing (more than 2 million tonnes), the global flow reaches 3 megatonnes of waste per year.

1) The Hague Transfer Station

In The Hague, AVR manages a transfer station, located in the heart of the city, called Binckhorst. This plant was built in the late 1990’s and AVR took a great care over the appearance of this building. The architecture is designed to merge into the urban landscape.

In this plant, +/- 100 trucks come every day to discharge the domestic waste they have collected in the Den Haag agglomeration. This town, with 470,000 inhabitants, is one of the most important municipalities in the Netherlands. In 1998, the people in charge of this business in the town wished to change the contract they had with AVR. After the negotiations, a PPP construction was decided and AVR has won the tender. The company has the contract until 2010. The town is the owner of the field, but the building belongs to AVR. There is a strong partnership between the City and AVR. According to Mr Utens, the Manager of the The Hague Centre, AVR provides the town with a high quality service at a
better cost they had in the past. The collaboration appears complete and cordial. So, it seems doubtful that AVR wouldn’t be renewed in this position at the end of the contract.

When the trucks come into the transfer station, they unload the waste in a hole, where cranes take them to put in compaction shafts (see photographs).

![The Hague waste transfer station](image)

Waste is compacted in 20’ containers to optimise the transportation. The station has 4 compactors, but with the maintenance planning, only 3 are working at the same time. With this system, every container can load between 10 and 12 tonnes of waste.

The second part of the transfer station is dedicated to logistics. No more waste here, only in the containers. After having been filled, containers on a rail trolley are brought in a position where they can be handled by a gantry crane.

This gantry crane conveys containers to the other extremity of the building, where a covered darse makes it possible for a container barge to enter the building. Containers are loaded into this barge.

Because of the gauge of the canal, only small barges can arrive at Binckhorst. The barges capacity is only 24 to 28 TEU. It is the reason why there are 2 departures per day from the station to the incineration plants (the average number of containers per day is around 50).

This transfer station is very well organised and seems to be very efficient. In front of it, there is a collecting place for “white waste” (refrigerators, ovens, gas cookers, etc.).

2) The Small Stations: Keilehaven

Besides the large transfer stations, like the one in The Hague, equipped to compact waste and fill containers, AVR manages small stations where waste is brought by trucks that dump the waste directly into barges. No containers in this case, but transport in bulk. Two of these stations are settled in the Rotterdam Area, just like in Keilehaven. The bulk option has been chosen for these stations purely for economic reasons. The distance to the incinerator is too short to invest in a well-equipped station. Furthermore, the volume in these stations cannot be compared with the one in Binckhorst.
This example is very interesting. It shows that there isn’t ONE solution, valuable in any case despite the circumstances. The collection process, and the transport which is linked to it, must be adapted according to the geographical position, the volumes, the availability of transport networks... and the financial capacities! Sometimes, in order to avoid a long urban trip for trucks, it is preferable to send them to a small but closer station where they will dump directly into bulk barges, and not to send them to a modern and well-equipped (but further) transfer station where waste will be compacted and containerised.

3) The Incinerator of Brielselaan

Brielselaan is a major incinerator located in Rotterdam. It receives waste collected in all the urban area of Rotterdam, brought directly by the collecting trucks and also by small barges coming from the small bulk stations (see photograph below).

The waste incineration plant of Brielselaan

The total volume processed in Brielselaan is around 450,000 tonnes per year. The cinders resulting of the incineration are sent by barge to Zeeland. This plant produces electricity for approximately 35,000 people.

4) The Incineration centre of Rozenburg

With a total processed volume of 1.2 million tonnes, the “giant” Rozenburg centre is the biggest in Europe. It receives 60% of the waste by barge, domestic waste but also industrial ones. Included in the Rotterdam port area, among the petrochemical factories chimneys, it is not easy to locate it before arriving near, but it seems impossible to have such a huge plant in a city, even in the suburbs.

This centre receives the waste produced and collected in Den Haag, in Utrecht and in Rotterdam (except the part processed by Brielselaan) areas. The containers are handled by a maritime gantry crane.

This plant produces the most important part of the energy supplied by AVR.

The total energy production of the group is almost 895,000 MWh, that means electricity for 900,000 people, and heat supplied to 10,000 households. The plant also produces
6.9 millions M3 of distilled water, which is very used by the chemical and petrochemical industries.

The AVR organisation and the way it collaborates with the cities seem very interesting. The mix of public interest and private management has made it possible to create an efficient, flexible and competitive service for waste collection, transport and processing.

Although the particular industrial density of the Port of Rotterdam can accept such a big plant as the Rozenburg incineration centre, it seems difficult to transpose in another place.

On the other hand, the large resort to waterways transportation for waste is strategically permanent. Compared with the London example, where the use of the waterway could be questioned very soon, the Dutch choice for waterways transportation is clear and permanent.

There is in the AVR report a sentence which shows the high sense of ecology that a lot of Dutch people have:

“A better environment starts at home…”
VIII.8 Round table of 20 September 2006 in Lommel

On 20 September 2006, the DIPCITY project partners organised a round table on the themes of “Multimodality” and “Port attractiveness”.

