

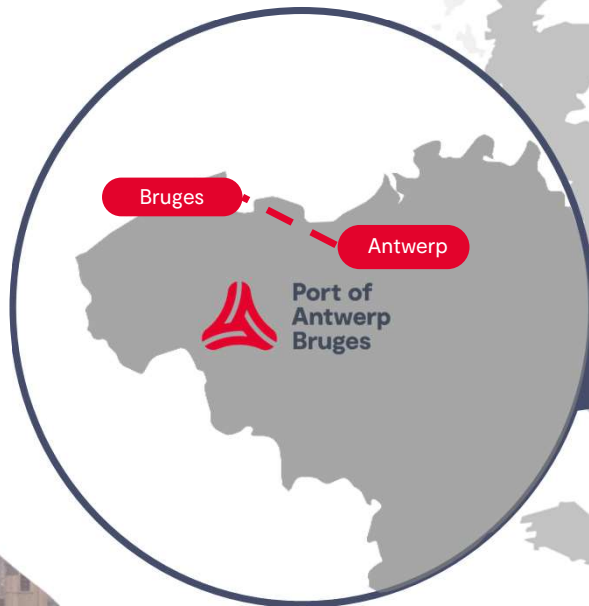
Operation Clean Sweep

Zero pellet loss ambition at
Port of Antwerp-Bruges

Kirsti Gjertsen
Key Account Manager



September 21, 2023



**A global port
in the heart of Europe**

**One port
Two sites**





Total throughput
287 mio ton/year



Number one **export**
port in Europe
140 mio tons/year



Largest **car handling**
port in Europe
3,5 mio cars/year



Largest **chemical**
hub in Europe



15% of EU **gas** market



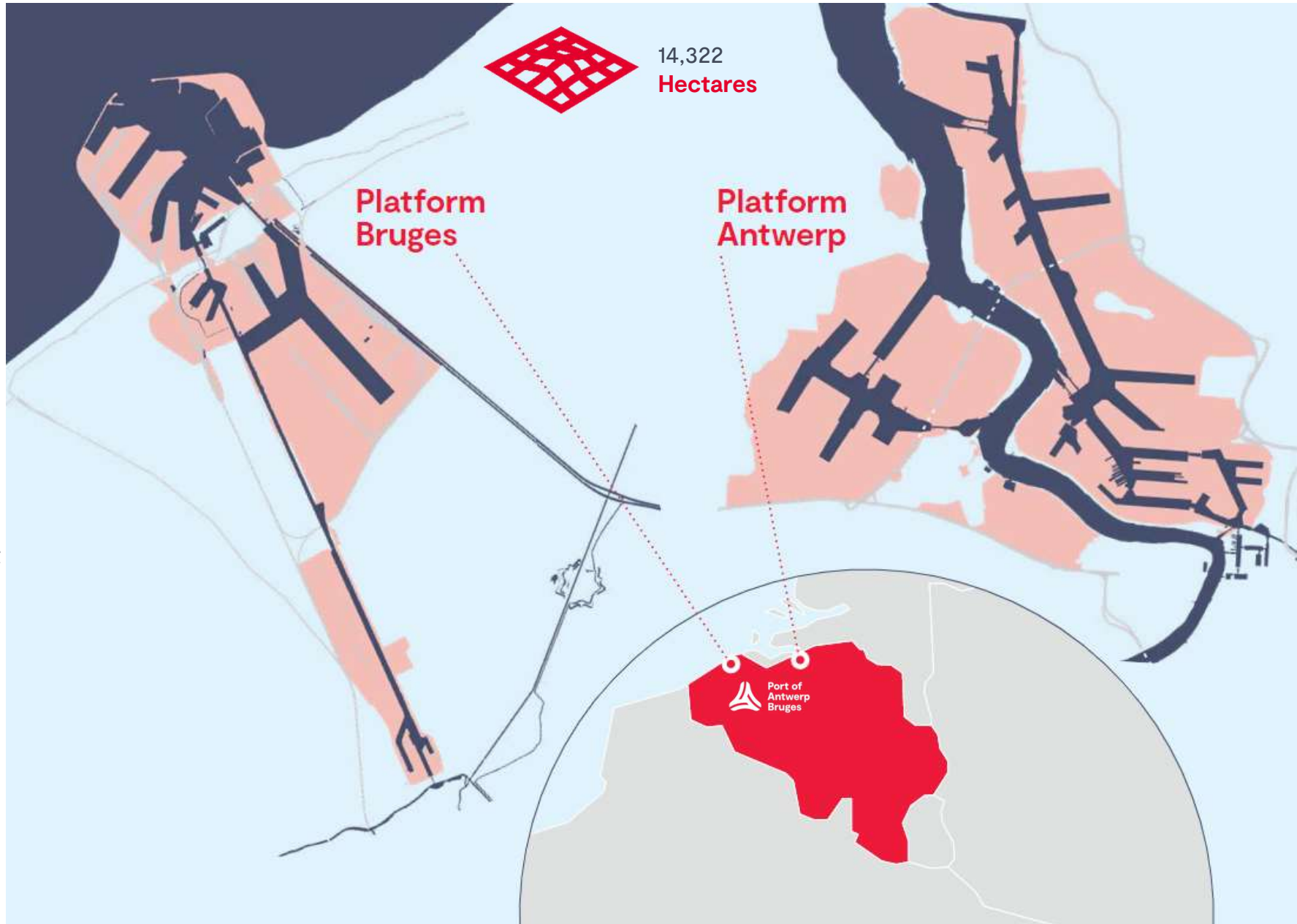
Important **cruise**
port in Benelux
+300,000 passengers



