



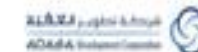
## World Port Sustainability Program and its Impact on Port Communities

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Arab Academy for Science, Technology, and Maritime Transport



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WORLD PORTS SUSTAINABILITY PROGRAM

# 1 World Ports Sustainability Program

# WPSP- Introduction



**IAPH**

International Association  
of Ports and Harbors

**WPSP**

WORLD PORTS SUSTAINABILITY PROGRAM

[www.sustainableworldports.org](http://www.sustainableworldports.org)



On 12 May 2017, IAPH decided to set up a **World Ports Sustainability Program**.

Guided by the **17 UN SDGs** the program wants to enhance and coordinate future sustainability efforts of ports worldwide

# WPSP- Objectives

- Helping ports develop to integrate sustainability in business.
- Global library of best practices.
- Portal for projects and initiatives of partner organizations.
- Think-tank and breeding ground for new collaborative projects.
- Reporting about sustainability performance of the global ports sector.



# WPSP - Partners



WORLD PORTS SUSTAINABILITY PROGRAM

[www.sustainableworldports.org](http://www.sustainableworldports.org)



# WPSP – Timeline

2017

On **12 May 2017**, IAPH has set up a **WPSP**. Guided by the **17 UN SDGs** within **5 Pillars**.



RESILIENT INFRASTRUCTURE



CLIMATE AND ENERGY



COMMUNITY OUTREACH & PORT CITY DIALOGUE



SAFETY AND SECURITY



GOVERNANCE AND ETHICS



[www.sustainableworldports.org](http://www.sustainableworldports.org)



**THE GLOBAL GOALS**  
For Sustainable Development

# WPSP – Timeline

2019

The **WPCAP** (World Ports Climate Action Program) is launched between 11 port authorities (as leading ports- **Vancouver, Antwerp, Barcelona, Gothenburg, Hamburg, Le Havre, Long Beach, Los Angeles, New York and New Jersey, Rotterdam and Yokohama**) to reduce **greenhouse gas emissions** from the marine industry. The plans were approved for 2019:2023.





# WPSP – Timeline

2020

With **120** projects from **71** ports, covering **38** countries and **five** continents, the **WPSP** Portfolio is becoming a global treasure trove on sustainable port development.



# WPSP – Timeline

2022

In **2022**, **WPSP** has updated the main pillars to **6 Pillars**, after a call To action published in 2020.

 <b>Digitalization</b>	 <b>Environmental care</b>
 <b>Infrastructure</b>	 <b>Community building</b>
 <b>Health Safety and Security</b>	 <b>Climate and Energy</b>



# WPSP – Timeline

2023

In **2023**, **WPSP Projects** has reached over **240** project, covering the main **6 Pillars**.





WORLD PORTS SUSTAINABILITY PROGRAM

## 2 Sustainability and its Impact on the Port Communities

# Sustainability & Port Communities

Port communities are rushing to achieve the UN SDGs into their projects, the numbers of the sustained projects has doubled from 120 project in 2020 to over 240 project in 2023.



Implementing sustainability →

Enhanced efficiency

# YEP MED and UN SDGs

Ports are important economic hubs that offer a wide range of job opportunities for young people, including roles in logistics, transportation, and warehousing. YEP MED addresses youth employment while concentrating on Gender Equality as well. Through the unique partnership of the YEPMED partners – these goals can be achieved.





WORLD PORTS SUSTAINABILITY PROGRAM

# 3 WPSP Pillars

# WPSP Areas of Interest (Pillars)



**Digitalization**



**Environmental care**



**Infrastructure**



**Community building**



**Health Safety and Security**



**Climate and Energy**



**THE GLOBAL GOALS**  
For Sustainable Development





# WPSP Digitalization

# 1

Associated with **innovative** digital technologies in port management, aims to accelerate **digitalization** in ports, transportation and supply chains.

# SUSTAINABLE DEVELOPMENT GOALS



## WPSP Digitalization

# 1

### Potential topics:

- Innovative digital applications;
- Just-in-time (JIT) arrival of ships;
- Port Community Systems (PCS);
- Novel new Technologies to make decarbonization more feasible

4 QUALITY EDUCATION



8 DECENT WORK AND ECONOMIC GROWTH



9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



11 SUSTAINABLE CITIES AND COMMUNITIES



13 CLIMATE ACTION



# MaWan Smart Port

China, 2020

**Digitalization**

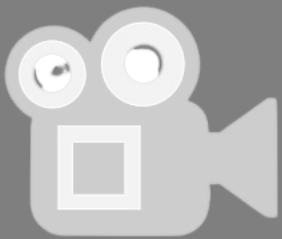
- Area of Interest



# China Merchants Port Group – MaWan Smart Port

Years ago, China Merchants Group (CMG) adopted the city to turn its home base in Shekou from a fishing village to a modernized city where port and logistics activities stemmed to achieve over 10 million TEUs throughput in Year 2020.