The programme for the day was as follows:

10:15 Arrival at SA SCR Sibelco, Maatheide 125 - 3920 Lommel
Technical tour of the transhipment facility and discussion
12:15 End of the tour
12:30 Lunch
14:00 Return to Brussels

The Port of Brussels took the initiative for this meeting in Lommel with a view to finding new solutions for the transhipment of merchandise to the inland waterways. The aim is to avoid the need to use a truck to load merchandise on board ship. In the absence of other solutions, a truck is often required to transport cargo between the factory and the ship. In Brussels, this is the method used to tranship clinker from the incinerator.

SCR Sibelco, which is located in Lommel along the Kempische canal, uses a covered conveyor belt to tranship sand to the ships. This facility was built in the mid-1980’s and was designed for transhipping wet sand; however nowadays it is used primarily for dry sand. The facility has a rated capacity of 1,000 tonnes per hour, the belt speed is 2 m per second, and the actual hourly capacity is 600 tonnes for wet sand and 900 tonnes for dry sand.

The sand is transported by road, inland waterways and rail, making this a genuine multimodal facility.

There have been significant changes in the past few years in how sand is transported.
In the early 1990s the modal breakdown was:
- 70% road transport;
- 20% waterway transport;
- 10% rail transport.

In 2006, the modal breakdown was:
- 30% road transport;
- 65% waterway transport;
- 5% rail transport.

SCR Sibelco is one of the concession holders of S.A. De Scheepvaart and has a 300-m river dock. The Bocholt-Herentals canal is accessible for boats of up to 1,200 t.

Total annual traffic stands at 2.2 million tonnes, 1.4 million tonnes of which is transported by the inland waterways.

The construction cost for the conveyor belt (a 45° troughed conveyor belt, 1,000 mm wide) with its support structure, rollers and engine is EUR 750 per metre.

The improvements required to bring the loading facility booth into line with new working conditions standards will cost approximately EUR 18,000.

The facility requires very little maintenance and almost all maintenance is carried out by SCR Sibelco’s own personnel.

Breakage of the conveyor belt cable is a recurring problem. A chain might be a better solution.

The crane operators are employees of SA SCR Sibelco. They work in shifts from 06:00 to 22:00 (and until midnight during busy periods).

90% of its customers are in the glass manufacturing sector. Their production units are located in Wallonia, the Netherlands and Germany.

A total of 300 people are employed at the Lommel plant and turnover is some EUR 85 million. Worldwide, the SCR Sibelco group employs approximately 8,000 people and has a turnover of some EUR 1.7 billion.

**VIII.9 Round table of 29 September 2006 in Liège**

The Port of Liège invited the DIPCITY partners to take part in a round table on 29 September to discuss the problems associated with treating polluted, obsolete industrial sites. The programme was broken down as follows:

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
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<tbody>
<tr>
<td>9:30</td>
<td>Welcome</td>
</tr>
<tr>
<td>10:00</td>
<td>Introduction of PAL</td>
</tr>
<tr>
<td>10:15</td>
<td>IPS’s State of affairs</td>
</tr>
<tr>
<td>10:30 – 13:00</td>
<td>Presentation of the specialist</td>
</tr>
<tr>
<td>13:00 – 14:30</td>
<td>Lunch</td>
</tr>
<tr>
<td>15:00 – 17:00</td>
<td>Visit to the Association Intercommunale de traitement des Déchets Liégeois (Intradel) facility in the Liège region</td>
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</tbody>
</table>
The emphasis on the environment and sustainable development at European, national and Walloon level has never been as pronounced as we have seen over the past few years. The problems associated with polluted sites are major issues. Hence, the Port of Liège has dedicated a day to the subject with the members of the DIPCITY project.

A number of speakers with specialist knowledge in the area gave presentations at this round table meeting. Mr. Namêche (Société Publique d’Aide à la Qualité de l’Environnement) first of all detailed the methodological approach adopted by SPAQUE in Wallonia. Mr. Dengis (Institut Scientifique de Service Public) outlined recent advances achieved by ISSEP in the framework of the Walloon “soil” decree. Taking the floor in his role as Managing Director of Arcelor Real Estate Belgium S.A., Mr. Codran informed us that current public-private partnerships for the management, clean-up and rehabilitation of Arcelor sites are working at sites concerned by the closure of the hot phase of the iron and steel industry in the Liège region. Mr. Dubois, representing the oil company Total Belgium, presented a few recent examples of site rehabilitation in Belgium.

The Walloon region adopted its “Soil Decree” aimed at cleaning up polluted sites. It is currently drawing up the performance standards. The challenges are immense, as site clean-up operations have a role to play in the economic redevelopment of a region, by providing sites for economic activities and attracting investors into a revitalised region.

To provide some legal security for property transactions and to ensure that pollution on a site does not constitute an obstacle to economic development, precise and consistent rules and methods are needed applicable to the site-pollution that may present.

Finding procedures that will be recognised by future executory decisions for site clean-up is essential to promote the development of new economic activities.
Of particular interest here is the opinion of the two state bodies specialising in this area: the Société Publique d’Aide à la Qualité de l’Environnement (SPAQUE) and the Institut Scientifique de Service public (ISSEP).

ISSEP is a research and development institute, a centre of industrial projects and an expert and testing lab. Its skills can be broken down into three main areas: mineral resources and energy-producing minerals, technical and environmental safety, the environment and pollution control.

