

# Port of Antwerp-Bruges

Value creating partnerships  
through chemical clusters

Daljit Singh Kohli  
India Representative



Port of  
Antwerp  
Bruges



# Contents

1. A global port - Past and Present
2. Success factors – an integrated cluster
3. Partnerships for a sustainable future
4. Nxtport - Unleashing the power of together



# Good chemistry

# 1

## A global port past & present

Largest integrated oil & chemical  
cluster in Europe



Port of  
Antwerp  
Bruges





World port that  
reconciles people, climate and the economy



**One port**  
Two locations

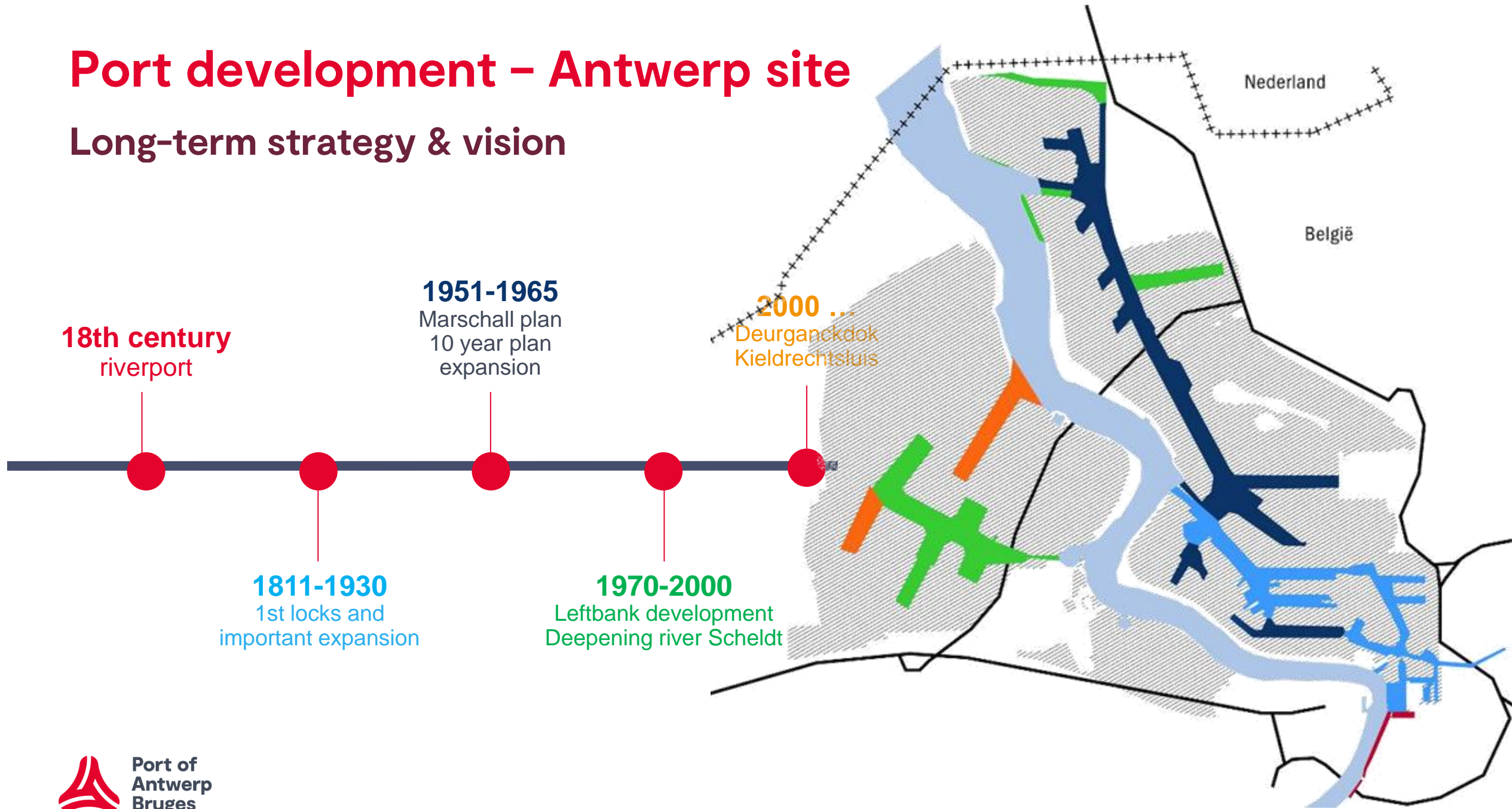
**Stronger**  
**together**

# The 5 largest oil and chemical clusters in the world



# Port development – Antwerp site

## Long-term strategy & vision



# Port of Antwerp-Bruges

Europe's largest integrated oil & chemical cluster



82,5

Mt maritime  
throughput of liquid  
bulk



13,5

Mio TEU



15%

of EU gas needs  
(LNG, CNG)



