



COREALIS Port of Antwerp Demo/Training Webinar

Port of Antwerp Living Lab

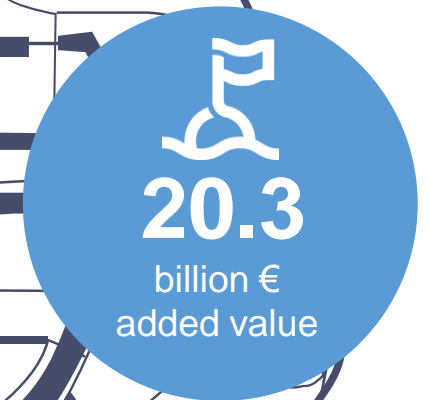
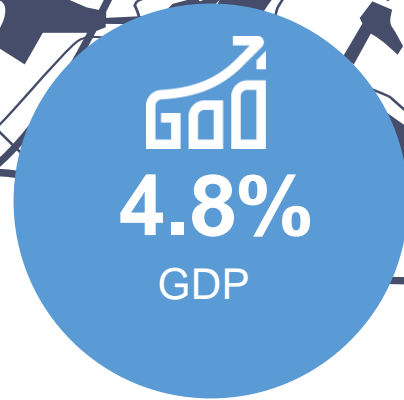
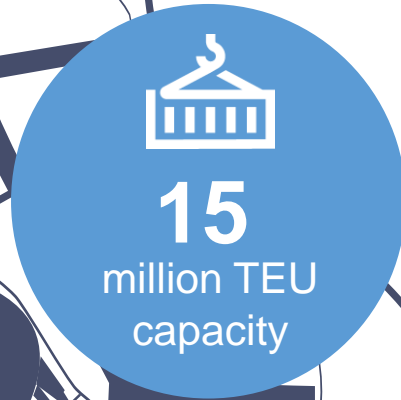
Nico De Cauwer – Port of Antwerp