For its part, the missions of the SPAQUE are: the management of subsurface containment of solid waste centres, the management of obsolete sites and soil policy, covering regulatory aspects, soil qualification, the creation of a Walloon soil database, etc.

These two bodies explained their respective roles and their current research.

Total is the concession holder of two areas in the Port of Liège, one of which is a polluted site requiring clean-up. It explained the procedures followed to clean up sites in the Flanders region. At present in Wallonia, it applies the procedure and stages in the process used for petrol stations. The reports issued by the approved firm of engineers are submitted to the Walloon Waste Bureau.

As DIPCITY also encompassed the issue of the transport of waste, a visit was organised to the Intercommunale de traitements des déchets (Intradel). Intradel had the opportunity to outline its plans for the new energy recovery plant and its plans for ramping up its use of the inland waterways. This innovative plant is scheduled to open in 2009.

Intradel’s planned new energy recovery plant ©Intradel

It will boast improved environmental efficiency, while reducing the traffic generated by the operation. All road transport will be reduced as waterway traffic is developed. Furthermore, it will focus particular attention on the site’s environmental aspects (which is also one of the themes covered by the DIPCITY project).
The round table meetings were designed to be as practical as possible, with the participation of people on the ground to provide the partners with practical clarification on some of the problems facing inland ports. Many contacts were made between representatives of the partner ports, laying the groundwork for smoother dialogue and exchanges of experience and know-how to make our ports even more efficient.
**VIII.10 Round table of 29 November 2006 in Utrecht**

Utrecht was the venue for the round table held on 29 November on the subject of goods distribution systems in urban areas. The day was organised by the Paris Port Authority in collaboration with the Utrecht Local Authority (the Netherlands). The Utrecht Local Authority was selected because of its innovative concepts for the distribution of drinks by boat (known as the “Beer boat”) to hotels, restaurants and cafes, and the collection of waste by boat.

The programme for the day was broken down as follows:

- **09.30 -10.00** Arrival
- **10:00-11:30** Presentations and discussions
- **11:30-13:00** Lunch
- **13:00-15:45** Visit to the Beer boat and the Garbage vessel, and boat trip

The morning was given over to a series of presentations by various people, including a presentation by the Dutch waterways, the Port of Utrecht, and by the Paris Port Authority on urban integration and goods distribution systems in urban areas. The working language was English.

The services provided at the Port of Utrecht are managed by the local authority. Utrecht is the leading Dutch inland port and handles 5 million tonnes every year. The presentations were followed by discussions between the various member ports of the DIPCITY project, our invited partners (DHL, LR Services, McDonald’s, BHV, City of Paris, Île-de-France Region and the DREIF [Île-de-France Regional Infrastructure Division]), and the City of Utrecht authorities.

Discussions centred on common problems, in particular:

- urban integration, in response to the presentations by our Paris colleagues;
- the difficulties associated with delivery of merchandise in urban areas by road and the restrictions imposed by the different local authorities;
- operating conditions of the Beer boat.

The group visited the Utrecht irrigation canal and were then given a presentation on the waste-collection boat (known as the Garbage vessel) and the urban distribution boat (the Beer boat).

**Garbage vessel:**

A local authority initiative, this boat currently collects glass, paper and cardboard. Conventional sorted waste bins are placed by users and stored on the banks of the canal. The waste is then emptied directly into the boat as it passes. The boat has a self-discharging crane.
**Beer boat:**

The Beer boat, urban distribution boat, is fitted with a self-discharging crane and is used by four brasseries and a wholesale company in the food service sector. It supplies 65 customers. The merchandise is not pooled, but one day of the week is assigned to a single user. The boat can contain 30 rolls or 50 tonnes. The loading point is at the northeast of the city and can be easily accessed by road, unlike the city centre, where traffic restrictions limit access (restrictions on tonnage, delivery times, etc.)

The beer boat in Utrecht

The Garbage vessel

The boat has been in operation for 10 years and there are plans to add a second vessel.

All the participants, guests and partners showed great interest in this type of solution for city centres, where severe restrictions can apply.
VIII. 11  Round table of 7 December 2006 in Lille

On the 7th of December took place the last round table, which was organised by the Ports of Lille on the theme of “sustainable waste transport and management”.

The program was as follows:

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
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</thead>
<tbody>
<tr>
<td>09:30</td>
<td>Reception at the headquarters of the Ports of Lille - Coffee</td>
</tr>
<tr>
<td>09:45</td>
<td>Welcome address</td>
</tr>
<tr>
<td>10:00</td>
<td>Start of the session on “What the experts say”</td>
</tr>
<tr>
<td>12:30</td>
<td>Lunch</td>
</tr>
<tr>
<td>14:30</td>
<td>Start of the “Site visits” session</td>
</tr>
<tr>
<td>17:00</td>
<td>End of the visits and the day’s programme</td>
</tr>
</tbody>
</table>

With 1,100,000 inhabitants, the Lille Metropolis is the 4th largest town in France. The authority in charge of waste collection, management and disposal in this urban area is the Urban Community, called LMCU (Lille Métropole Communauté Urbaine). This organisation includes 85 communes of various importance located around the capital Lille.