164,000 **jobs**
Direct and indirect



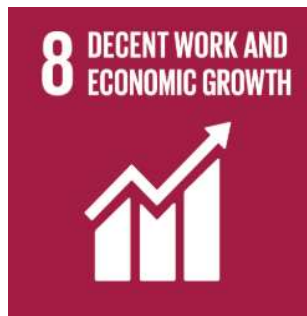
1,400
Companies



On the road to a climate-neutral port in 2050
Port of Antwerp-Bruges as an indispensable link in circular economy and energy transition



In line with the Sustainable Development Goals



Business plan PoAB looking to the future



On our way to a **global** port
reconciling people, climate and economy, together

Unique ecosystem



Cargo handling



Logistics



Industry

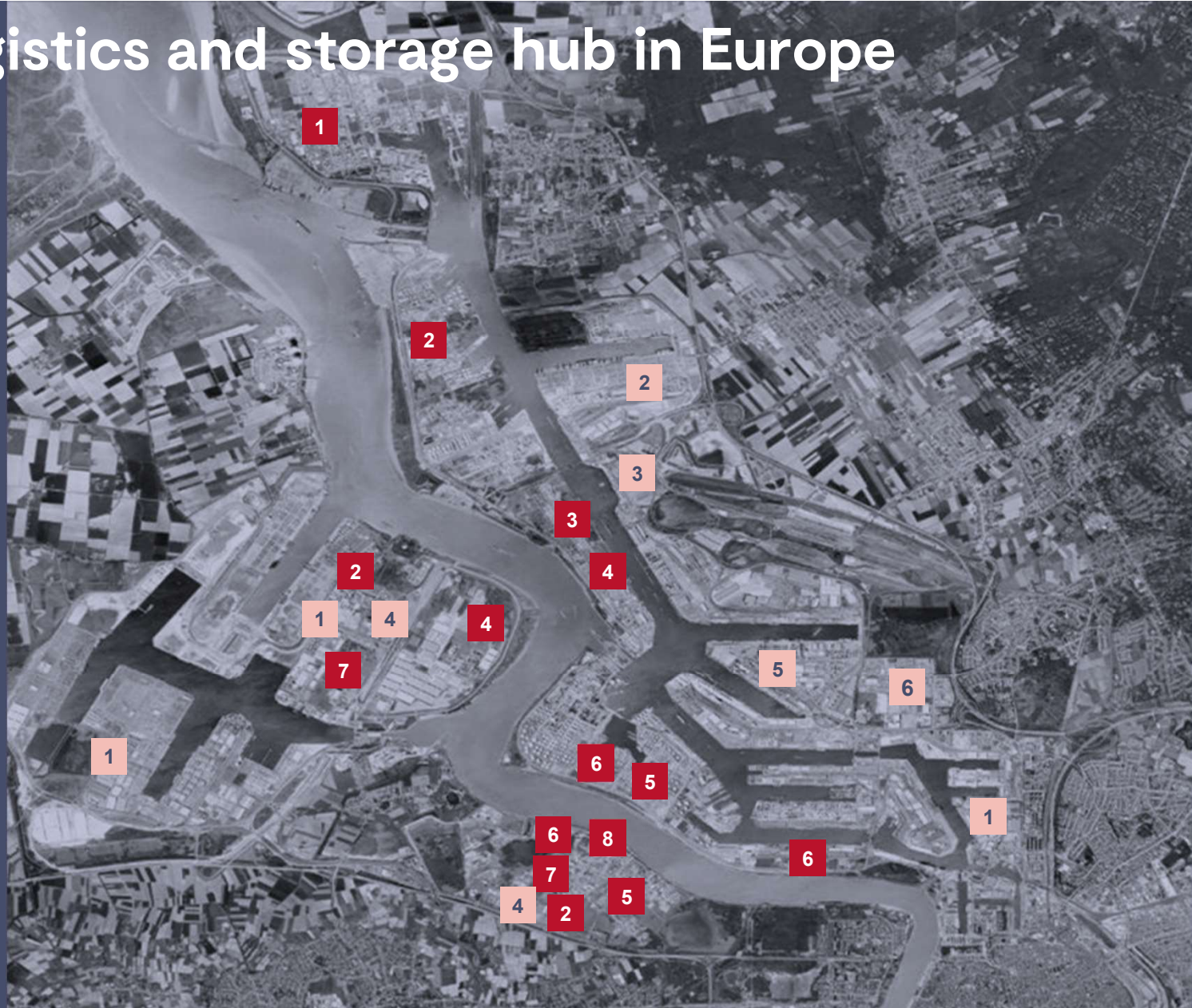
Largest polymer logistics and storage hub in Europe

