FLOATING IDEAS

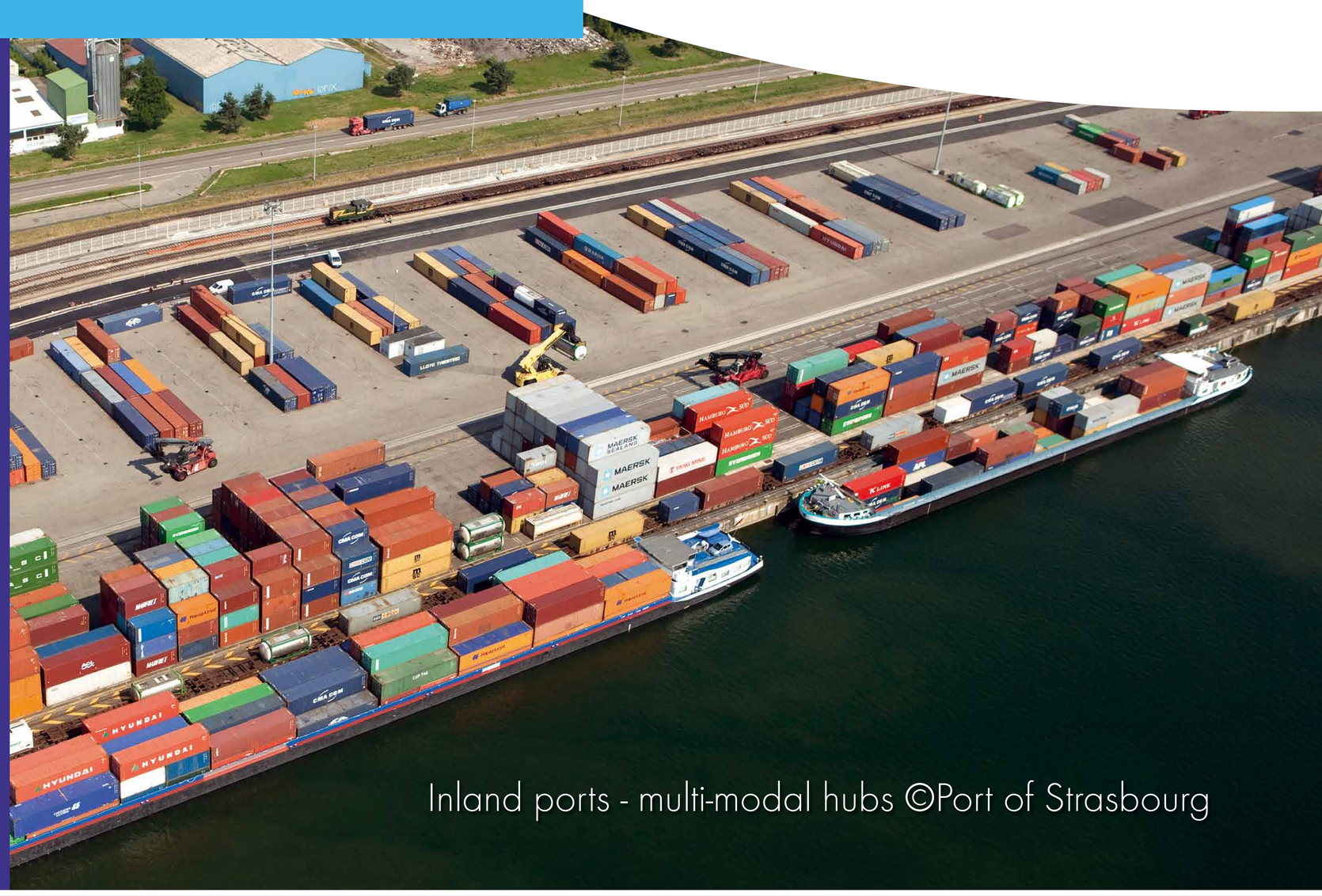
INNOVATIVE PROJECTS IN INLAND PORTS

EFIP
European Federation of Inland Ports

This exhibition highlights innovative projects in inland ports from three areas:

- **Innovative logistics**
- **Protecting the environment**
- **Positive port-city relations**

The aim is to show the diversity of activities in inland ports and to illustrate the commitment of the sector to innovate and develop solutions that benefit society.