November 10th 2020



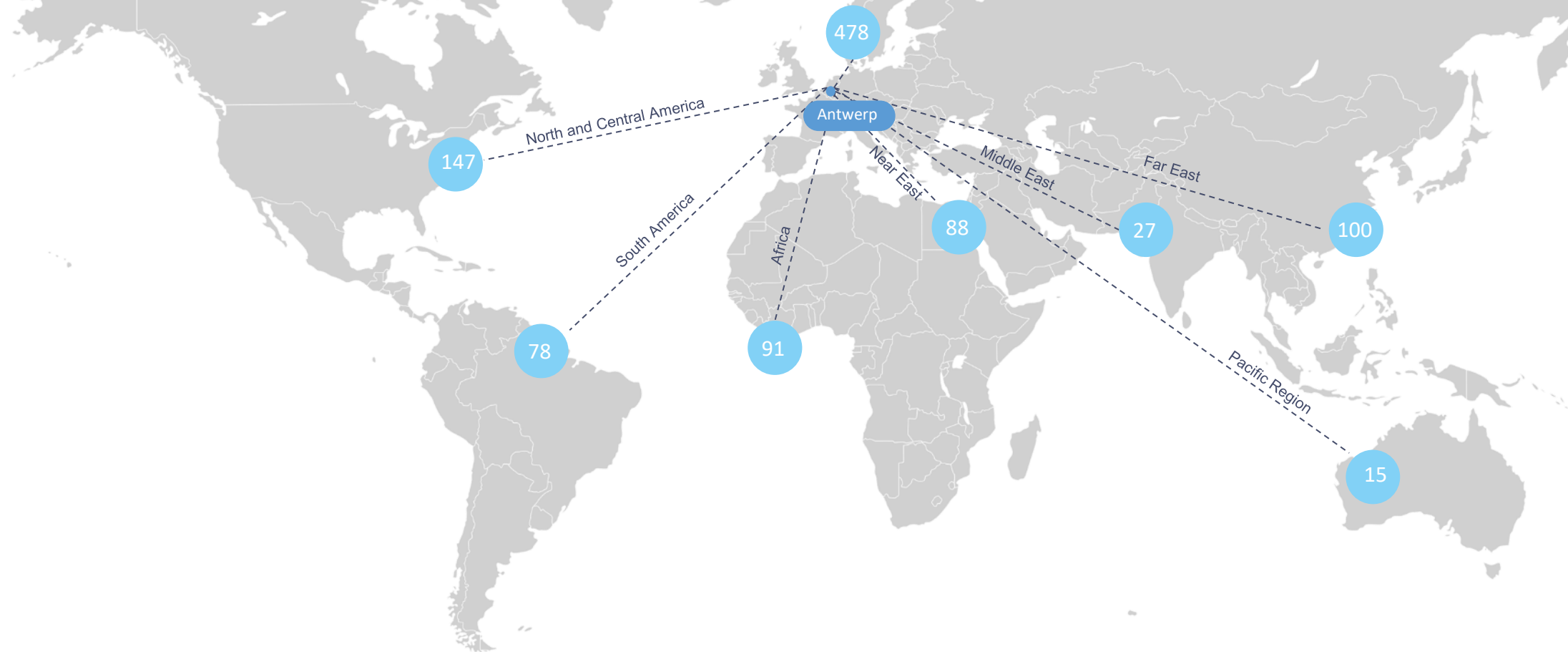
2nd European port 14th port worldwide

Belgium's biggest economic driver





Direct maritime services to +1,000 ports worldwide



An aerial satellite-style image of a river network. A thick, semi-transparent light green path highlights a route starting from the top left, following a large river, then a smaller tributary, and then a series of smaller channels that branch out across a green, forested landscape. The path ends near a cluster of buildings in the bottom right. The text 'Mobility: 80 kilometers inland' is overlaid in white on the lower left portion of the image.