In 2006, 689,617 tonnes of waste were collected by LMCU. They were divided into 4 main categories:

- Domestic waste: 63%
- Bulk refuse disposal: 27%
- Commercial activities: 1%
- Administration waste: 9%

It is interesting to notice that in 2005 and 2006, the global quantity of waste has decreased in Lille Area. In 2005, the collected waste amounted to 709,074 tonnes (-1.73% compared with the previous year), and in 2006, the volume has decreased of 2, 74%. In 2006, the quantity of waste has come back to the level it had in 1997. The LMCU slogan “jeter moins, trier plus, traiter mieux” (throw less away, sort more, process better) becomes a reality.

In 1998, the Lille Metropolis experienced a crisis situation when the 3 incinerators that burned the waste were closed without warning. The emission of dioxin was more important than authorised. Before the new incinerator was built, 1,350 tonnes of domestic waste had to be sent out of the Lille area everyday to landfill sites. A part of them (+/- 300 tonnes per day) were transported by waterways, through the Ports of Lille.

This process began in June 1999. Domestic waste was put into 20 feet open-top containers equipped with ampliroll hooks. In so far as waste was not compacted, the average weight was between 8 and 10 tonnes per container. They were filled in one of the stopped incinerator, converted in collect centre. They were brought by truck to the...
containers terminal of the Ports of Lille (L.C.T Lille Conteneurs Terminal) and discharged by the trucks themselves, thanks to the ampliroll system. In a second step, containers were loaded into a container barge by a gantry crane. The capacity of the boat was 52 TEUs. Every day, between 30 and 40 containers were sent by barge. The distance between the Ports of Lille and the landfill site in Blaringhem, near St-Omer, was only 63 km. In Blaringhem, full containers were unloaded with reach-stackers, discharged and reloaded empty into the barge.

**PROCESS FOR HOUSEHOLD WASTE TRANSPORTATION**

Many containers were transported this way, even when the new incinerator was built and in operation (at the end of 2001).

**Number of containers (in TEUs) of domestic waste transported by barge through the Ports of Lille**

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of TEUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
<td>9,298</td>
</tr>
<tr>
<td>2000</td>
<td>19,050</td>
</tr>
<tr>
<td>2001</td>
<td>18,548</td>
</tr>
<tr>
<td>2002</td>
<td>4,136</td>
</tr>
<tr>
<td>2003</td>
<td>5,395</td>
</tr>
<tr>
<td>2004</td>
<td>6,601</td>
</tr>
<tr>
<td>2005</td>
<td>7,314</td>
</tr>
<tr>
<td>2006</td>
<td>5,740</td>
</tr>
</tbody>
</table>
Another line, with almost the same process, has been created between Halluin Conteneurs Terminal, a container terminal managed by Ports of Lille in the Port of Halluin, near the Belgian Border, and the Port of Harnes in 2003 for worn glass transport.

A barge full of domestic waste containers, ready to leave the LCT Terminal at the Ports of Lille and to sail to Blaringhem

This traffic could just have been an experience, a solution used for a specific situation created by the closing of the incinerators. It was the first time such a process was created in France. There wasn’t any other example to judge the relevance of the waterways for waste transport.

Nevertheless, the reliability of this transport and the fact that the service didn’t experience any operational problem convince the decision makers at LMCU that they could trust the waterways transport for waste transport. And so far, in 2000, the LMCU Board decided to settle the future CVO (Centre de Valorisation Organique - Treatment Centre for organic waste) by the riverside, in order to use the waterways transport.

LMCU has built a new strategy for waste management in the Lille Area. As soon as in June 1992, after a 3-year-long benchmarking study, the Council adopted a master plan for waste collection and disposal. The main tools for this strategy are:

- **the new incinerator “Antarès”**, built in Halluin between 1998 and 2001, put into service at the end of 2001. This new generation incinerator has a capacity of 350,000 tonnes. In 2006, it received and treated 337,358 tonnes of waste. The incineration produces electricity (36,644 megawatt/hour self consumption and 138,350 megawatt/hour sold to Electricité de France) and cinders (around 78,000 tonnes). As from October 2007, this plant will also be a transfer centre for organic waste that will be sent to the CVO;
The sorting centres: since 1994 and the starting of the selective collect, centres where waste are sorted have been created, in order to recycle and recover a growing part of the collected waste. The most important is located in Halluin, near the CVE Antarès, and operated by the company Triselec. This Company has a joint statute which associates LMCU (67% of the shares) and private companies. The capacity of this centre is 100,000 tonnes per year. In this centre, large quantities of worn glass are recovered. This glass is sent to a glass making factory located in Wingle (60 Km from Halluin, near Lens). Between July 2003 and May 2007, this glass has been transported by waterways barges from the Port of Halluin and the Port of Harne. There was a short pre and end-haulage at each end, done by truck. This traffic, operated by the Ports of Lille, has transported more than 13,500 TEUs and generated a large saving of CO2 emission, but it finally stopped because of extremely low price proposition of truckers.

The Halluin centre reaching saturation point, LMCU has decided to create 2 other plants. One of these plants will be located in Rousbaix and will have a capacity of 15,000 tonnes per year. The other is under construction in the Port of Lille and will have a capacity of 50,000 tonnes. This centre is located along the Lille Conteneurs Terminal, close to the riverside.