Inland ports - multi-modal hubs ©Port of Strasbourg

The European Federation of Inland Ports (EFIP) brings together more than 200 inland ports and port authorities in 17 countries of the European Union, Switzerland and Ukraine.

Since 1994, EFIP has been **the voice of the inland ports in Europe**. EFIP highlights and promotes the role of inland ports as multi-modal hubs.

EFIP actively follows all developments in the field of EU policy of importance to inland ports and represents the inland ports vis-à-vis the European institutions and other international bodies.

EFIP offers its members the possibility to **exchange information, expertise and best practices with colleagues in other countries.**

For more information, please contact:

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INNOVATIVE LOGISTICS

BARGE TRAFFIC SYSTEM 3.0
ANTWERP

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Before the introduction of BTS, **every barge operator had to contact each terminal operator individually via e-mail or phone**. This resulted not only in frequent re-planning of loading and unloading activities, poor communication, conflicts, inefficient sailing and terminal schedules, but also in inefficient utilisation of equipment and resources, in particular in case of multiple terminal calls in the port on a single voyage.

Barge Traffic System 3.0. is a system for optimisation and harmonisation of the process of container barge handling in the Port of Antwerp with a focus on more transparency and visibility for both barge and terminal operators. It establishes a single obligatory working procedure for the whole port for slot requests, slot confirmations and registration of handled container barges. The Port of Antwerp first developed this free web application in 2007. In February 2013, the port launched a new and improved version of the Barge Traffic System, BTS 3.0.

This new version offers:

- Overview of sailing and terminal handling schedules,
- Visualisation of barge handling and sailing time taking into account the available terminal capacity,
- Up-to-date information of all container barge operations,
- Follow-up of barge positions in and outside the port,
- Consultation of lock planning,
- Proactive conflict notification taking into account the average sailing and estimated handling times.

Optimised container barge handling in the port:

- Reduction in lead times for container barges.
- Optimal use of equipment and resources for terminal operators.
- More visibility and transparency regarding the barge planning process and barge traffic.
- **Improved efficiency of inland navigation within and outside the port.**

INNOVATIVE LOGISTICS

ROLL-ON/ROLL-OFF BARGE TRANSPORT
RHEINCARGO

The Port Authority of Cologne (HGK) formed a joint venture in 2012 with the ports of Neuss and Düsseldorf called **RheinCargo**, which consists of seven ports along the Rhine and one of the largest freight rail networks in Germany. In cooperation with the Daimler Vehicle Works in Düsseldorf and the shipping company Mosolf, **RheinCargo organises transport of new vans by barge to the sea ports of Antwerp and Rotterdam.**

Port of Neuss-Duesseldorf ©RheinCargo

The MS "Terra 2", a new Roll-on-Roll-off barge with state-of-the-art diesel-hybrid engine technology, started operating in May 2014.

- **To minimize fuel consumption when travelling the Rhine, both barges are connected and propelled by the more efficient engine** of the "Terra 2" with the older engine of the "Terra" just adding minimal propulsion in order to avoid frictional losses.
- When approaching the sea ports, the ships can separate. One of them may deliver vans to Rotterdam, while the other one goes to Antwerp.
- On the way back, the barges can transport other vehicles, thus making the trip very efficient.

Together with its older sister ship, "Terra", the **"Terra 2"** will carry 27.000 vans per year to the sea ports.

This ensures efficient and environmentally friendly transport of new vehicles.

MS Terra and MS Terra 2 ©RheinCargo

INNOVATIVE LOGISTICS

CONTAINER CRANE SHIP
WATERWEGEN EN ZEEKANAAL

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A particularly dense network of waterways in Flanders and its neighbouring regions provides numerous opportunities for innovative logistics. Significant sums have been invested in recent years in the construction of quay walls using PPPs, as well as in the necessary adaptations of bridges and locks. **But since many companies do not have the necessary infrastructure and equipment available for the handling of containers, some opportunities for container transport by inland navigation remain unused.**

The container crane ship is a self-charging and -discharging barge, equipped with a container crane so that it can load and unload containers autonomously. The vessel offers companies the opportunity to consolidate flows of goods and transport them by water without major investments in infrastructure and loading equipment. **Waterwegen en Zeekanaal** is currently investigating possible uses of this model in Flanders. The first container crane ship 'Mercurius Amsterdam' was commissioned in 2006 in the Netherlands.

