

Connecting EU Insights

15/12/2021

*Energy transition at the port of
Antwerp*

PIONEERS H2020 Project

Inge De Wolf



Belgium's largest economic engine



231

million tonnes of
maritime freight



11,246

hectares



€ 19

billion in added value



143,000

jobs



1,000

companies



4.1%

BBP

Climate-neutral ports

Ports as an indispensable link in circular economy and energy transition



Energy Transition – Lighthouse projects

The energy transition (electricity-heat-transport) becomes a reality on the port platform through a wide range of partner projects.

Import green hydrogen

Hydrogen plays an important role in the mix of applications to significantly reduce CO₂ emissions.

Wind power

69 wind turbines in the port area supply green electricity.

Heating circuit for Antwerp-North

The city and companies in the port reuse residual heat from industry.

Ecluse Steam circuit

Several chemical companies in the port exchange heat by means of a steam circuit.

! This means 100,000 tonnes less CO₂ on annual basis.

Methanol Resource for new and sustainable chemistry

The **power-to-methanol** pilot project will convert hydrogen from renewable electricity into methanol by a flexible chemical process. An innovative concept that bridges the gap between renewable energy and chemistry.



Methanol is produced from captured CO₂ and sustainably produced hydrogen.

Making the fleet sustainable

Port of Antwerp invests in tugboats running on hydrogen or methanol.



Port of Antwerp: Green Energy Hub of the Future

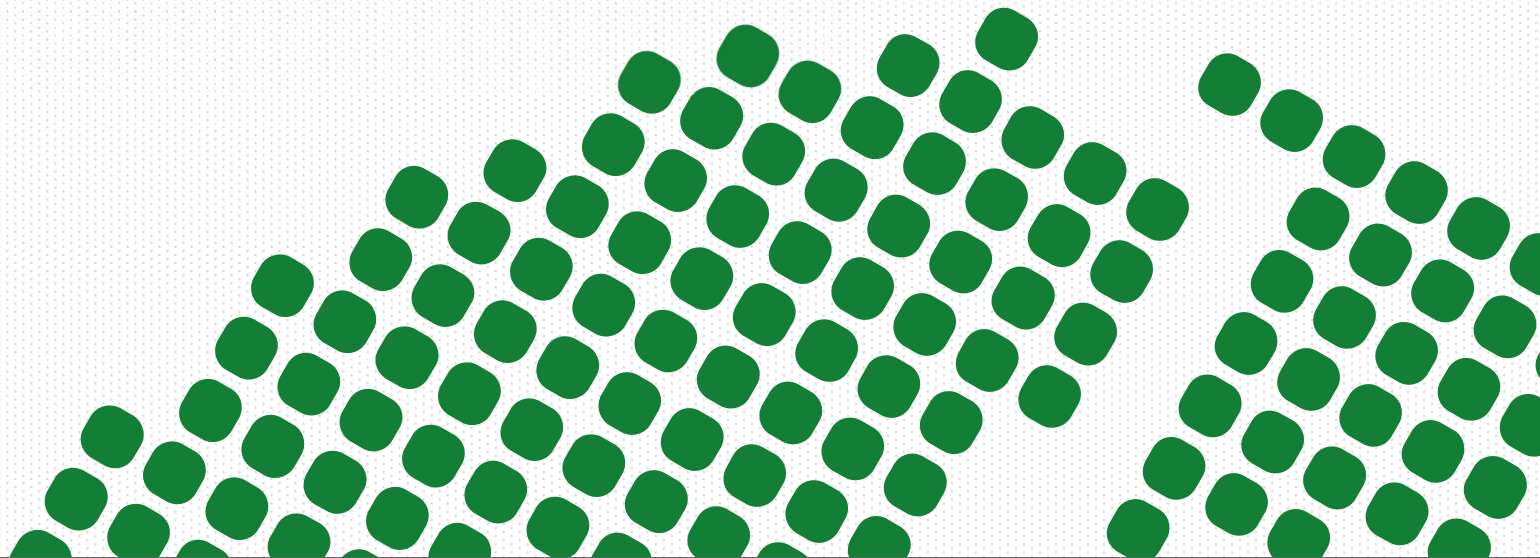


PIONEERS

Portable Innovation Open Network for
Efficiency and Emissions Reduction Solutions