Mobility: 80 kilometers inland



Mobility

Rail



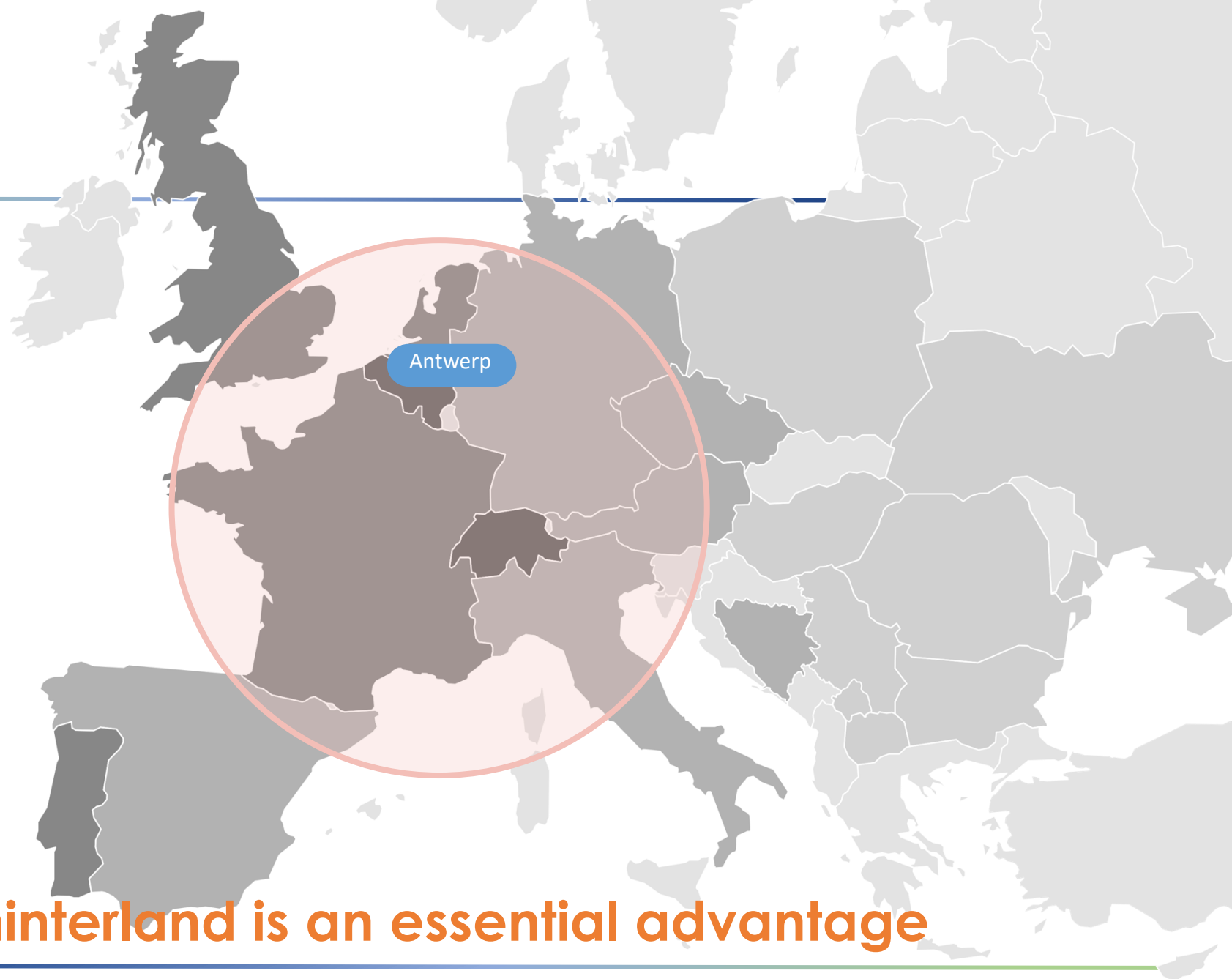
Barge



Road



Air



Connectivity with hinterland is an essential advantage





Mobility: freight transport (containers)

Ambitious modal shift targets 2030: more rail and inland shipping

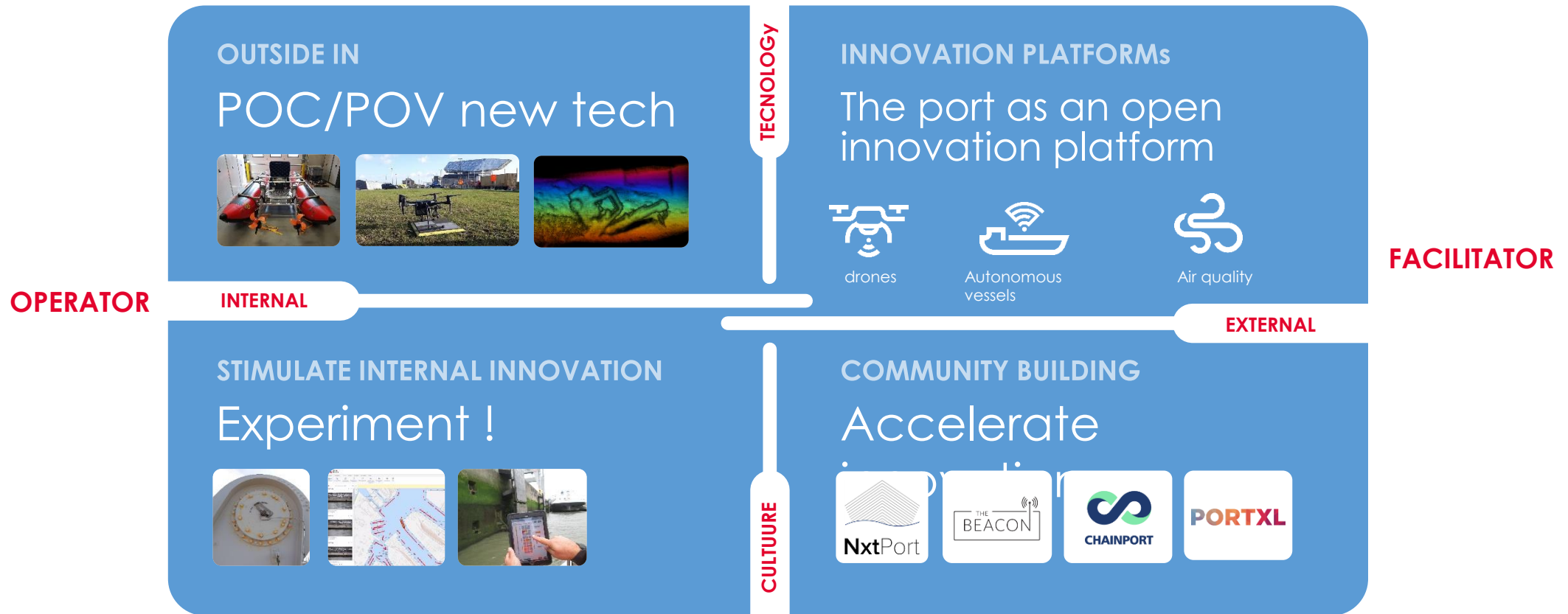




Digital Transition – Our innovation strategy



Innovation is a match between culture and technology





Digital nervous system facilitating a safe and efficient port

USER CONNECTED USER

DAILY DATA FRI 15 / 12 / 2018
08:43 56" TIMEZONE GMT +1 CLOUDY
15°C 59°F
SE 3M/S

AUTO-ID SYSTEM

SHIPS 93 SEAGOING
NOW 508 SHIPS IN PORT 38% CAPACITY
159 MOTORSHIP
57 MOTORSHIP
38 CONTAINERSHIP
22.649 SHIPS IN DATABASE