The container crane ship offers:

- Container transport via inland waterways in an environmentally friendly, cost effective, fast and efficient manner,
- Increased flexibility for the stuffing and stripping of containers,
- High reliability as the container crane ship is not subject to congestion on the road,
- **The development of specific business cases and a cost-benefit analysis has shown that the container crane ship, in addition to numerous social benefits, also offers a substantial cost advantage from an economic perspective**.

INNOVATIVE LOGISTICS

UPPER RHINE, A CONNECTED CORRIDOR

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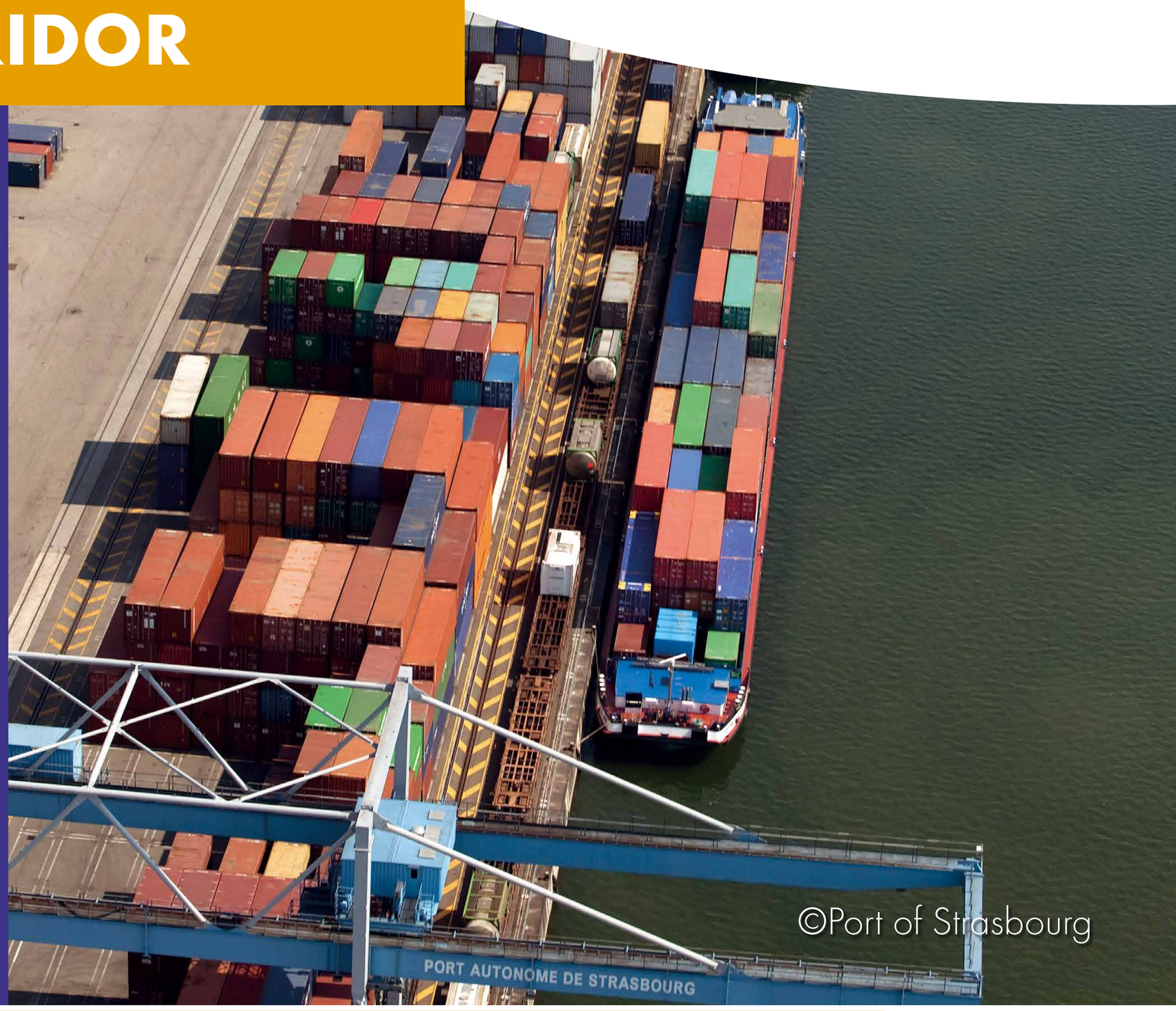
The inland ports in the Upper Rhine region are a dense network of logistics hubs. They play a decisive role in terms of multimodality and structure for the logistics chains. A large number of industrial and storage sites (e.g. cereals, metal, petroleum and chemical products) are based at the ports or nearby. They handle large flows of goods for every industrial branch in the region: 50 MT of river traffic and 700 000 TEU of containers, i.e. nearly a quarter of all traffic on the Rhine.



