Instream

Smart and efficient inland navigation

instream

Port of Antwerp
Instream
Smart and efficient inland navigation

www.portofantwerp.com/en/instream

CONTENT

5 The port of Antwerp, your partner for smart, and efficient inland navigation

11 Streamlining processes by combining forces

15 Chain efficiency, top priority at the port of Antwerp

16 Nautical coordination
  Automatic Identification System (AIS)
  Barge coordination

20 Efficient container handling
  Barge Traffic System (BTS)
  Central barge planning and monitoring

26 Effective distribution within the port
  Premium Barge Service (PBS)
  Consolidation of small barge container volumes

31 Reliable and effective hinterland connections
THE PORT OF ANTWERP, YOUR PARTNER FOR SMART, AND EFFICIENT INLAND NAVIGATION

With an annual import and export volume of more than 199 million tonnes of freight, the Port of Antwerp helps to maintain Europe’s place as a major economic power. As a top-three port in Europe, Antwerp is an essential engine of the continent’s growth.

To meet this European ambition, the Port of Antwerp serves as a reliable supply chain partner, ensuring that 600 million consumers can be reached efficiently and effectively.

To this end all public and private partners at the Port of Antwerp collaborate to provide smooth barge traffic flows to and from the hinterland.

Antwerp’s geographical location deep inland puts it at the demographic, industrial and logistical heart of Europe. Moreover it is situated at the centre of the Rhine-Maas-Scheldt delta region, directly connected to the European network of inland waterways.

Barge transport therefore plays a crucial role in ensuring sustainable hinterland transport and underpinning the logistical flow of goods.

Every week more than 925 barges call at Antwerp, carrying everything from project cargo to containers and dry and liquid bulk, to and from the Netherlands, Germany, Switzerland, Austria and northern France.
Innovative projects

As the European shipping, logistics and industrial platform, the Port of Antwerp supports the most innovative projects in the Delta region to raise the efficiency of inland navigation and promote the use of this mode.

Measures to ensure smooth container handling, coordinate barge movements and effective distribution of containers within the port lead to efficient flows of goods and strong connections between Antwerp and its hinterland.

This in turn enables shippers to reach their hinterland customers quickly, reliably and sustainably.

The Port of Antwerp’s inland navigation initiatives are aimed at cost effectiveness and financial returns for stakeholders. These initiatives also enhance safety and mobility, and support sustainable growth.

GATEWAY TO THE EUROPEAN HINTERLAND

The Port of Antwerp acts as the gateway to the European continent, thanks to its location deep inland in the demographic, industrial and logistical heart of Europe. Indeed, 60% of European purchasing power lies within a radius of 500 km from the port. As a link between foreland and hinterland, the port enables 600 million consumers to be reached rapidly and effectively.
Modal split ambition

Various levels of government support inland navigation as a cost-efficient, safe and sustainable mode of transport. In its white book the European Commission sets a target of shifting 30% of road transport to rail and barge by 2030. By 2050 it aims to achieve a modal shift of 50%.

The Flemish government also wishes to promote the more sustainable modes: by 2030 rail and barge should account for a third of freight transport in Flanders.

The Port of Antwerp’s aims closely mirror these targets. Rail and barge already account for 51% of all freight transport passing through the port, and the target is to increase this to 60% by 2030.

As a proactive, customer-oriented supply chain partner, Antwerp Port Authority and its Barge Master Plan are creating the right conditions for inland navigation to develop into an even smarter, more efficient mode. In short, the Port of Antwerp is a priority partner that reinforces logistics chains.