Co-funded by the Horizon 2020 programme
of the European Union



PIONEERS H2020 PROJECT

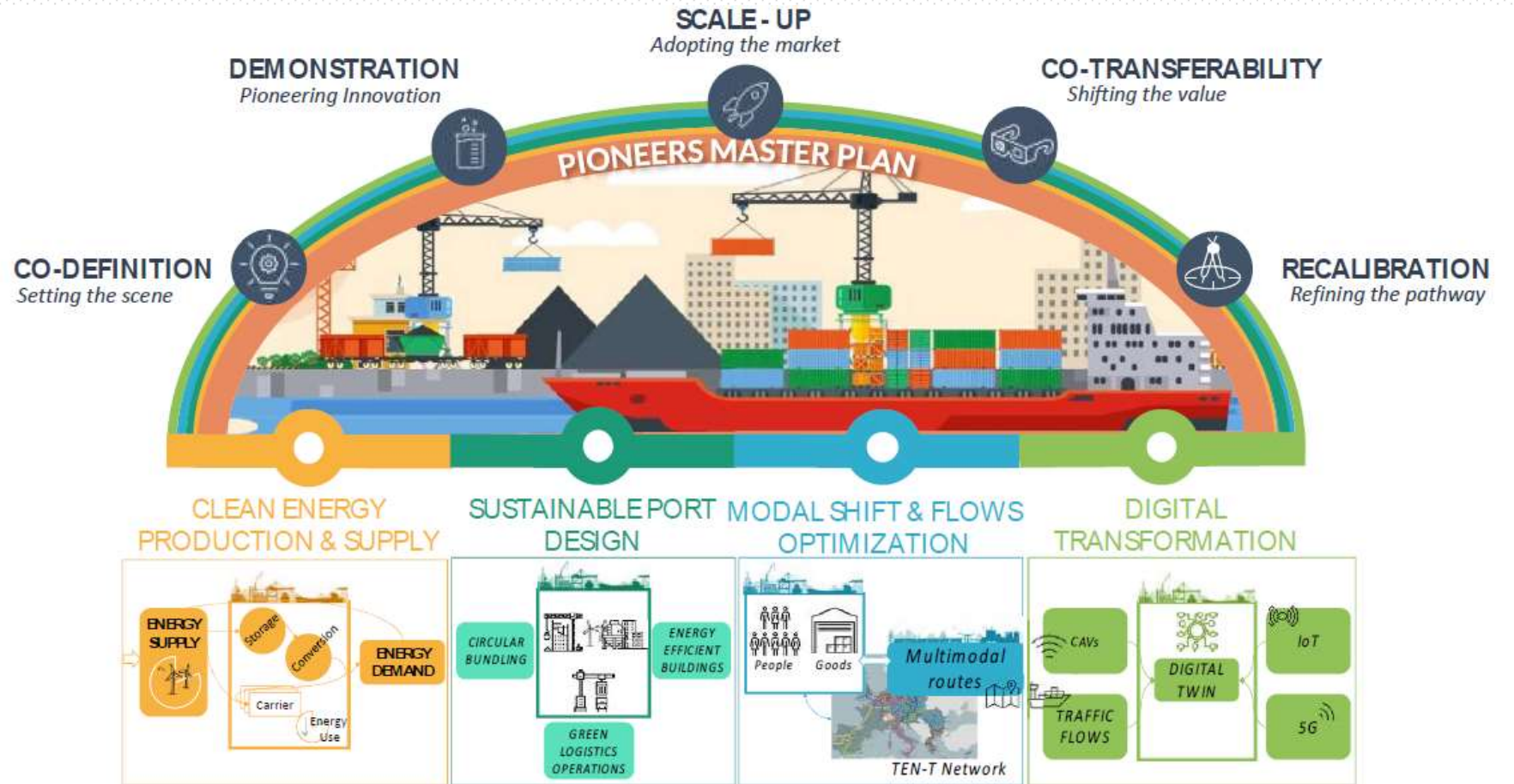
Portable **I**nnovation **O**pen **N**etwork for **E**fficiency and **E**missions
Reduction **S**olutions

- Green Deal Horizon 2020 > Green Ports & Airports call > 25 Mio € subsidy
- Cross-border consortium, Port of Antwerp lighthouse port
- 46 partners > 3 fellow ports
- Duration: 2021-2026

PIONEER's 46 PARTNERS



PIONEERS Project



1. Clean Energy Production, Storage & Supply

Demonstrations in real port environments of solutions and innovations related to green energy production, distribution and supply

Identification and tackling non-technological barriers

Green Hydropower Platform for Port Infrastructure

Realisation of a hydrogen refuelling infrastructure

Corridor of modular docking stations for energy containers

Battery storage & smart mgmt of green energy in terminals



2. Sustainable Port Design

Demonstration in real port environments of green logistics operations and circular/low emission building techniques

Identification and
tackling non-
technological
barriers

Local resource
recovery for
green, circular
concrete

Hydrogen
heating for
buildings

Green Straddle
Carriers

Green Last Mile
– electric trucks



3. Modal shift and Flows optimisation

Demonstrate in real-practice port environment the solutions and innovations related to multimodal mobility and flows optimization of passenger and freight

Identification and tackling non-technological barriers

Multimodal Connectivity Platforms

Modal shift in the commute of port employees

Cargo flow optimisation & prediction

MaaS Aggregator Platform



4. Digital transformation

Demonstrate in a real port environment the solutions and innovations related to digitalisation

Technological
and non-
technological
framework
conditions

Connected and
automated
vehicles

Digital Twin

Vessel traffic
optimisation

Maritime 5G

Container
transport
forecast



Join PIONEERS stakeholder community

WHAT?

"The stakeholder's engagement and co-operation are key elements of the project and will contribute to make successful the transferability of innovations proposed by the lighthouse and fellow Ports, scaling up internationally"

HOW?

Bring ideas on which actors shall be involved in joining the PIONEERS network, identifying the common interest and needs and understand the role they would play

Interact with PIONEERS partners and be part of the PIONEERS stakeholder's community



THANK YOU!

<https://pioneers-ports.eu/>

Inge De Wolf
Project Coordinator PIONEERS
Inge.dewolf@portofantwerp.com



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