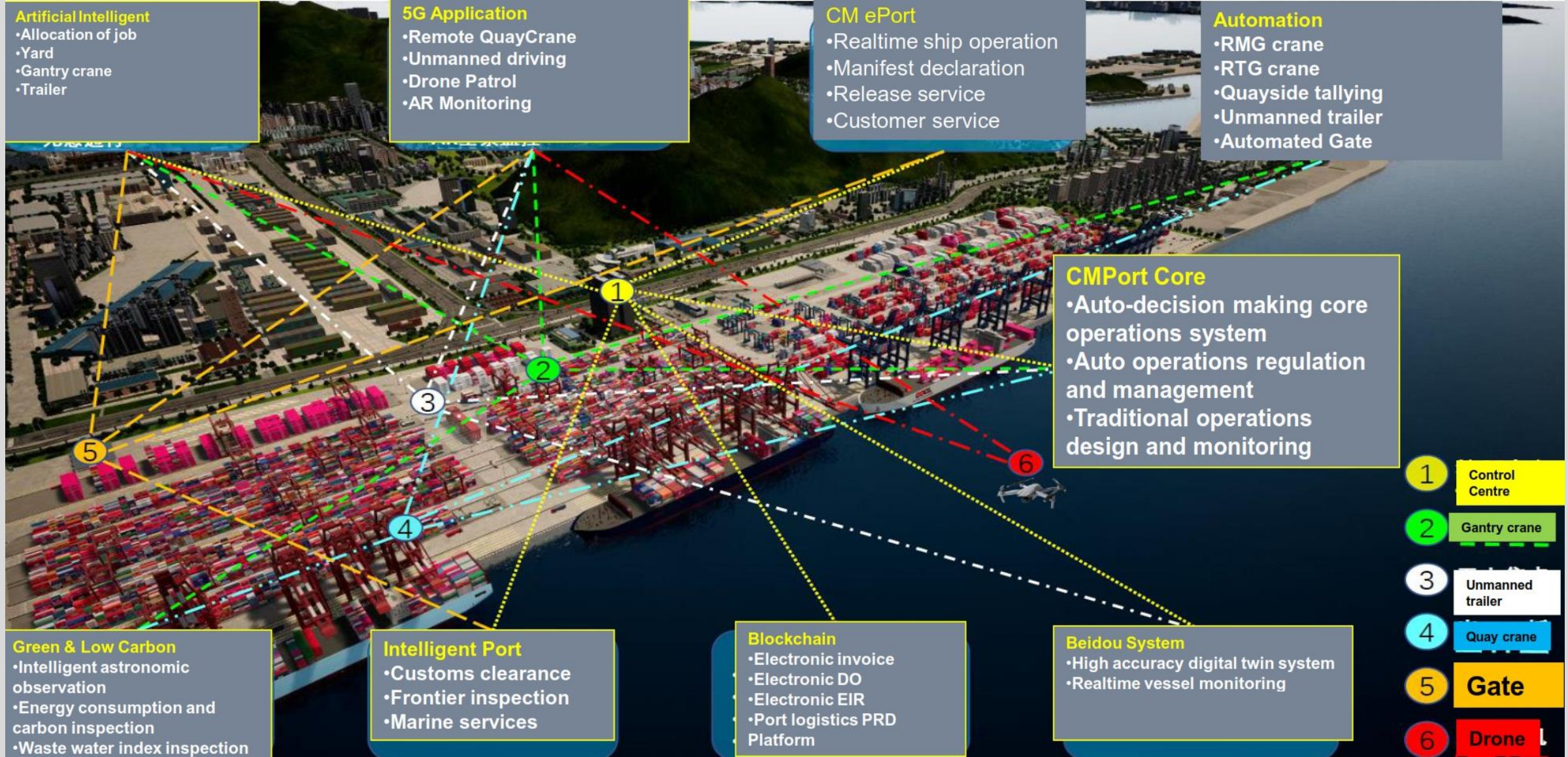
# China Merchants Port Group – MaWan Smart Port



## 妈湾智慧港改造项目

AUTOMATIC WHARF OF SMART MAWAN PORT

# China Merchants Port Group – MaWan Smart Port





# WPSP Infrastructure

## 2

Associated with **sustainability** and **resilience**, addressing major infrastructural and challenges in ports. **Optimizing** physical port infrastructure is the goal.

# SUSTAINABLE DEVELOPMENT GOALS



## WPSP Infrastructure

# 2

6 CLEAN WATER  
AND SANITATION



7 AFFORDABLE AND  
CLEAN ENERGY



8 DECENT WORK AND  
ECONOMIC GROWTH



9 INDUSTRY, INNOVATION  
AND INFRASTRUCTURE



13 CLIMATE  
ACTION



14 LIFE  
BELOW WATER



### Potential topics:

- Sustainable port development projects
- Handling increasing ship sizes
- Sustainable dredging projects



# RAK Ports – Channel Optimization

UAE, 2020

**Infrastructure**  
- Area of Interest



# RAK Ports | Saqr Port - Introduction

**SAQR Port is** located at Arabian Gulf, in UAE. Saqr Port offers a complete set of maritime solutions for business and is a base for regional and international operations.