40

Mt of oil refinery  
capacity



20

Mt Chemicals  
output





# 2

## Success factors

Largest integrated oil and chemical cluster in Europe



Port of  
Antwerp  
Bruges

# Success factors

Europe's largest integrated oil & chemical cluster

1. Vision and strategic focus
2. Community builder and facilitator
3. A truly integrated cluster
4. Infrastructure and connectivity
5. Innovative spirit

**Port Authority as  
master planner**

# Success factors - A truly integrated cluster

	RAW MATERIALS	FEEDSTOCKS	BUILDING BLOCKS	COMMODITIES	INTERMEDIATES	FINAL PRODUCTS
C <sub>1</sub>	Natural gas, Crude oil, Condensate	Methane, Refinery residue	Synthesis gas	Methanol Ammonia, Nitric acid	Formaldehyde Urea, AN, CAN, UAN	Glues, Resins Fertilisers
C <sub>2</sub>	Natural gas, Crude oil, Condensate	C2-C3, Naphtha	Ethylene	PE, EDC, VCM Ethylene oxide	PVC, Glycols, EVOH, Ethyl, BO, Glycol ethers	Polymers, EPDM, Copolymers
C <sub>3</sub>	Natural gas, Crude oil, Condensate	C2-C3, Naphtha	Propylene, Propane	Polypropylene Propylene oxide, Acrylic acid	Polyols, SAP	Polymers e.g., Polyurethane
C <sub>4</sub>	Crude oil	Refinery off-gas, Naphtha	Mixed C4	Butadiene	Polybutadiene	Acrylonitrile, Butadiene, Styrene
C <sub>6</sub>	Crude oil	Naphtha	Benzene, Toluene	Cyclohexane, Caprolactam, Aniline	BPA, Nylon 66, MDI	Polycarbonate, Polyurethane
C <sub>7,8</sub>	Crude oil	Naphtha	Mixed xylenes	O, P-Xylene	PA, PTA	PET
Cl	Sea water, Brine	Chlorine, NaOH	EDC, Phosgene	VCM	PVC, MDI, Hypochlorites	Plastics, Polyurethane, Bleach

■ Items are produced in the cluster

SHIP, PIPELINE, BARGE

PIPELINE, BARGE, RAIL

RAIL, ROAD

MAINLY ROAD

# Success factors - A truly integrated cluster

## Synergy of products because of investments in chemical industry



1 billion Euro  
World Scale PDH  
(propane  
dehydrogenation)