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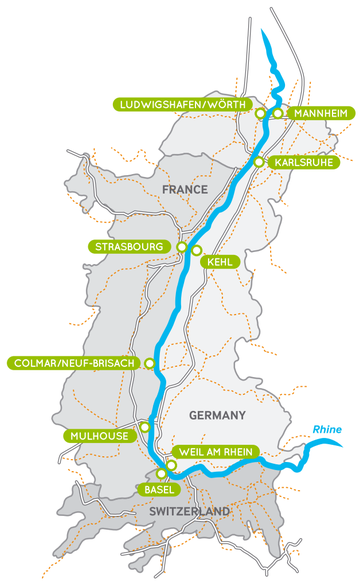
With the support of European TEN-T funding, the Upper Rhine Ports are devising a common strategy to get ready for the expected growth in traffic volumes at the port hubs in the coming 20 years and to provide integrated common services to their clients. The project has a budget of 1.7 million euros (50% funded by the ports and 50% by the EU) and involves the main ports of the Upper Rhine region: **Ludwigshafen, Kalrsruhe, Kehl, Strasbourg, Colmar/ Neuf-Brisach, RheinPorts Basel-Mulhouse-Weil.**



The main objectives of the projects are:

- **Analysis of the current situation** regarding the traffic and capacities at the existing transport infrastructures,
- Drafting of provisional short- and long-term scenarios per transport mode (including cross-border traffic) and **definition of solutions for bottlenecks**,
- Implementation of a **long-term master plan for the investments** required and potential sources of funding,
- Implementation of **governance structures for the Upper Rhine Ports.**

Co-financed by the European Union

Trans-European Transport Network (TEN-T)

PROTECTING THE ENVIRONMENT

LNG MASTERPLAN
RHINE-MAIN-DANUBE

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Liquefied Natural Gas (LNG) is an alternative, cleaner fuel for inland shipping. **Like many new technologies, LNG supply is subject to a chicken-and-egg problem**.

LNG propelled inland barges today can bunker from a truck, but this requires planning for the provision of LNG. A strategic number of small scale bunker stations with the facility to store LNG would secure a constant and more convenient availability of LNG for inland ships.

But demand for LNG by the inland shipping sector is still very limited and for a decent business model for a bunker station, a sufficient number of customers is necessary.


LNG Bunkering ©Port of Mannheim

The LNG Masterplan for Rhine-Main-Danube is a TEN-T funded project that aims at stimulating the use of LNG as fuel and as cargo in the European inland shipping sector. As a subgroup within the LNG Masterplan consortium, the **Ports of Antwerp, Basel, Mannheim, Rotterdam and Strasbourg** actively exchange information and knowledge with regard to LNG as fuel and cargo.

This so-called Rhine Ports Group jointly works on:

- A market analysis,
- An analysis of the safety aspects of LNG in inland shipping providing recommendations for harmonized European regulations,
- The elaboration of guidelines for emergency response,
- **A risk analysis for a bunker station in the ports of Mannheim and Switzerland.**

In the framework of the LNG Masterplan project, several inland barges are provisioned to sail on LNG, either as new construction or through retrofitting.

Through this smart cooperation a kick-start is given to a market that otherwise would only slowly develop.

The complete chain of Rhine, Main and Danube is considered as a central European axis for the distribution of LNG to the European inland market.

Compared to gasoil that is currently used by inland ships for propulsion, LNG is a much cleaner fuel. The exhaust gas of an engine running on LNG hardly contains any particulate matter and emissions of NOx are also significantly reduced.

©Port of Antwerp

Co-financed by the European Union
Trans-European Transport Network (TEN-T)

lng MASTERPLAN FOR RHINE-MAIN-DANUBE

PROTECTING THE ENVIRONMENT

SHIP WASTE COLLECTION – CODENAV
ROMANIAN PORTS

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CODENAV is an ERDF-funded project which aims to reduce the environmental impact of ship waste and cargo residues in the ports of the Romanian Maritime Danube Ports Administration (APDM).