Chemical industry

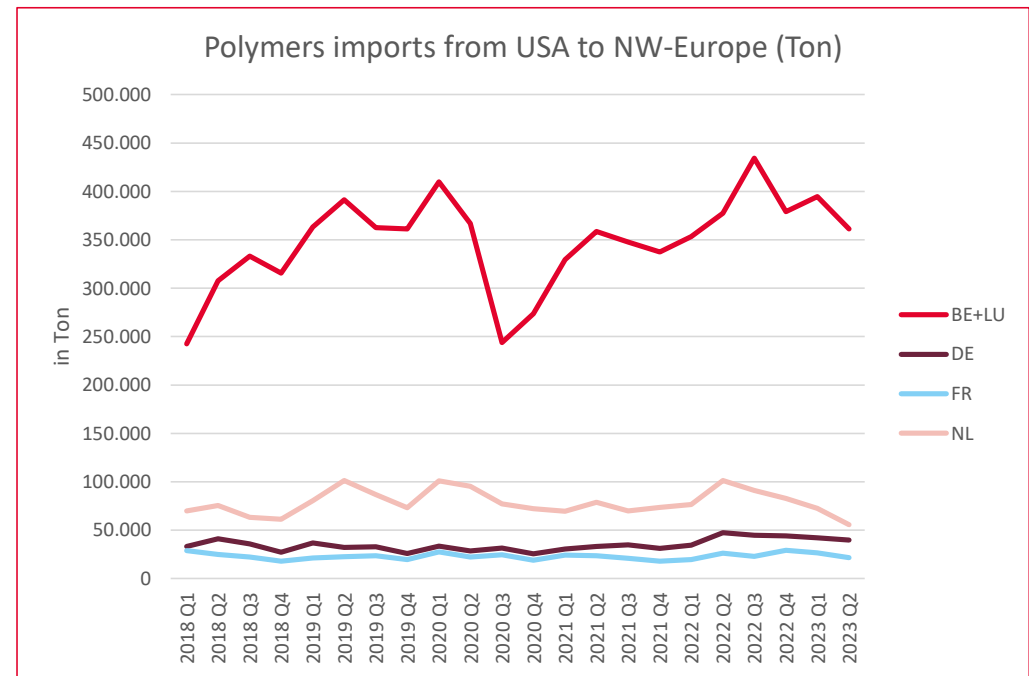
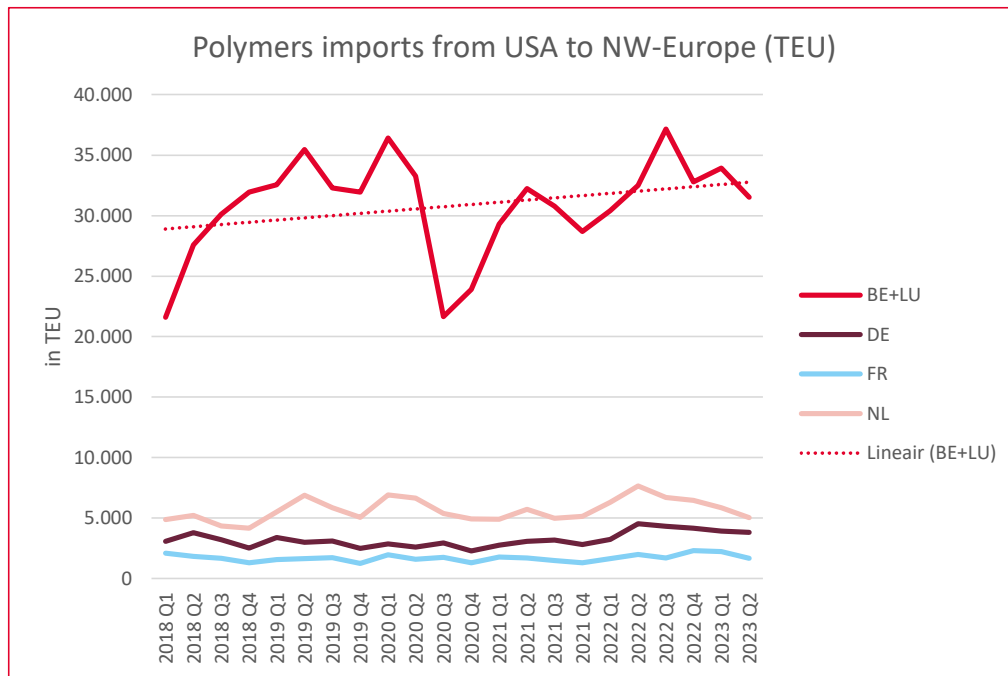
- 1 BASF & Ineos-Styrolution
- 2 Ineos
- 3 Covestro
- 4 Lanxess / Envalior
- 5 ExxonMobil Refinery + Petrochemicals
- 6 Total Refinery + Petrochemicals
- 7 Borealis
- 8 Kuraray

Logistics service providers for polymers

- 1 Katoen natie
- 2 De Rijke
- 3 Schmidt-Heilbronn
- 4 Van Moer
- 5 Bertschi
- 6 Katoen Natie (former: Mexico Natie)