This location doesn’t leave anything to chance. The strategy is to use the waterways for the transport of some of the materials that will be generated by this sorting centre (especially glass, paper and cardboard). But it will depend on the financial conditions proposed by the different modes and the example of Halluin inclines to be cautious, as long as the road transport will not pay its real cost, including the external one.
The CVO Centre de Valorisation Organique (Centre for Organic Waste). This centre has been put into service in October 2007.

The CVO, located on the riverside, and the bus depot, on the right

The plant receives all the organic waste collected in the LMCU territory. It means vegetation waste (lawn mowing, trees trimming), food waste (remains of catering) and garbage. It has a capacity of 100,000 tonnes per year. The particularity of this plant is that it includes a biogas factory. The organic waste undergoes a decomposition process that produces methane gas on the one hand, and compost on the other. It is the reason why an important depot for the bus has been built beside the CVO. The bus use the biogas produced by the plant. 100 vehicles are supplied with gas this way, saving the equivalent of 4.5 million litres of fuel and strongly reducing the CO2 emission (-95% compared with a diesel bus).

The CVO receives all the waste collected in the southern part of the metropolis. Some of them are organic one, and they are treated there. But some others have to be transferred to the CVE Antarès to be incinerated. A transfer centre has so been settled along the river, near the CVO building, to make these transfers. Waste is put into 20’ containers, after having been compacted. The transport between the CVO and the CVE Antarès in Halluin is made by waterways. The transfers in Halluin are made in a new terminal located near the CVE and Triselec (Port of Halluin 2). Meanwhile, the CVO receives, also by barge, the organic waste collected in the northern part of the metropolis and put together at the CVE transfer centre. The volume is rather important:

- From the CVO to the CVE (waste to be incinerated) 180,000 t/year;
- From the CVE to the CVO (organic waste) 46,000 t/year;
- From the CVO to landfill sites (final waste) 60,000 t/year;
- From the CVO to agriculture (compost) 45,000 t/year;
- From Triselec Halluin + Lille (Glass to Wingles) +/- 40,000 t/year.

And the most important part is done by waterways, excepted for glass.
The Transfer centre located along the river near the CVO in Sequedin operates a huge traffic, in and out, especially in containers.

The case of Lille Metropolis is a very good example of a strategy centred on the multimodality. This choice for alternative modes of transport, and especially waterways, is quite recent. When the decision was taken in 1996 to build a new incinerator, the CVE Antarès, the location was in Halluin but not along the river. In 2000, when the decision was taken to build the CVO for organic waste, it was decided in the same time to settle it along the river. It means that the logistic aspect is taken into consideration in the beginning of the plan. The same strategy was applied for the new sorting centre in the Port of Lille.
It appears that the experience led by Ports of Lille for waste transport, which began in June 1999, has been decisive. It has shown that waterways transport was reliable and efficient. It has proved that waste transport is a logistic business, and that a qualified operator is required to manage it. Inland ports have this know-how and they can put it at the disposal of authorities in charge of waste collection, treatment and disposal. There is no doubt that this successful experience has made a handsome contribution to convince the decision makers of LMCU that the settlement of the centres along the riverside was the right solution, and that waterways transport was the very sustainable mode for waste transport in the Lille Area.

On the other hand, the loss of the glass traffic between Halluin and Wingles brings out the problem of the road transport costs.
IX. ACHIEVEMENTS OF THE DIPCITY PROJECT PARTNERS

IX.1 Paris Port Authority

Within the framework of the DIPCITY project, the Paris Port Authority had responsibility for “Multimodality and “Urban distribution”.

Its aim is to maintain and develop multimodality for the supply and dispatch of products to or from one of the largest European agglomerations, home to more than 11 million people.

These developments facilitate modal shift and thus help to resolve the severe congestion in the Île-de-France region, in accordance with the guidelines of the Master Plan for the Paris Region and with European and French guidelines on urban mobility.

Hence, in the framework of the INTERREG Programme strand IIIB, the investments of the Paris Port Authority were focussed on its sites at Gennevilliers, Issy-les Moulineaux, Paris-Port Victor, Point du Jour, Paris-La Gare and Paris-Tolbiac.

The Paris Port Authority invested a total of EUR 5,948,509 in the period 2004-2008 as part of this programme.

The Port of Gennevilliers

The building was designed by architect Dietmar Feichtinger. It functions as a container-management centre at the Port of Gennevilliers.

Extending over an area of 1,950 m² on four levels, logisticians will find both operational services and representation spaces.
The ground floor is home to the offices for road, waterway and rail operations, while the top floor holds a meeting room with a view of the activities on the site.

This is an excellent showcase to use to promote the key role of containerisation for the Île-de-France region to logisticians, industry, local authorities and the general public. The architect drew some of his inspiration from the structure of a container and the building is designed to produce the effect of stacked containers.

This facility backs up the development of container traffic at Gennevilliers, which has seen its area double and is now the leading container terminal in the Île-de-France region.

Traffic across all modes of transport in 2004 stood at 179,047 TEU, 43,964 TEU of which was by the inland waterways.

2007 saw this figure reach 242,704 TEU for all modes of transport, and 81,013 by the inland waterways.\(^5\)

\(^5\) 100,687 for the entire Paris Port Authority
**Issy-les-Moulineaux / Paris - Port Victor**

These ports are located downstream from Paris, close to the ring road and the new incineration plant at Isséane.