The project supports the three **Romanian inland ports of Galați, Brăila and Tulcea** in the:

- Purchase of **specialised ships**, equipment and installations for the depollution and collection of ship waste generated by the vessels operating in the ports,
- Modernisation of current vessels, installations and equipment specialized in waste collection,
- Construction of **on-shore facilities for the collection of separated solid ship waste** for all types of waste, including hazardous waste.

EUROPEAN UNION
Investing in Your Future
European Regional Development Fund 2007-13

The CODENAV project decreases the negative environmental impact of inland waterway transport by improving:

- The organisational capacity for **managing ship waste in the ports,**
- The quality of ship waste collection services,
- The efficiency of interventions in case of accidental pollution by providing specific installations and equipment.

POSITIVE PORT-CITY RELATIONS

SUPERMARKET DELIVERY ON THE SEINE
PARIS

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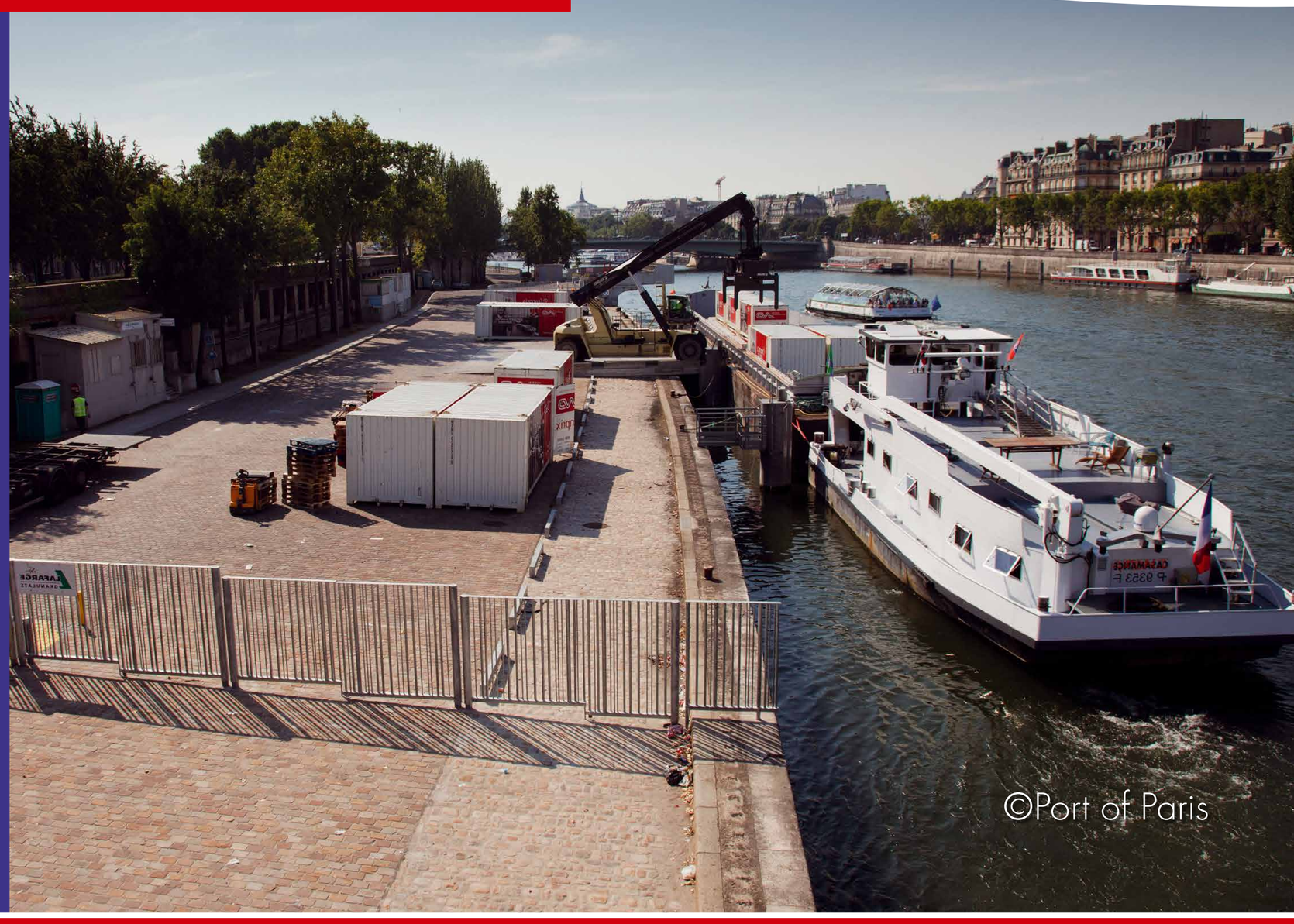
Franprix, a French food retail company, started to use waterways as a transport mode to replenish stocks in its stores in the centre of Paris in 2012. Previously, the stores were directly supplied by trucks from the warehouse 20 km outside Paris.