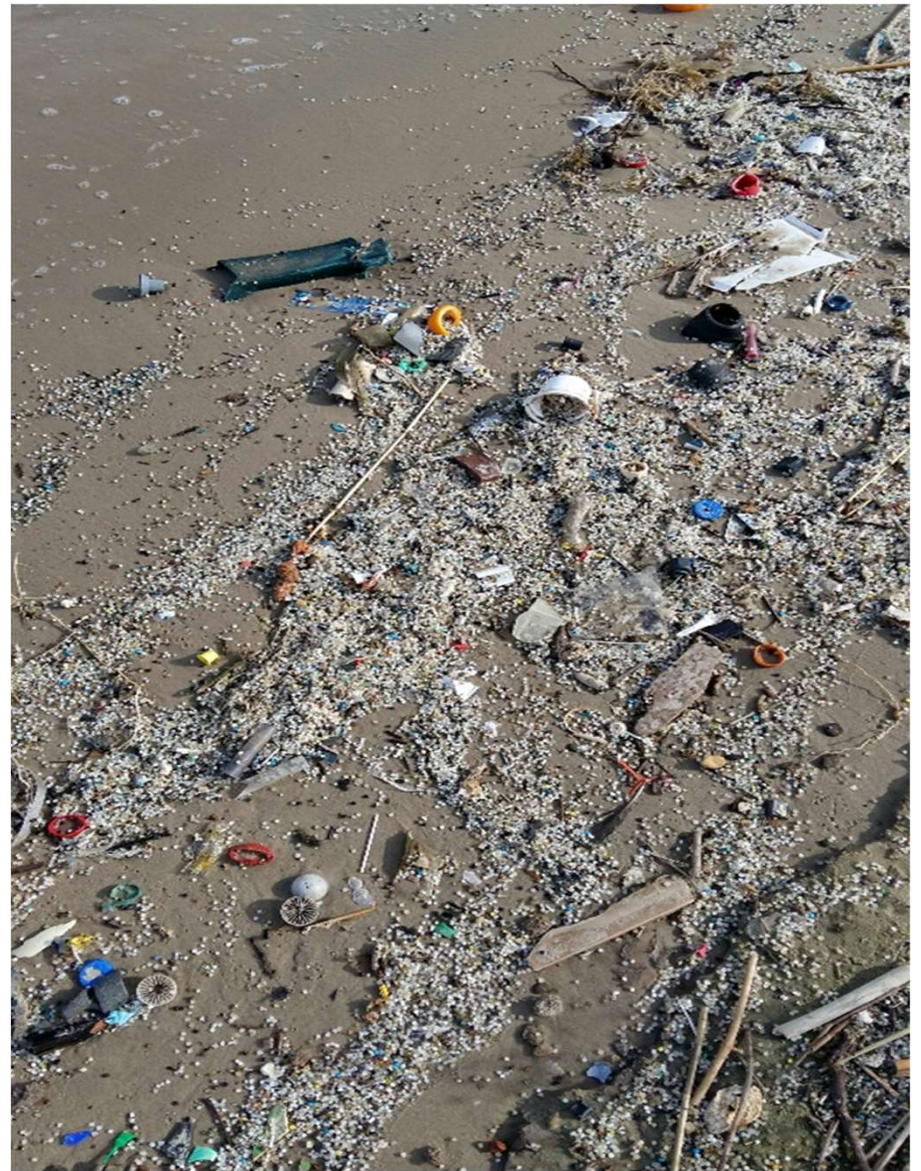
Port of Antwerp-Bruges as main plastics import hub



Source: Seabury, 2023



Houston, we have a problem!