The site is home to a dealer in processed construction materials and other activities include the production of ready-mix concrete. The facility enables the management of the new incineration plant to dispose of clinker using waterway transport.
The production process provides for the clinker to be transported from the plant to the banks on bridge cranes installed on the public roads, and onwards to a clinker transfer station in the port area for gravity loading.

The process necessitated rehabilitation work at the facilities of other clients located at the port. Work was required on the frontage road in particular, which meant major network and road works, the opening of a flood wall, upgrading of the outfall sewer monitoring station under the road and moving its control unit.

This development is in line with the policy of the Paris Port Authority to develop waterway transport and provide local authorities and industry with efficient, environmentally friendly and architecturally integrated infrastructure.

In time, waterway transport will lead to a reduction of 6,000 heavy goods vehicles on the roads each year.

We should also point out that for the duration of the works, the equivalent of 56,000 20-tonne trucks were kept off the roads for the disposal of earthworks and that the Seine was used to supply the sand and gravel required to make the concrete.
In future, other “products” associated with the sorting centre (55,000 t per year) or with supplying the incineration plant with household waste will have the option of using the inland waterways.

Ready-mix concrete activities generate in excess of 1,300,000 tonnes and their large sites provide some 60% of the granulates to the downstream sector from Paris at Val-de-Seine.

The redevelopment is valued at between EUR 15 to 20 million.

**Paris / Point du Jour**

Another rehabilitation project at one of the most important sites serving the west of Paris entailed reinforcing the dock and installing flood protection.

Additional road works will improve road access and integrate it into its urban environment to ensure that pollution for nearby residents is minimised.
In addition to granulates and processed materials, this port can take recyclable products and act as a relay station for manufactured goods headed for the densely populated areas of Paris.

Current tonnage at these ports is 200,000t and the prospects for future growth are promising.

**Paris-Quai de la Gare-Tolbiac**

The Port of Tolbiac is one of the ports in a new area of Paris (Seine Rive Gauche). It is one of the largest urban development projects since the Haussmann era. The area is designed for mixed use with housing, offices, commercial spaces, public services and culture.

The Paris Port Authority is responsible for the management of the ports of Austerlitz, de La Gare, Tolbiac and the Port Nationale and has a commitment to sustainable development.

Spread out over 3 kilometres, the Port is determined to meet the aspirations of residents while maintaining industrial activities or public services in the port area and promoting cultural and leisure activities.

Located between the Port of Tolbiac and the Port National, the port area is home to several industrial units used by the construction sector, whose activities are strategically important economically, environmentally and for local development.

The Paris Port Authority, thanks in part to the DIPCITY programme, has initiated a joint project with local authorities and industry to promote full integration of the port areas into their environment.

The concrete mixing plant and the transit port have been totally rehabilitated.
The space is open and shared between industry and walkers who live side by side intelligently.
Here again, the port’s activities have meant 14,000 fewer trucks per year. For example, the transit port alone was used to dispose of the building debris for the new university in the area, the foundations of the Simone de Beauvoir footbridge, the swimming pool, tramway and the various other buildings in Seine Rive Gauche. Estimated at EUR 5.2 million, this programme sets the tone for the new Paris ports.

Industry didn’t lag behind either and the new concrete mixing plant boasts some of the best equipment in terms of sustainable development and safety. Siding was erected to limit noise and dust. It also serves to unify the site visually and to provide lighting at night.

Optimised production, dust filters, closed-circuit management of waste water and the fact that there is no equipment installed in the ground all combine to ensure the dock is returned to the public from 5pm.

The plant will be 100% supplied via the inland waterways.

Finally, access for the disabled and others with reduced mobility is provided on the station platform, as well as an area for handling the distribution of small packages to the urban area.

Communication

Throughout the DIPCITY project, the Paris Port Authority has shared its ideas on multimodality and goods distribution systems in urban areas with its partners, local authority representatives and industry.

It organised information meetings at Gennevilliers in Paris (multimodality), Utrecht (distribution of construction materials) and Amsterdam (urban supply chain).

In addition to these round tables, we have been in regular contact with the partner ports of Lille, Liège and Brussels.

As part of the Salon International du Transport et de la Logistique (SITL), the Salon des Maires d’Île de France and the many presentations the port has made, we have provided information on the DIPCITY project and the support provided by the European Union through the INTERREG IIIB Programme.
IX.2 Ports of Lille

The Ports of Lille had responsibility for the round table held on “Waste and recycling products” in the framework of DIPCITY.

The issue of the transport of waste unexpectedly forced its way to the forefront in the Lille Metropolitan Area with the sudden closure in 1998 of the three household waste incineration plants for the Lille Area (LMCU). Dioxin emissions from the incinerators exceeded the authorised limits.

Faced with this unexpected development, the local authorities investigated a vast range of possible logistical solutions for the transport of waste to outside treatment centres, until such time as it could get a new incinerator up and running.

During this research stage, the Ports of Lille highlighted the relevance of waterway transport for the LMCU, by creating a line for the transport of containerised household waste on barges. Not a single problem was experienced with this service from its inception in June 1999 until it ceased completely in October 2006, having carried some 76,000 containers.