©Port of Paris

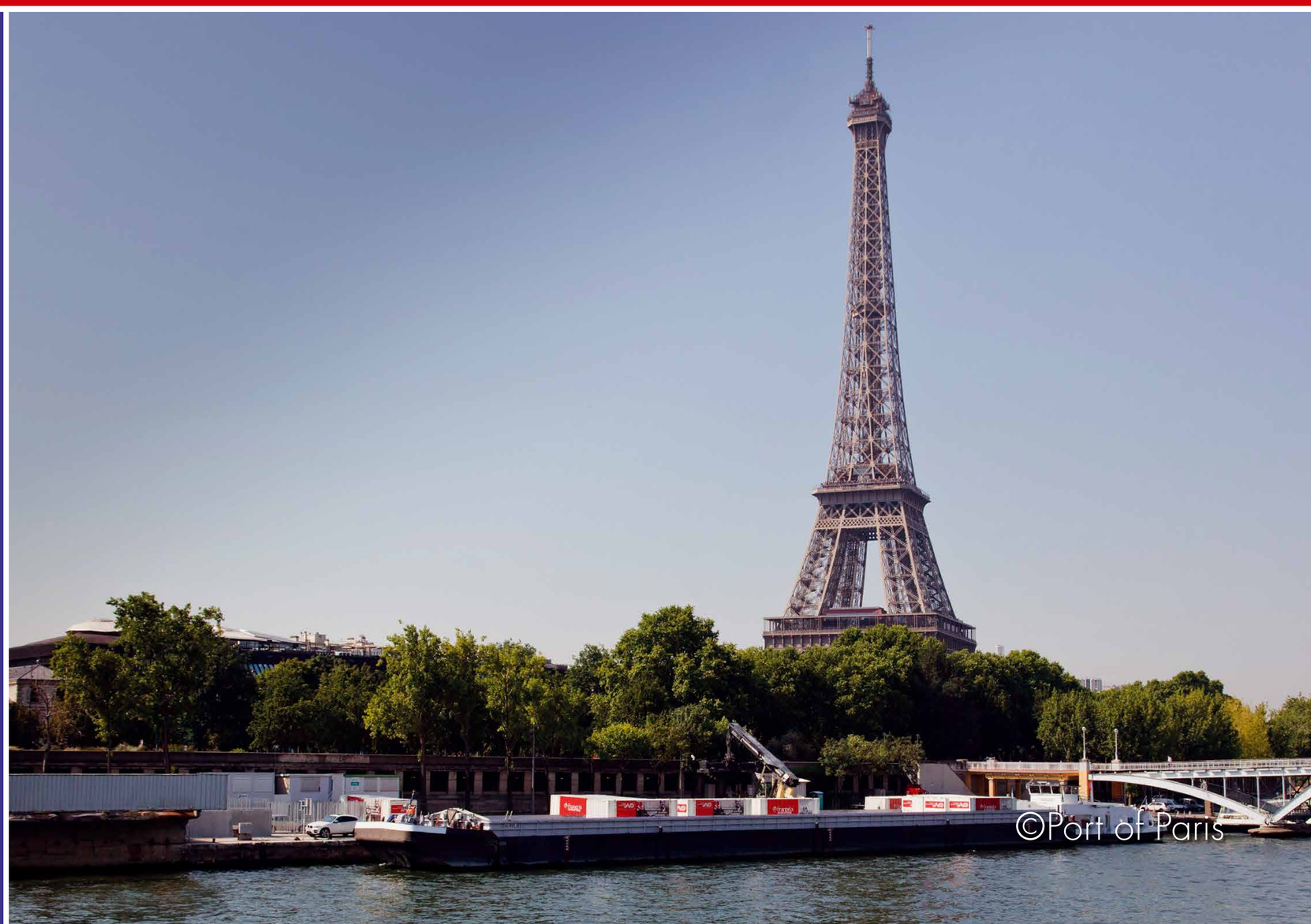
Goods are packed in swap-bodies and transported 8km by road from the Franprix warehouse to the multimodal platform at Bonneuil. From there they are brought by boat to Quai de la Bourdonnais in Paris.