TRANSPORT IN THE PORT OF ANTWERP
MODAL SPLIT AMBITION
(IN PERCENT)

<table>
<thead>
<tr>
<th>Year</th>
<th>Rail</th>
<th>Barge</th>
<th>Road</th>
<th>Total Freight</th>
<th>Containers</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>41%</td>
<td>51%</td>
<td>4%</td>
<td>51%</td>
<td>36%</td>
</tr>
<tr>
<td>2030</td>
<td>40%</td>
<td>42%</td>
<td>6%</td>
<td>40%</td>
<td>57%</td>
</tr>
</tbody>
</table>
STREAMLINING PROCESSES BY COMBINING FORCES

One important advantage for carrying out inland navigation projects at the Port of Antwerp is the strong collaboration between logistics chain partners. By combining forces, the port streamlines barge processes and facilities and creates a positive dynamic among the stakeholders. This approach results in more intense collaboration, sharing of knowledge and expertise, and a customer-oriented, getting-things-done attitude.
Involvement
When optimising logistics processes, the involvement of stakeholders and the collaboration between them is important. The Port Authority aims to play a bridging role here: in consultation with the stakeholders it seeks to carry out the required changes and create the necessary added value for each participant, taking into account the sensitivities of a competitive market.

Transparency
Enhanced transparency throughout all links in the chain makes a significant contribution towards the smooth flow of container barges. Tailor-made communication and information systems and solutions give all stakeholders clear and useful information. This enables them to improve their planning and use of resources.

Expertise
More intense collaboration between players in the barge industry involves increased information sharing, for example about procedures and problems. This helps the stakeholders to build up more expertise, which proves its worth in day-to-day operations and raises efficiency.

Getting things done
Antwerp’s favourable location is further leveraged by its ‘can do’ attitude in which everyone works together to produce clear results. Practical projects and plans for improvement are developed for swift implementation.

Open dialogue with the barge sector

The collaboration with the Port Authority is unique. Thanks to the pragmatic approach and the open dialogue between the barge sector and the Port Authority, fast results are achieved for efficient handling of barges in the port of Antwerp. Everything is possible at the Port of Antwerp.

— Philippe GOVERS
Chief Operations Officer, BCTN BeNeLux
Director, ICBO
CHAIN EFFICIENCY, TOP PRIORITY AT THE PORT OF ANTWERP

An effective supply chain is based on principles such as transparency, sustainability, fast and reliable connections, and high quality, tailor-made services. These all enjoy top priority at the Port of Antwerp, as demonstrated by the inland navigation projects:

1. Nautical coordination
2. Efficient container handling
3. Effective distribution within the port
Nautical coordination

Given the expected rise in the number of barge movements and the size of barges, initiatives are being pursued at the port to improve coordination and ensure safe, efficient vessel traffic management. This in turn will ensure the efficient handling of barges and goods, and therefore quick lead times for barges in the port.

The obligatory use of AIS has had a very positive effect on monitoring barge traffic in our terminals. Whenever we see that a barge will not arrive in time for its appointment, the terminal can look for solutions proactively to avoid idle time.

— Marc STEFANOFF
Manager Central Barge Planning, PSA Antwerp nv

AIS enables our barges to report to the locks 2 hours beforehand. And since AIS shows us the positions and names of other vessels it also contributes to safety in the port.

— Patrick RIFAUT
Skipper, Floratransshipping nv

The advantage of barge coordination? A single point of contact for locks which permits better lock handling within the port of Antwerp and enables our barges to travel more safely and efficiently.

— Philippe GOVERS
Chief Operations Officer, BCTN BeNeLux
Director, ICBO
Antwerp was the first European port to make AIS obligatory for barges. The system was introduced in phases, in consultation with the barge industry.

**Automatic Identification System (AIS)**

**What it is**
The Automatic Identification System (AIS) automatically sends information on the name, position, speed and course of the barge.

**How it works**
Barges can announce their arrival at the locks in advance and book their lock passage. Thanks to the traceability of barges in AIS, the advance reporting can be verified and the lock scheduling made more reliable and transparent.

The AIS passing points in the port and beyond are supplied to the port nautical information system (APICS) and the Barge Traffic System (BTS), enabling traffic controllers, barge operators and terminal operators to schedule and monitor the flows more efficiently.

**Advantages**
AIS permits mutual visibility and recognisability between barges and seagoing ships, therefore further clarifying the overall picture of shipping traffic and facilitating nautical communication.

**Barge coordination**

**What it is**
The barge coordination that is due to be introduced in the port will make it possible to coordinate traffic flows of barges and seagoing ships more efficiently and to integrate their movements. As a result, port users will have real-time, dynamic information about barge-related subjects in the port of Antwerp.