PELLET PRODUCER

Logistics / Trade

Converter

Urban
Runoff

RIVER

OCEAN

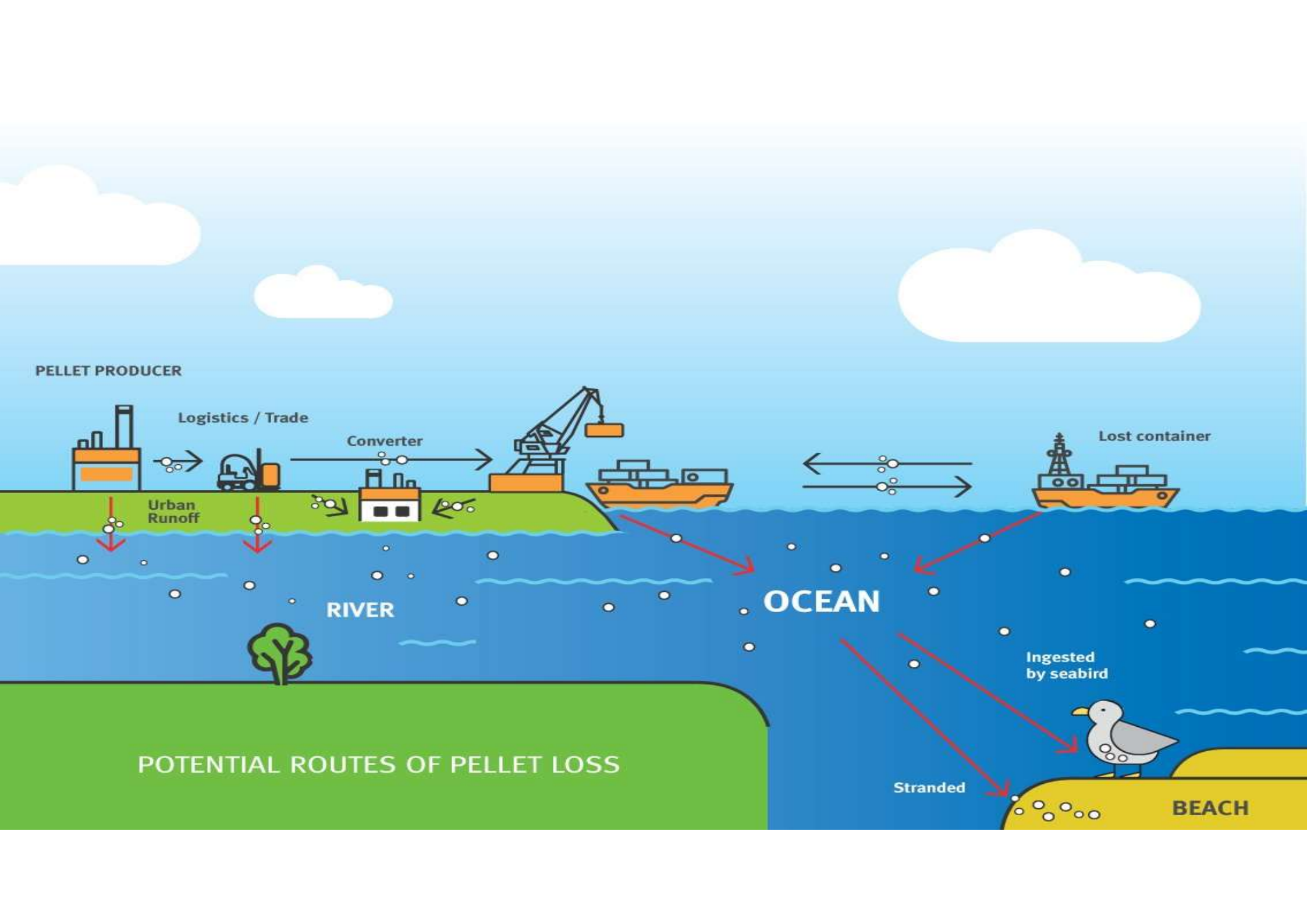
Lost container

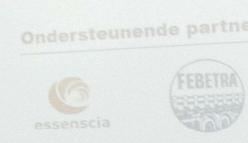
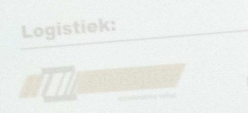
Ingested
by seabird

Stranded

BEACH

POTENTIAL ROUTES OF PELLET LOSS





Signing of ... rldwide

PortNews

НА ИНФОРМАЦИОННА

Fruitnet - News

Collaboration - Antwerp is first Port in Europe to implement "Zero Pellet Loss"

Posted by Daily Shipping Times on 13-10-2017

ANTWERP: Plastics are found everywhere in modern life. The raw materials of which plastic products are made are polymers, usually delivered in the form of small pellets. Antwerp is the main polymer hub in Europe for production, handling and distribution of plastic pellets. Every year, millions of pellets find their way via Antwerp to other hubs in Europe. Preventing these small plastic pellets getting into the water or anywhere else where they are not wanted is a top priority in all these activities.

The companies in the port have long taken various initiatives to prevent the loss of pellets, but now the entire sector is taking the game to a whole new level. Manufacturing industry, logistics operators and the transport sector are putting their weight behind "Operation Clean Sweep." Antwerp is the first port in Europe to sign up for this programme, an initiative of PlasticsEurope. In practical terms a "Zero Pellet Loss" consultative platform is being set up in Antwerp to organise measures for keeping the loss of pellets to an absolute minimum.

"Sustainable enterprise is now deep in the genes of our port companies," says Port alderman Marc Van Peel. "They work hard in all sectors to reconcile people, planet, prosperity, peace and partnership. The signing of this charter is the best proof of the great importance attached to this subject in the world of plastics."

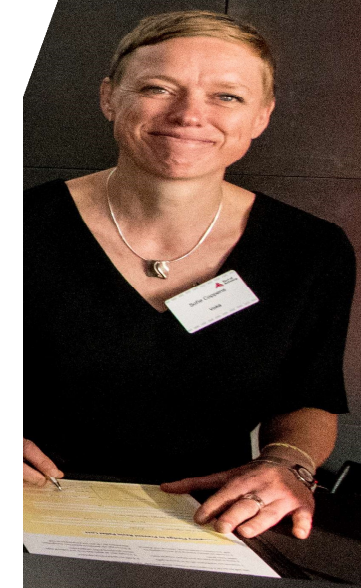
met verhaal. "Antwerpen een grote en belangrijke chemische industrie. In onze haven worden jaarlijks miljoenen plas...

moeten de plaatsen waar... treedt, zodat de oorza...

...arc Van Peel. the signing of this of plastics."

...pe, with the aim of preventing nis programme undertake to help players in the polymer logistics chain are oration gives the best guarantee of obtaining

port lanet, st proof





2018

KICK OFF ZERO PELLET LOSS TASK FORCE
INVOLVEMENT PLASTIC VALUE CHAIN + CLEAN UP

2019

LAUNCH PORT OCS ACTION PLAN
BEST PRACTICES + BASELINE ASSESSMENT

2020

TRANSPORT SECTOR ENGAGEMENT
UNIVERSITY PELLET FLUX STUDY

2021

ACTIVITY REPORT WITH PLASTICS EUROPE
ASSESSMENT ACTION PLAN

2022 - ...