Last mile transportation to Paris stores is provided by 6 trucks with each truck making an average of 4 trips to stores. The empty swap-bodies are re-loaded onto the boat when the delivery trucks return.

Swap-bodies do not remain on the quay other than during handling operations and the quay is open to the public outside the hours of operation and at weekends.

The project brings benefits to:

- Residents, thanks to **reduced traffic congestion, less pollution and less noise**,
- Franprix stores and customers, since daily on-time deliveries can be guaranteed as there are no traffic jams on the Seine,
- The environment by saving 450 000 km in road journeys per year (the equivalent of 12,857 trips around the Paris ring road) and around 230 tonnes of CO_2.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POSITIVE PORT-CITY RELATIONS

BRINGING PASSENGERS TO CITIES

BRUSSELS, BRATISLAVA, ROERMOND

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Bratislava Passenger Port - Waterfront Eurovea

In **Bratislava**, the area in front of the shopping center EUROVEA, close to a historical old bridge, cannot, for the time being, be used for accommodating vessels because of the incomplete binding elements and landing pontoons.

In accordance with the concept of sustainable city development, the Port and the Municipality of Bratislava will realise the urban-architectural design of waterfront EUROVEA, that will consist in building binding elements and **landing pontoons (with a total length of 350 metres) for small vessels and passenger cabin boats.**

The project will allow to use this area, which is located near the city center of Bratislava, for the development of public passenger shipping.

Bratislava Waterfront Eurovea

Brussels Cruise Terminal

In Brussels the number of river cruise passengers grew from 1 200 passengers in 2006 to 10 000 in 2010!

The future Brussels Cruise Terminal will be located in Neder-Over-Heembeek. The terminal, which will include a restaurant, should be operational by 2016 and will offer Brussels a passenger terminal that can respond to the demands of cruise operators and bring an added value to the tourism sector. By 2030, the terminal could accommodate 35 000 passengers per year, creating around 100 direct jobs.

Jazz City, new life on the city harbour quays

In the city of **Roermond** in the south of The Netherlands the development of several functions come together in an extraordinary new centre of activity. The former military base of the city was transformed about six years ago into a very busy outlet shopping centre with more than 5 million visitors each year. A new theme park will be opened in 2015.

The port is being redesigned to accommodate passengers and a new river cruise terminal will bring passengers to the town and shopping centre. In this dynamic region, a new area development named Jazz City will connect leisure, shopping and living. The old harbour area will be transformed as a marina with marina front living, waterfront living and boulevard design.


Jazz City Roermond

POSITIVE PORT-CITY RELATIONS

TRILOGIPORT
LIÈGE

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The Port of Liège is currently developing the multimodal platform "Liège Trilogiport", a new 120 hectare multimodal logistics hub located on the Albert Canal. The new facility has been designed to act as an extended gateway to Antwerp, Zeebrugge, Rotterdam and Dunkirk - four of Northern Europe's largest seaports.

Trilogiport aerial view ©PAL Chris Renault

Particular attention was paid to the needs of residents. **The project dedicates 39 hectares to the environmental integration area of the multimodal platform by creating green spaces, community gardens, walking and cycling paths.** The participation in the project "Connecting Citizen Ports 21" allows Liège Port Authority to benefit from European funds (Interreg IVB) to realize a part of this environmental integration zone.

Liège Trilogiport:

- Could provide up to **2,000 new jobs**,
- Is **environmentally-friendly and citizen-friendly**,
- Provides an opportunity to cater for economic, environmental and welfare-related concerns.

Investing in Opportunities
This project has received European Regional Development Funding through INTERREG IV B.
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INTERREG IVB

Trilogiport environmental integration area ©PAL Chris Renault