



# AMSTERDAM ACCELERATES GREEN INNOVATION

Processing greater cargo levels while simultaneously cutting emissions is one of the biggest challenges ports and terminals face today.

For many, this involves working closely with other ports, city authorities and stakeholders in the maritime supply chain to share information and develop new initiatives. It also entails ports utilising their place on regional and global supply chains to ensure the flow of cargo is clean.

The Port of Amsterdam's drive to decarbonise trade has focused on developing green energies as well as its position as a major inland and transshipment hub. It has also worked with its neighbouring ports to develop joint platforms that encourage shippers and other stakeholders to cut emissions.

## PANDEMIC CAUSES UNCERTAINTY

Collaboration and technological innovation have become even more important during the COVID-19 pandemic. Ports across the maritime supply chain have seen trade volumes fluctuate.

After most suffered slumps in the early part of the year, the world's biggest gate-

ways have seen record traffic and/or equipment moves.

The Port of Amsterdam was badly affected during the height of the pandemic and saw its transshipment volume fall by 14% year-on-year (YoY).

Its traffic fell across the board, with containerised cargo falling by 13% YoY and liquid bulk by 7%; it did not welcome a single seagoing cruise ship throughout the year.

The volume instability resulted in congestion at many of the world's largest ports, but the Port said it has not been as badly affected as other ports that rely heavily on container traffic.

"The congestion seems to be more focussed on container terminals, as Amsterdam port we only play a relatively small role in container shipping compared to Rotterdam, Antwerp and Hamburg. So, congestion is not really an issue at the moment for the Amsterdam port," said Hendrik-Jan Oost, Program Manager Shore Power, Port of Amsterdam.

In response to the effects of the pandemic the Port has initiated a four-year strategy to accelerate energy transition through in-

vestment in environmentally friendly infrastructure and digitalisation and strengthen its position as a major European seaport.

This is in addition to the numerous projects it is already pursuing in its efforts to cut emissions, including alternative fuels and new power sources across cargo, passenger, inland and transshipment operations. It already has bunkering facilities for liquified natural gas (LNG)-powered vessels and inland barges.

Amsterdam acts as an example of how to work with multiple stakeholders to keep carbon emissions down.

Oost told PTI that the Port is involved in several projects concerning the development of clean fuels for shipping, both inland and seagoing.

One of these is the shore-power network with other ports, including Rotterdam, Antwerp and North Sea Port. Amsterdam and its fellow participants launched this project in October 2020 to cut emissions in intermodal and inland containerised goods transportation.

"We have started a joint tender with a number of major seaports in the Nether-

lands and Belgium to tender a joint sales platform," Oost said.

The main benefits of this platform, according to the Port, are possible lower costs due to economies of scale and continuous improvement of the platform by knowledge sharing- i.e., different parties sharing information to improve processes.

### INTERMODAL SHORE-POWER

Shore-power, also known as cold ironing, is a concept which supplies vessels with electricity while its auxiliary engines are shut down.

It has been used with considerable success at many ports including the Port of Los Angeles, and there are numerous examples of container ports working closely with city governments to maintain operations and cut emissions.

Inland shipping is essential to cutting emissions in European-wide trade, said Oost. Cutting emissions has become even more important for container ports, especially as traffic has fluctuated since the beginning of 2020.

According to the Port of Amsterdam, intermodal transport, such as inland shipping and rail, directly helps lower carbon emissions. Utilising inland shipping is essential for the Port because it is on the Amsterdam-Rhine canal, which connects directly to the Rhine.

More than 50% of Amsterdam's hinterland transport goes by inland shipping and it is a vital mode of passenger transport as well.

Furthermore, the Port is also carrying out a feasibility study into shore power specifi-



cally for seagoing cruise vessels at its passenger terminal.

Currently, within the city centre all inland barges and river cruise vessels connect to a single shore power network.

The Port is looking to increase the number of shore power connections for river cruise vessels, as Amsterdam believes traffic will increase in the near future and electricity consumption will rise.

In addition, it will replace its current shore power boxes with so-called smart power boxes. These, the Port said, will have much more user-friendly connections and can be reset from a distance in the event of failure.

Its other projects include H2Ships - an EU-backed project focused on developing clean shipping fuels and building a value chain for hydrogen transportation.

As part of this initiative, the Port is working to develop a new hydrogen-powered and hydrogen-carrying vessel. This vessel will be ready to sail in 2021. It is also participating in a Dutch project to develop bio and synthetic methanol as a fuel for commercial shipping.

A major trend in the race to decarbonise port operations has been electricity-powered container handling and transportation equipment. However, the Port said it is focusing its investment on hydrogen (H<sub>2</sub>)-based heavy equipment, but it can see the potential for electricity-powered transportation vehicles.

"Together with terminal operators and logistic companies we are working on the development of H<sub>2</sub> as a fuel for trucking and for on-terminal transport," Oost said.

"Electricity seems to be a difficult solution for heavy equipment, for that reason we focus on use of H<sub>2</sub> for that kind of equip-

ment and long distance and heavy trucks.

"For city distribution between port and city centre electric vehicles are a good solution. We also see that city distribution by smaller barges (electric and H<sub>2</sub>) is being developed in the region."

*Written by Max Schwerdtfeger*

### ABOUT THE ORGANISATION

Port of Amsterdam is Western Europe's fourth largest port and plays a major role in the transshipment and processing of energy products.

The North Sea Canal Area transhipped approximately 105 million tonnes of goods in 2019, with Port of Amsterdam accounting for approximately 86 million tonnes of this amount. A total of 68,000 people work in the port region either at companies in the port or at port-related companies. Approximately 31,000 of these people work in Amsterdam.

Port of Amsterdam is committed to being a smart port and to adding value for customers and the environment in a sustainable and innovative manner. It seeks to promote growth at companies, while still taking a careful approach to the available space and the quality of water, soil and air.

As 'Port of Partnerships', Port of Amsterdam works intensively with partners in the business community, city and region.

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