FOLLOW UP AREAS OF IMPROVEMENT
OCS CERTIFICATION SYSTEM IN ANTWERP

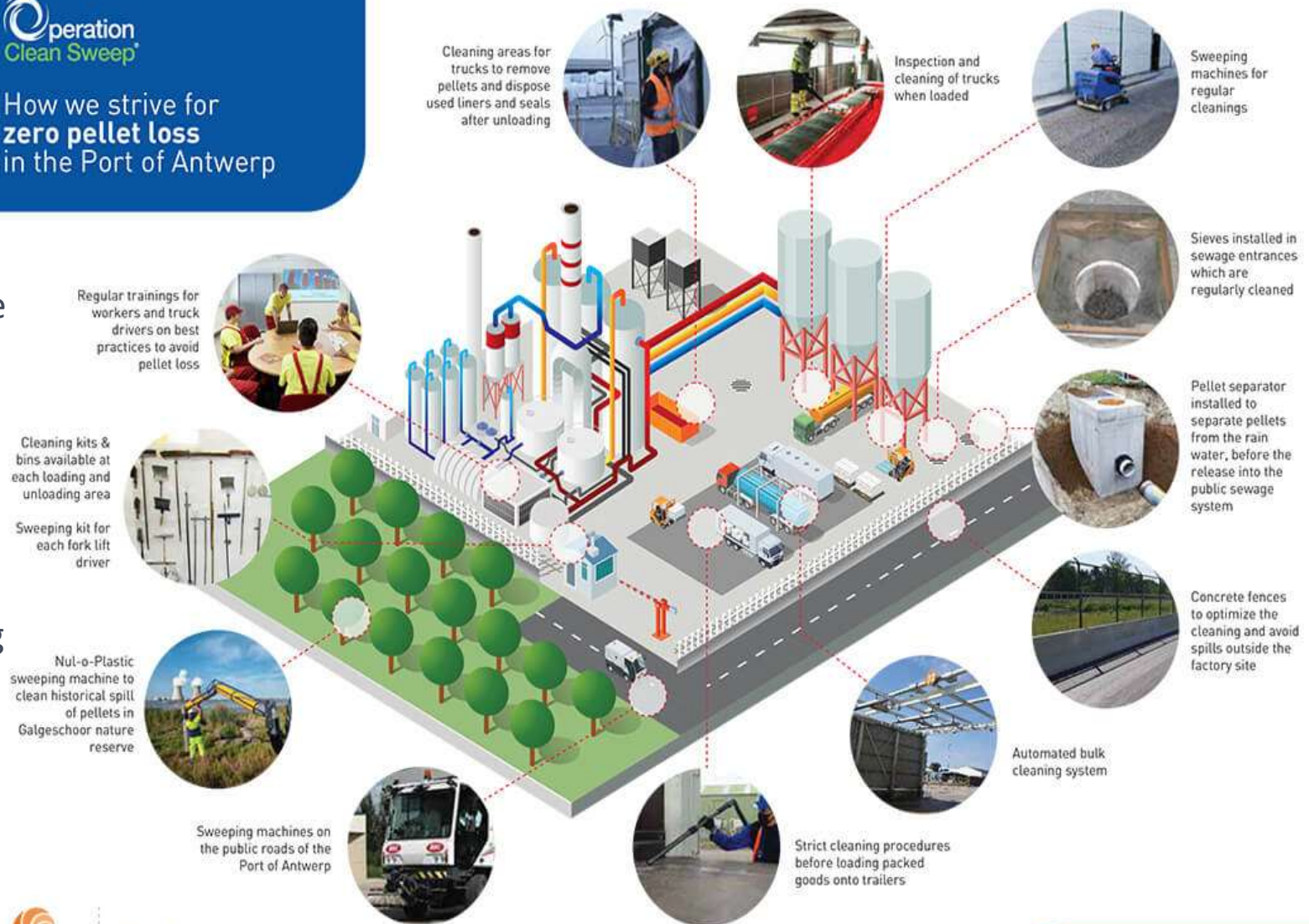




How we strive for zero pellet loss in the Port of Antwerp

Best practices on:

- Preventive infrastructure and equipment
- Techniques to minimise spills for bulk loading
- Truck inspection and cleaning procedures
- Truck drivers (un)loading instructions



Port of Antwerp OCS action plan

Every member of ZERO PELLETS LOSS task force = active in the implementation (goals of implementation = very specific for each company)