**How it works**
The barge coordination project aims to have a single, central point of contact for scheduling lock operations based on the real-time traffic situation and the schedule of movements for seagoing ships.

**Electronic advance reporting**
Electronic advance reporting will widen the scheduling horizon for barges and provide extra insight in the barge flows.

This will allow optimised lock scheduling for all transport modes, including onward flows from or towards the hinterland. Antwerp Port Authority aims to introduce the system according to an integrated, phased approach.

**Advantages**

For barge operators:
- Efficient use of barges
- Shorter turnaround times in the port
- Greater competitiveness

For skippers:
- Good port-status information to choose the ideal route
- Smooth traffic flows
- Enhance safety
- Increased predictability of lock passage times
- Reliability of lock scheduling

For terminal operators:
- Accurate estimates of barge arrival times
- Fast and accurate updating of the scheduling of loading and unloading operations

**For shipping companies, barge operators and skippers:**
- Proactive traffic control
- Safety in port due to mutual visibility and recognisability
- Efficient berth management
- Better lock planning
- Optimisation of lock capacity
- Speed adaptable according to lock passage time: economic and ecological benefits

**For terminal operators:**
- Clear picture of barge locations and identification
- Improved planning

**Antwerp**
Port of Antwerp
Efficient container handling

Logistical efficiency is necessary for the optimal handling of barge transport. Each time it calls at the port, a container barge visits an average of eight terminals. To ensure the best possible handling operations, the port offers innovative solutions for planning and communication.

"BTS has done away with communication by phone and fax, much to the relief of our planning department. It’s a transparent, easy-to-use communication channel that has made our activities much simpler."
— Rudi FRANSEN
Operations Manager, Inchcape Shipping Services nv

"The transparency afforded by the BTS system ensures efficient scheduling and short turnaround times in the port. This in turn enables us to offer our customers a reliable product."
— Venita Bosman
Manager Operations, Alcotrans Container line B.V.

"The big advantage of central scheduling is that coordination between the terminals is much more efficient. This reduces barge turnaround times and makes better use of terminal resources, thus significantly reducing the idle time."
— Marc STEFANOFF
Manager Central Barge Planning, PSA Antwerp nv
What it is

The Barge Traffic System (BTS) is a unique online slot request and monitoring system for container barges and terminal operators. BTS was developed in consultation with the barge industry to optimise the handling of container barges and maximise loading and unloading efficiency.

How it works

BTS enables barge operators to request realistic time slots, therefore helping the terminal operators to plan their schedules for loading and unloading operations.

1. Barge operators first have to send a request to the terminal operator.
2. The terminal operator then prepares a schedule of loading and unloading operations.
3. And returns this to the barge operator via BTS.

BTS takes into account the average sailing time and estimated handling time. Built-in conflict control enables BTS to report the feasibility of the barge operator's request and the terminal operator's schedule.

Advantages

- One dedicated communication channel
- Uniform, transparent procedure
- Continuous monitoring possibilities (including barge position, lock scheduling, details of terminal capacity and opening times, barge sailing schedule)
- Adjustments to schedules
- Detection of conflicts
- Reliable service
- Cost savings
- Strong competitive position

Central barge planning and monitoring

What it is

In combination with BTS, the port offers Central barge planning and monitoring to guarantee efficient handling in the port. The two projects reinforce one another and have a greater impact on container handling.

How it works

A central unit uses scheduling software and BTS to draw up a schedule of loading and unloading operations for all container terminals in the Port of Antwerp.

Advantages

- Joint scheduling for all terminal operators results in:
  - Accurate schedules
  - Prompt and effective handling of container barges
  - Rational sailing schedule
  - Short turnaround times for barges in the port

Previously terminal operators prepared their barge handling schedules independently of each other. Central barge planning and monitoring permits loading and unloading schedules to be coordinated, with increased communication between the terminal operators.

This is being implemented in phases: proof-of-concept tests have been carried out, and a system trial was successfully held by 16 maritime and non-maritime terminal operators at the start of 2014.