Flush with the success of the project, the local authorities in the Lille Metropolitan Area devised a strategy for the transport of waste focused primarily on the inland waterways, aimed at maximising the use of waterway transport as the most environmentally friendly and least energy-guzzling mode of transport.

The plan is structured around two large waste-processing plants, the most recent of which is built on the banks of the inland waterways capitalising on the lessons learned from the river transport organised by the Ports of Lille in 1999. This Organic Waste Reprocessing plant is designed to produce methane gas and agricultural compost from recycling organic waste. It also acts as a transfer centre. The Energy Recovery Plant, a new-generation incinerator producing electricity and clinker, forms the other cornerstone of this metropolitan system. Its location had been decided before the 1998/1999 episode, which explains why it was not built on the banks of the inland waterways as well. However, it is quite close by and a ring road has been built to provide fast and direct access to the canal at Halluin.
All the waste collected south of the red dotted line, all types included, are sent to the Organic Waste Reprocessing plant and all the waste from the north is sent to the Energy Recovery plant. This means that each centre takes in products that are not intended for it (household waste for incineration at the Organic Waste Reprocessing plant and organic waste at the Energy Recovery plant). Based on the results of the barge-transport system operated by the Ports of Lille, transfers between the two sites are by container carried on the waterways.
An indispensable condition for the success of this service is the availability of efficient transfer facilities at both sites. This condition is met at the Organic Waste Reprocessing centre where a platform with a gantry crane was installed when the facility was built. At Halluin, the traffic is currently processed at the HCT (Halluin Containers Terminal) in the Port of Halluin. The location of this site relative to the Energy Recovery plant involves passing through an urban area - and all of the ensuing nuisance and risks. Consequently, it was decided to develop a new purpose-built transfer station for this traffic at the junction of the ring road leading to the Energy Recovery plant.
The construction of this platform, christened “Halluin 2”, in large part embodies the commitments of the Ports of Lille in the framework of the DIPCITY programme. When completed, the development will provide a 4,527-m² platform with a 100-m river dock. A Kalmar Contchamps-type superstacker will be used for loading and unloading the barges, which is also suitable for “negative handling”.

The planned investments by the Ports of Lille stand at EUR 4,800,000 before tax for this project, including the additional works on the platform dock, necessitated as a result of widening the canal to gauge Vb.
The development is intended to ensure sustainable transfer traffic between the sites by the inland waterways by providing optimum operating conditions for handling containers and servicing the Halluin terminal.

**Visits and communication**

Technical visits were organised as part of the DIPCITY programme to bolster the planned developments by comparing them with practices at other sites and in other countries.

With respect to the round table organised by the Ports of Lille, trips were made to London (visit to the Fallbrook Wharf waste-transfer station), to the Netherlands (visit to the AVER facilities in The Hague and Rotterdam), to Liege (the new incinerator) and to Lille (waste seminar and tour of the Organic Waste Reprocessing centre at Loos-Sequedin).

During and after the visits, we had many contacts with our DIPCITY partners, the Port of Brussels, the Paris Port Authority and the Port of Liège.

In its communications, the Ports of Lille highlighted its involvement in the DIPCITY programme, pointing out that this programme is part of the Interrreg Programme. In particular, this information was provided during trade fairs, notably the SITL (Semaine Internationale du Transport et de la Logistique) in Paris in 2006, 2007 and 2008.

When attending trade fairs, the representatives of the Ports of Lille did not miss an opportunity to underline the European Union’s support for their projects.
IX.3 Port of Brussels

Within the DIPCITY project, the Port of Brussels has focussed on the theme “attractiveness of the port area”, both in the round table exchanges and in the realisations on the field. By doing so, the Port of Brussels has invested in creating a more attractive and functional port area. Parts of these efforts have to be seen as a continuation of a long process of integrating the port into the city, one of the main axes in the long-term development strategy of the Port.

This is the case, notably for the construction of a **new nautical centre** for leisure activities related to the waterway, the renovation of pontoons for the sporting clubs and of the yacht club (Brussels Royal Yachting Club). The renovation of 2 locks in the port area was retarded, so only the study could be completed. Originally it was also foreseen that the Beco dock would be further renovated in 2006/2007, but these works had to be

Pictures of these realisations are shown below, each time before and after renovation.

![Nautical center - before](image1)

![After: the Nautical centre was opened in 2006](image2)
Renovation pontoons at Veeweyde (Anderlecht)

Before

After
Quay des Usines.

Renovation pontoons of SNUB (Sport Nautique Universitaire de Bruxelles) at Quay des Usines (Laeken).

**Before**

**After**
Renovation of pontoons for Union Nautique de Bruxelles and Royal Sport Nautique de Bruxelles in Neder-Over-Heembeek

_U. N. B. Before_

-_After_

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The cofinancing with ERDF of the INTERREG IIIB programme has allowed the Port of Brussels to acquire a new tool to improve the environment and urban integration: a cleaning boat. The boat was built specifically on the dimension of the port of Brussels and makes it possible to clean and foam the water levels. Its aluminium hull, very handy, and the variety of its equipment make it a multi-service cleaning boat. A cleaning basket, placed in front of the boat, collects the floating remains which are then recovered in big bags.