OCS action plan - 2020

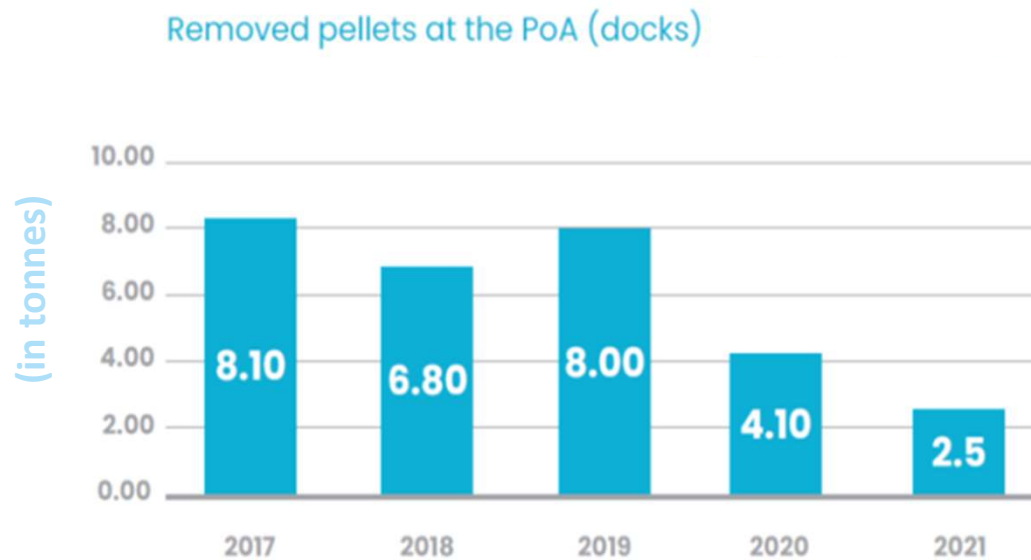
- Sweeping plan plastic pellets spill on roads (port area)
- Early warning “app” pellet loss
- Instructions for contractors: companies incorporate OCS in the mandatory instruction for transporters who come on the site ;
- To continue to share best practices with the pellets handling companies ;
- A feasibility study for the use of recyclable liners and their collection

OCS action plan – 2021

- Necessary measures to prevent discharge to drainage and implement structural storm waste overflow protection at hotspots/high risk locations;
- Test proper and adequate cleaning system, and adopt appropriate level of inspection for loaded trucks before they leave loading site
- Procurement departments of the polymer producing companies commit to include the goal of zero pellet losses in contracts with logistic service provider;
- Provide space and material for truck drivers to clean their containers on site;
- Sector associations + port authority to implement minimum requirements in order to contain daily and incidental pellet losses



Ambition 'Zero' Pellet Loss... can we do better?



Port of Antwerp-Bruges

How to achieve a turning point
in the right direction?

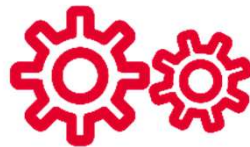


Frontrunner in four roles

OCS action plan 2022 and beyond



Regulator



Operator



Landlord

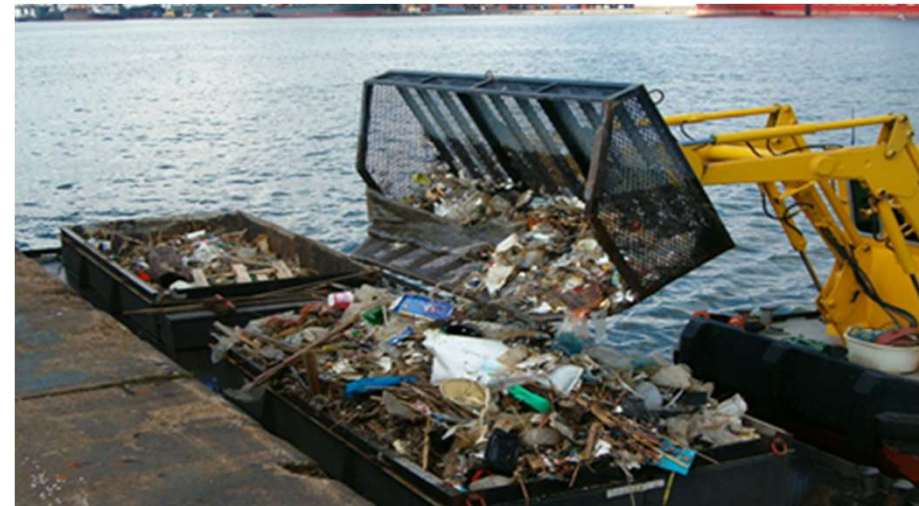


Community builder



Landlord port: we clean-up!

- ✓ Periodical clean-up at 7 hotspots in the port
- ✓ Hotspot = place at waterbody where pellets accumulate (docks etc)
- ✓ Inspection team controls 2/month; in practice clean-up 4-5/year
- ✓ Periodical sweeping public roads 2/month at risk areas of loss
- ✓ Zero pellet loss taskforce finances the clean-ups
- ✓ Taskforce funded the 'nul-o-plastic' vacuum cleaner to clean-up the natural reserve Galgeschoor





Chemical industry

- 1** Ineos-Styrolution
- 2** Ineos
- 3** Covestro
- 4** Lanxess / Envalor
- 5** ExxonMobil Refinery + Petrochemicals
- 6** Total Polymers Antwerp
- 7** Borealis
- 8** Kuraray
- 9** BASF
- 10** EVAL Europe
- 11** Solvay

Logistics service providers for polymers

- 1** Katoen natie
- 2** De Rijke
- 3** Schmidt-Heilbronn
- 4** Van Moer
- 5** Bertschi
- 6** Corral