GEO-INFO SYSTEM
GEOGRAPHY 15/25

WATER DOKKEN
SLUIZEN M DUKDALF
STEIGERS DIEPTE

Port of Antwerp
CAMERA NETWORK

ACTIVE

SLUIZEN M

LIST

- 1000 Berendrechtsluis
- 1000 **BOUDEWIJNSLUIS**
- 1000 Kallosluis
- 1000 Kattendijksluis
- 1000 Kieldrechtsluis
- 1000 Royerssluis
- 1000 Van Cauwelaertsluis
- 1000 Zandvlietsluis

CURRENTLY SELECTED
BOUDEWIJN SLUIS
LATITUDE 51.2786 LONGITUDE 4.33185

MOVE CAM

CAMERA INFORMATION

NAME	
ID	0
LAT	0
LONG	0
HEIGHT	15
HOME ROT	(-37, -19, 65)

CALIBRATE
VOD
LIVE

Digital twin to visualise information and make the port more efficient

LAYERS RESET



Living Lab – Contribution to COREALIS goals



COREALIS objectives

O1. Embrace circular economy models in its port strategy and operations.

O2. Reduce the port's total environmental footprint associated with intermodal connections and the surrounding urban environment for three major transport modes, road/truck, rail and inland waterways.

O3. Improve operational efficiency, optimise yard capacity and streamline **cargo flows** without additional infrastructural investments.

O4. Enable the port to take informed medium-term and long-term strategic decisions and become an **innovation hub of the local urban space**.



Cloud Brokerage platform (Marketplace)



Cargo Flow Optimiser





• Functionalities:

- Selection (terminal-)destinations in Europe
- (Optional) date of transport selection
- Transport mode filtering
- Sorting by CO2 emissions, distance, duration or price



- Multiple routes by multiple transport modes
- Cost simulation
- CO2 emissions prediction
- Duration calculation
- Distance measuring

Cargo Flow Optimiser - Multimodal Inland Planner

COREALIS - Cargo Flow Optimizer

Start: Port Of Antwerp

Destination: Trimodal Terminal Brussels

Date: yyyy-mm-dd

Search routes

Available routes to Trimodal Terminal Brussels

Sort by: Default

All Barge Train Truck

route 1: 0h, 47min - 62.89km

route 2: 12h, 47min - 62.89km

route 3: 0h, 47min - 61.16km

route 4: 0h, 40min - 66.03km

Leg	Transport	Duration	Distance (km)	Price	CO ₂ (kg)
1	barge	0h, 0min	15.49	€184.60	4.66
2	truck	0h, 40min	50.54	€156.45	31.59

route 5: 12h, 24min - 78.49km

route 6: 12h, 13min - 77.81km

route 7: 11h, 59min - 73.06km

route 8: 12h, 13min - 84.1km

COREALIS project has received funding from the European Union's Horizon 2020 research & innovation programme under grant agreement No. 768994. Content reflects only the author's view and European Commission is not responsible for any use that may be made of the information it contains.

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- Objectives:

- Improve modal split towards rail and barge
- Reduce the dwell time of containers in the port

Cargo Flow Optimiser - Multimodal Inland Planner





• Functionalities:

- Equipment availability
- Equipment demand
- History
- Equipment location
- Asset management
- Categories
- User management
- Company management

Equipment Brokerage Platform

The screenshot shows the COREALIS Equipment Brokerage Platform interface. The top navigation bar includes the COREALIS logo, a search bar, and the text 'PORT OF ANTWERP'. The main interface is divided into a sidebar on the left and a main content area. The sidebar contains navigation icons for Dashboard, Availability, Demands, History, Map, Assets, Categories, Users, and Companies. The main content area features a map of Antwerp with several red location pins. Above the map, there is a search bar and a filter button. Below the map, there are columns for Location, Longitude, Latitude, and Action.



- Objectives:

- Proper use of port equipment = low idle time
- Booking of equipment between terminals = no unnecessary investments

Marketplace & Brokerage Platform





-  www.corealis.eu
-  [corealis_eu](https://twitter.com/corealis_eu)
-  [COREALIS EU Project](https://www.youtube.com/COREALIS_EU_Project)
-  [Corealis_eu](https://www.linkedin.com/company/corealis_eu)
-  info@corealis.eu

THANK YOU FOR YOUR ATTENTION

Port of Antwerp Living Lab  **Port of Antwerp**

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