For barge operators:

- Realistic time slots
- Short waiting times at terminals
- Short turnaround times in port
- Accurate estimates of arrival times
- Greater competitiveness
- Productive use of barges

For terminal operators:

- Feasible and realistic schedules
- Efficient use of resources and equipment (berths, quays, cranes and labour)
- Proactive operation

For shipping companies, shippers and forwarders:

- Rapid and reliable container handling and transit

BTS can be accessed via APCS, the Antwerp port community platform, the network of electronic and information systems that supports logistic flows at the Port of Antwerp.

www.portofantwerp.com/apcs

For barge operators:

- Realistic, well-coordinated sailing schedules
- On-time handling and departure
- Short turnaround times in the port
- Productive use of barges

For terminal operators:

- Realistic scheduling and monitoring of terminal operations
- No time slot clashes
- Scheduling based on the actual position of the barge and the handling capacity of the terminal
- Fast and accurate adjustment of loading and unloading operations
- Maximum use made of available resources and equipment (berths, quays, cranes and labour)

For shipping companies, shippers and forwarders:

- Rapid and reliable container handling and transit
Efficient container barge handling at the Port of Antwerp

Efficient container handling

Central barge planning and monitoring

All integrated in APCS, the Antwerp port community platform
Effective distribution within the port

In addition to nautical coordination and the smooth handling of barge containers, the port is increasing the efficiency of intra-port container distribution. Innovative initiatives are being taken to ensure rapid transfers of full and empty containers between port terminals.

The advantages of consolidating small volumes include shorter turnaround times for our barges and better use of capacity, enabling us to save costs and offer a higher quality of service.

— Venita Bosman
Manager Operations, Alcotrans Container line B.V.

Consolidation of small volumes means fewer lock passages and barge movements within the port. This in turn enables the barges to rotate more quickly between the Port of Antwerp and the hinterland.

— Stefan COUPIÉ
Skipper

The principle behind the Premium Barge Service is simplicity itself, connecting all the terminals according to a fixed timetable. Thanks to this transparency there is a reliable service and a short operating time after the customer’s booking.

— Jan GODERIS
Managing director, Shipit nv

Consolidation small volumes

Premium Barge Service (PBS)

Consolidation small volumes

Premium Barge Service

Smart and efficient inland navigation
**Premium Barge Service (PBS)**

**What it is**
The Premium Barge Service (PBS) is a shuttle service that operates at fixed times between container terminals at the Port of Antwerp, with the aim of reducing the number of containers carried around by truck.

**How it works**
The principle is simplicity itself: a barge calls at the same container terminals at fixed times each day.

A first loop connects the maritime container terminals, while a second connects these terminals with terminals on the left bank.

**Advantages**
Thanks to its regular schedule, the Premium Barge Service is a reliable intra-port transfer service that offers a worthwhile alternative to road transport. Terminal operators can adjust their loading and unloading schedules to the arrival of the barge service.

---

**Consolidation of small barge container volumes**

**What it is**
Consolidation reduces the number of calls by barges with small container volumes in the port, so increasing container barge efficiency.

**How it works**
After consolidation daily barge shuttles bring container cargo to the maritime container terminals in the Port of Antwerp.

**Advantages**
Consolidation of small volumes reduces the number of terminals to be called at, and cuts turnaround times in the port. This optimises the use of resources and equipment, for both the barge and terminal operator.

---

The Premium Barge Service has been set up by Antwerp Port Shuttle (APS), a joint venture between Van Uden, Euroports and Shipit.

---

APS

Consolidation of small barge container volumes

is a collaboration between the Antwerp Port Authority, barge operators and terminal operators.

---

Instream Smart and efficient inland navigation

---

Port of Antwerp
RELIABLE AND EFFECTIVE HINTERLAND CONNECTIONS

The Port of Antwerp and the barge sector are partners who together ensure that the port remains a key engine of the European economy.

Strong collaboration between all parties results in innovative projects to achieve smooth, reliable and sustainable handling of barge transport.

Improved nautical coordination and efficient container handling and intra-port distribution make Antwerp the inland navigation port in Europe.

www.portofantwerp.com/en/instream