>1 billion Euro  
Optimizing  
refinery

ExxonMobil

<1 billion euro  
Delayed Cocker  
Unit



400 M Euro  
Tank Storage  
Terminal



315 M Euro  
SAP, acryl acid



>550 million Euro  
Alkoxylate and  
ethylene oxide  
capacity expansion

INEOS

3 Billion Euro  
PDH and ethane  
cracker

Oiltanking

World's largest  
butane tank



300 M Euro  
Aniline

LANXESS  
Empowering Chemistry

25 M Euro  
Expansion Plant



80 M Euro  
New Hydrogen  
plant



# Success factors - Connectivity

## Multimodal gateway to the European hinterland

Rail



Inland navigation



Road



Shortsea



Pipeline



60% of European consumer market within range of 500 km



Port of  
Antwerp  
Bruges



# Success factors - Infrastructure

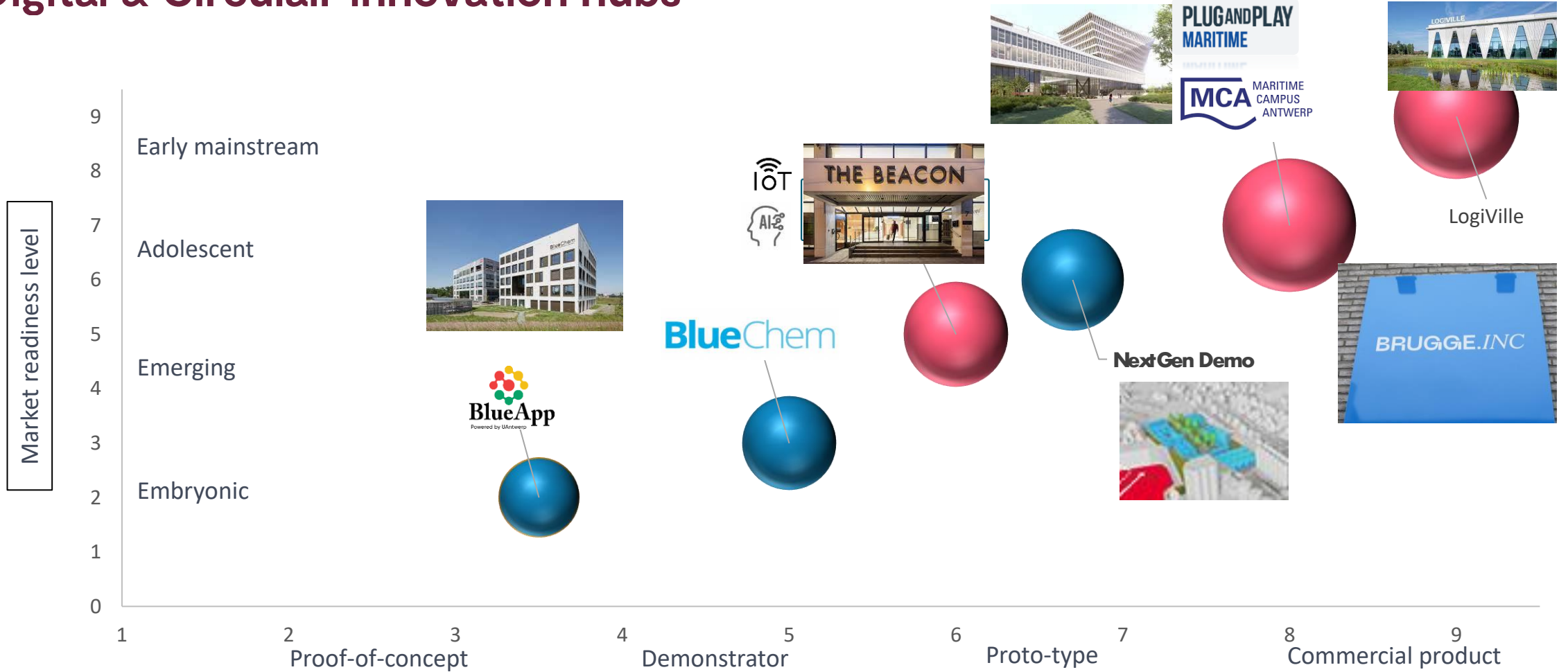
## Tank terminal and pipeline network Scaling up the hydrogencarrier capacity

- Extensive **pipeline network** for different products. Interconnected **open-access hydrogen backbone** to be operational from 2026 onwards.
- Top-of-class network of major **tank storage and handling** providers. With existing ammonia and methanol capacity to be expanded and supplemented with other **hydrogencarriers**. (Terminal Analysis ongoing)