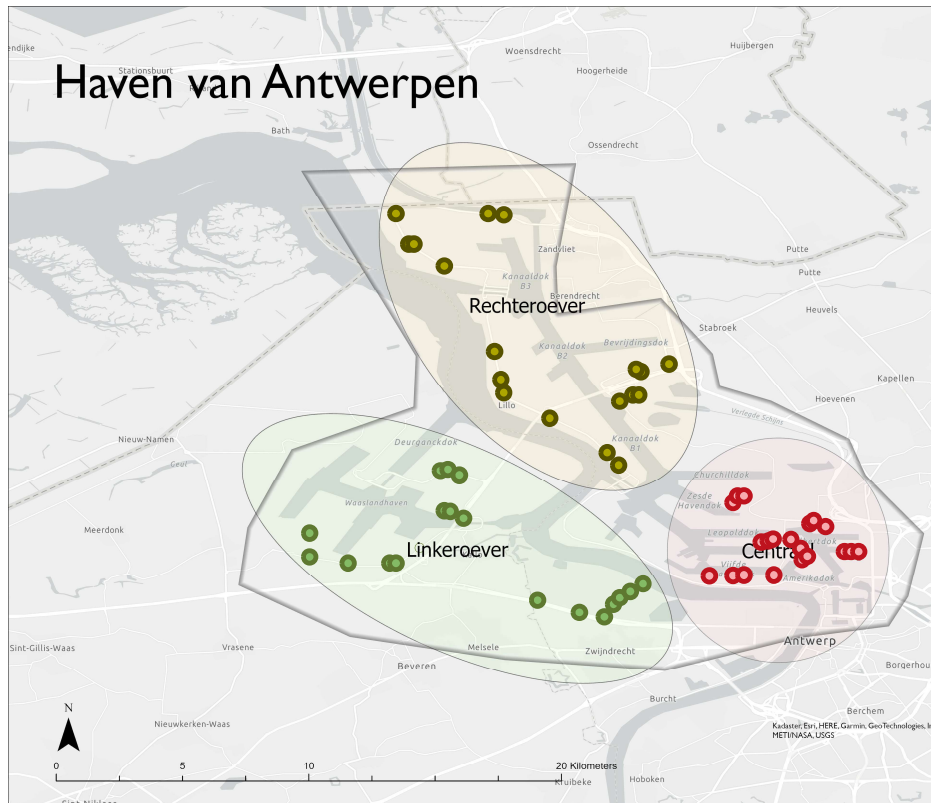
Operator: we measure! (1)

Continuous monitoring:

- ✓ Pellets fluxes around companies in the port
- ✓ Public road and accumulation points at docks
- ✓ Exit points sewage system at public water bodies
- ✓ Retention efficiency of water filtration techniques to avoid pellet loss via rainwater or waste water
 - Can we define a standard for microplastics?



Operator: we measure! (2)



3 areas

17 plots

57 subplots

3 replicates

Critical points of pellet loss
(close to a company or transportation route, in a turn, entrance, exit, roundabout, traffic light)



University of Antwerp
ECOSPHERE



Regulator: we follow the rules! (International, Europe)

IMO submission: plastics as hazardous goods (IMO 9)

Proposed classification of plastics pellets as hazardous goods for maritime transport

-> Implications for transport on land?

-> Port of Antwerp-Bruges considers to amend local Port Police Regulation for bulk shipments



EU green deal:

- ✓ European Commission has committed to significantly reduce environmental pollution from macro and micro plastics
- ✓ 2022 – 2023: new legislation proposed that will restrict intentionally added microplastics (via REACH regulation) and reduce the impact of microplastic pollution on the environment





Regulator: we follow the rules! (Flanders, Belgium)

“Flemish regulations for environmental permits“ (VLAREM):

- ✓ General conditions to control contamination from plastic granules (enforceable)
- ✓ The operator applies the best available techniques to prevent or limit the spread of plastic granules to the environment
- ✓ Valid as from 2024?

Best Available Techniques (BAT/MITO):

Flemish independent research (2022 – 2024) / Flemish plastic action plan (2020 - 2025):

- ✓ Identify techniques and measures to prevent and reduce the loss of plastic granulates (pellets, flakes or powders)
- ✓ Recommendations for VLAREM environmental conditions
- ✓ Study finished by end of 2023?



Community builder: we collaborate!

- ✓ Zero Pellet Loss taskforce (entire plastics value chain)
- ✓ Open innovation challenges: zero loss at bulk loading?
Demo 'flower shield'
- ✓ Individual support and monitoring per company
- ✓ More engagement with transporters and logistics service providers (OCS to require from subcontractors)
- ✓ Quality assurance from management till operations
- ✓ OCS certification to create level playing field
- ✓ OCS certification scheme:
Port of Antwerp-Bruges certified
60%(2022) – 80%(2023) – 100%(2024-2025)



Port of
Antwerp
Bruges

Already **2717**
companies are committed to ocs

Sign up



**Port
Clean
Up**
september
2023

Questions?

Kirsti.Gjertsen@portofantwerpbruges.com

[Plastics and litter | Port of Antwerp-Bruges \(portofantwerpbruges.com\)](#)

[Port of Antwerp Activity Report 2021 \(opcleansweep.eu\)](#)