The cleaning boat of the Port of Brussels
Another step in creating a cleaner water surface is the installation of 2 floating dams designed to collect the waste floating on the water surface. In this sense, an exchange of know-how has taken place between the Port of Brussels, the Port Autonome de Paris and the SIAAP (Syndicat Interdépartemental pour l’Assainissement de l’Agglomération Parisienne) who manage the system in Paris (already 25 floating dams installed along the Seine). The delivery and installation of the floating dams were achieved mid-November 2008.
IX.4 Liège Port Authority

A) Improvements to the productivity of the covered dock at the Port of Monsin.

The Port of Monsin boasts a 26x100 m covered dock. The covered dock has a bridge crane with a lifting capacity of 2x25 tonnes and a rail link. It is adjacent to 10,000 m² of covered storage areas.

Hence it is a trimodal facility for the handling of merchandise and is protected from the weather.
As the capacity of the covered dock can take two boats at the same time, it can be used for transhipment from open barges to coasters. In fact, coasters heading for Great Britain, Scandinavia and the countries of the Mediterranean leave mainly from the covered dock at Monsin.

![Two coasters anchored at the covered dock at the Port of Monsin](image1)

Generally speaking, these coasters carry iron and steel products or wood. The covered dock infrastructure was built at the beginning of the 1980’s by the Liege Port Authority and is now managed by SOMEF (the ARCELOR Group’s handling company).

![Portal bridge crane at the covered dock](image2)
Maintenance and improvement works on the portal bridge crane, funded by the European Union, are planned to ensure the sustainability and guarantee the operation of this multimodal facility - and hence of the inland waterways - in the long term.

When it was installed 30 years ago and in the framework of this programme, the Liège Port Authority issued a government contract to hire the services of an engineering firm with particular skill in this area and in the design of portal bridge cranes. The firm conducted a study of the hoisting device and determined its fatigue resistance.

The work required was then planned on the basis of this expert appraisal:
- servicing of the hoisting reduction gear;
- replacement of a hoisting brake;
- supply of a reserve hoisting engine;
- replacement of the drum bearings;
- replacement of the 25-t hooks;
- replacement of the trolley wheel shafts and bearings;
- replacement of the travelling wheel shafts and bearings.

The Liège Port Authority has assumed the cost of all of the above points, funded by the European Union, with the exception of supplying the hoisting engine; the total expenditure amounts to some EUR 70,000 before VAT.

In addition, SOMEF, the covered dock concession holder, will be responsible for additional works, including:
- supply of a reserve hoisting engine;
- fitting of the parts referred to above, which require immediate replacement;
- electrical works to bring the bridge in line with standards;
- modernisation of the lighting in the portal working area.

B). Landscaping at the Port of Monsin

The Port of Monsin (the 1st site to be taken over by the Liege Port Authority in 1937) is an island covering 93 ha, surrounded by the Meuse and the Albert Canal and located at the entrance to the city of Liège.

At the time the first companies began to set up shop there, environmental and urban planning considerations were far further down the list of priorities than is the case today. The port quickly filled up with some 20 companies now located there. It handles approximately 3 million tonnes coming in by the inland waterways.

At a time when we seek to promote transport by inland waterways as a safe, economic and green mode of transport, it is important to prove that port activities can be integrated as part of the urban environment.

Hence, the importance assigned to integrating the Port of Monsin into its environment.

To ensure it surrounded itself with people with the requisite expertise, the Liège Port Authority contacted the Direction de l’Intégration paysagère et du Patrimoine (Department
of Environmental Integration and Heritage) at the Walloon Ministry for Equipment and Transport to study the plans and draw up the necessary awarding-of-contract documents.

Landscaping operations were completed at both entrances to the Port of Monsin, the area around the covered dock and the access to “quai en Meuse” (a collier dock visible from the motorway). Details of these developments are given in the contract plans attached to this report.

The works included the following in particular:
- felling and stumping of local species of trees;
- preparation of the soil for seedlings and planting;
- planting of tall trees, shrubs, tillers and others;
- maintenance of the earth between plantings, upkeep clipping and mowing, early pruning and hedge cutting, all over a three-year period.

The investment expenditure covered by the DIPCITY programme amounts to some EUR 70,000 before VAT. In addition the Liège Port Authority will finance the expenditure for the maintenance work for a period of three years.
X. CONCLUSION

The project DIPCITY has been to the 4 project partners a stimulating opportunity to share their know-how. Through the five themes that were examined, the project has allowed to reinforce the strategies from the ports to be a more effective tool at the service of their region. INTERREG has proven to be a means of exchange between the 4 ports and has allowed an intensive transfer of know-how.

The project has also been an encouragement for the ports through the impact on the authorities of the 4 regions: the cohesion, the objectives of sustainable development and the voluntarism of the approach have allowed to create a large awareness on the role of inland ports in the urban context of North-West Europe.

The project DIPCITY will have been for the 4 partners a crucial experience which encourages them to be willing to create a new project. While DIPCITY was oriented towards the development of inland ports as sustainable urban tools, it seems important to pursue a partnership to deepen the mutual learning, to aim towards innovation and to improve the transnational cohesion. This means to us a new challenge to accomplish the basic mission of a port authority: to be an effective tool at the service of its region.
COLOPHON

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