# Success factors – innovative spirit

## Digital & Circulair innovation hubs



# 3

## Clusters and partnerships

Towards a sustainable future

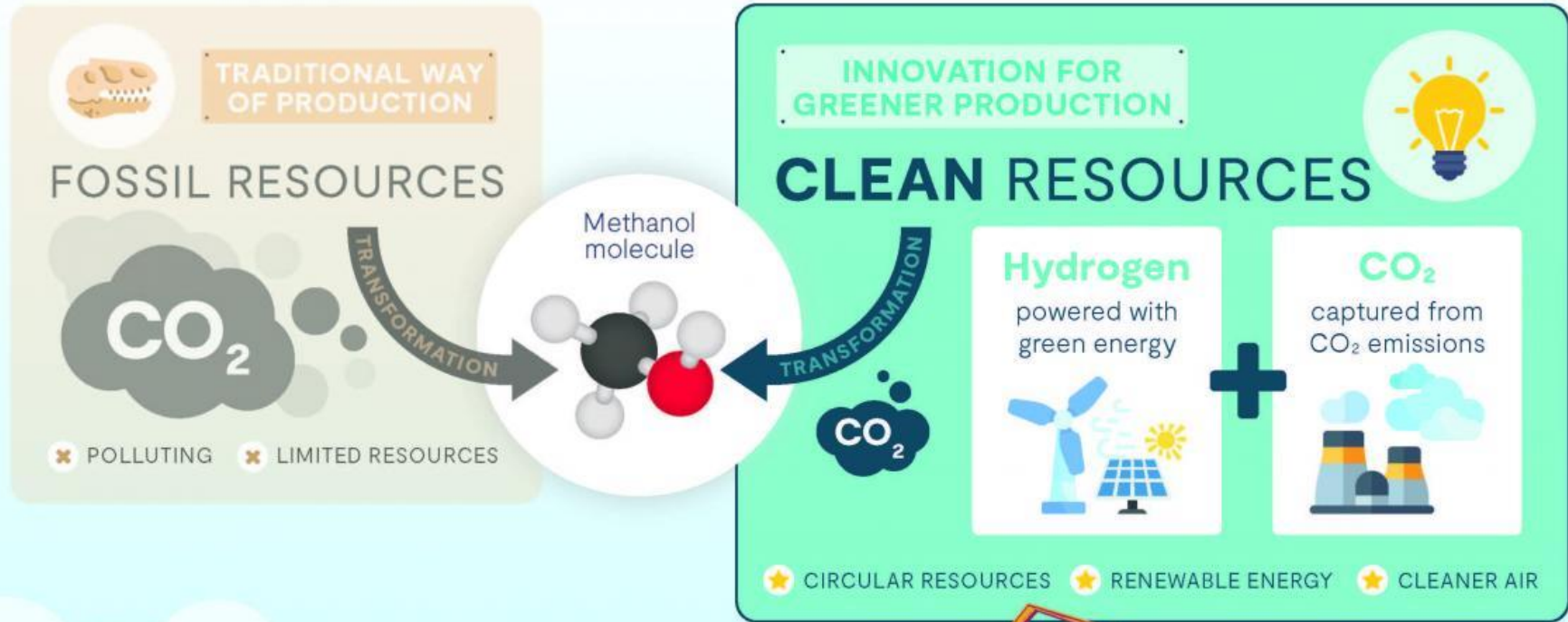


Port of  
Antwerp  
Bruges



# Power to Methanol demonstrator

with 7 partners



GOVERNMENT

ENERGY

CHEMISTRY

STRONG

coalition of major actors



Port of Antwerp

# Antwerp@C

with 8 partners



## Our Ambition

CO<sub>2</sub> capture

2017

18 million tons



2030

-50%



# Hydrogen Import Coalition

Importing green hydrogen corner stone of energy transition



# International partnerships and memberships

Leadership in hydrogen - partnerships are key

European Clean  
Hydrogen Alliance



iea  
International  
Energy Agency

CEM Global Ports Hydrogen Coalition



GLOBAL  
MARITIME  
FORUM

Getting to zero  
coalition



Hydrogen  
Europe



H2Global Stiftung

WORLD  
ECONOMIC  
FORUM

Road Freight Zero

Transitioning Industrial Clusters  
towards Net Zero



duisport



Port of  
Antwerp  
Bruges

# 4

## Digital transition

Unleashing  
the Power of  
**TOGETHER**



Port of  
Antwerp  
Bruges



NxtPort



Hinterland transport is hampered by paper-based administration, leading to delays, costly mistakes, quality and compliance issues for all stakeholders

# DIGITALISATION OF CHEMICAL LOGISTICS

By frontrunners in the Port of Antwerp-Bruges integrated chemical cluster



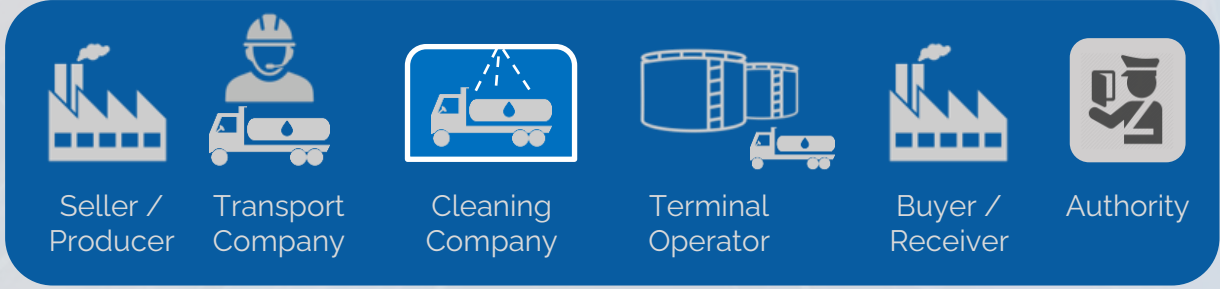


**White labeled eECD Application available via ECLIC community marketplace**

Secure data exchange in community



Icons representing secure data exchange: a person with a lock, a handshake, a document with a checkmark, a computer monitor, a speech bubble, and a gear.



**Launching use case**  
Digitisation of EU cleaning documents (ECD) for tank trucks required prior to loading new cargoes

Neutral & secure data exchange through the **ECLIC community on the NxtPort platform.**  
Through digital handshakes, data providers remain in full control of their data.

**API first**, but catering for all legacy data formats and protocols, ECLIC powered by NxtPort offers a low technical entry barrier for all stakeholders

## INSTANT VALUE

Reduce cross contamination

Avoiding data re-entry

Create digital audit trails

Improve asset utilization

Reduce waiting times

Improve customer loyalty

Save 16 million sheets of paper per annum

## HAPPENING NOW

Acceleration of further workflow digitization in chemical supply chain

From operational efficiency use cases to predictability and decarbonization

From intra-port logistics optimization to digital international trade lanes

**The march towards USD 1 Trillion in 2040**

requires secure data exchange solutions to connect supply chain partners in their local and global communities

More show cases at

[www.nxtport-international.com](http://www.nxtport-international.com)



# In tune with the world

Daljit Singh Kohli – India Representative  
[daljit.singh@portofantwerpbruges.com](mailto:daljit.singh@portofantwerpbruges.com)