# RAK Ports | Saqr Port - Introduction

## Port Area

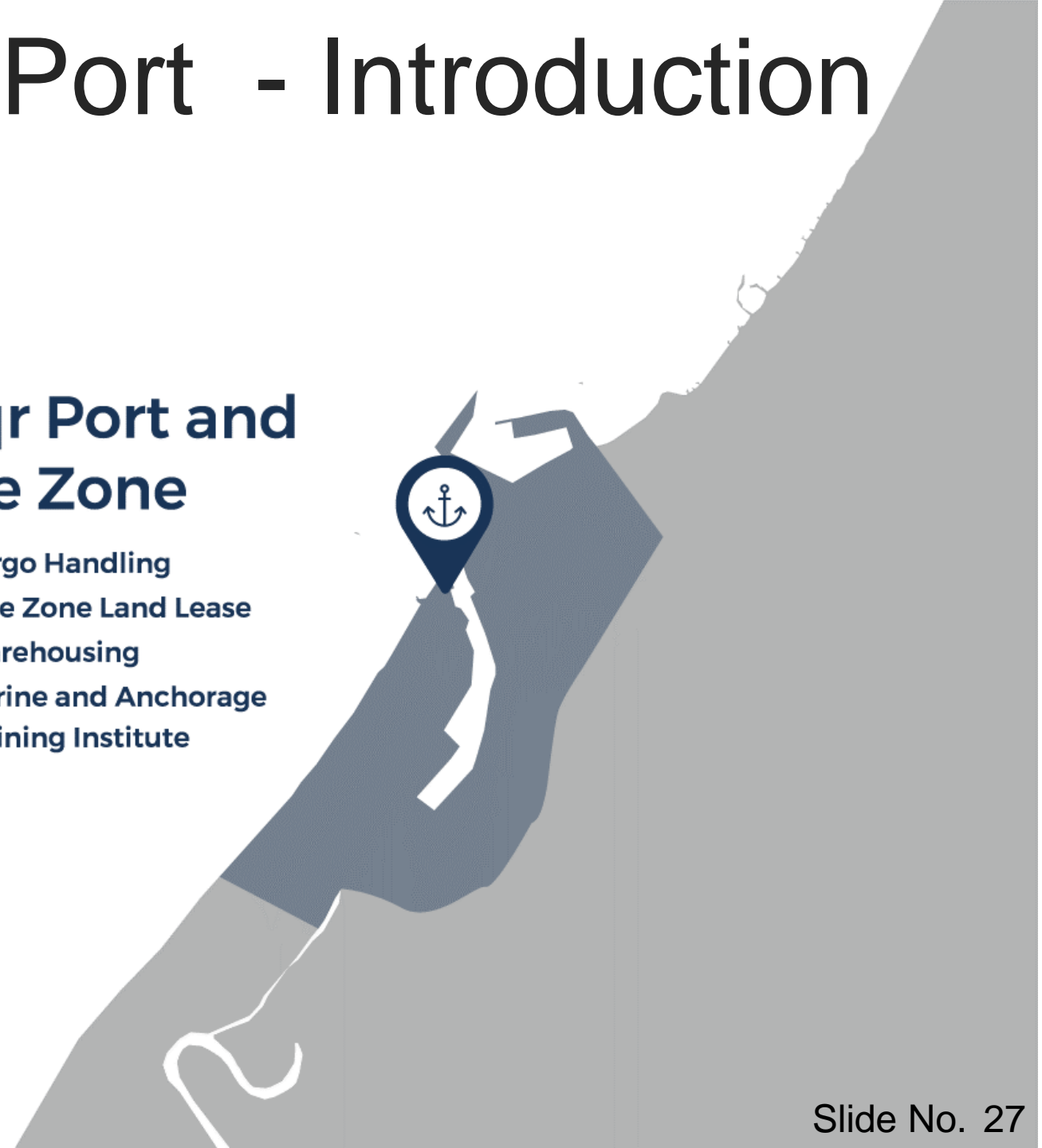
- Location Co-ordinates - N40 58 25/ E51 03 056.
- Draft - 18 metres
- 10 bulk-handling berths, 2 of which are capesize.
- 3 container handling berths.
- 1 general purpose berth.
- 42,000 square metres of covered warehouses.
- Open storage areas in excess of 84 hectares.

## Saqr Port and Free Zone

- Cargo Handling
- Free Zone Land Lease
- Warehousing
- Marine and Anchorage
- Training Institute

## Free Zone Area

- Location Co-ordinates - N32 56 25/ E00 03 056
- Draft - 6.5 metres (harbour entrance)
- 8 million square metres in area, 4 million square metres immediately available.
- Dedicated harbour covering 820,000 square metres of water
- 5 kilometres of new quay wall



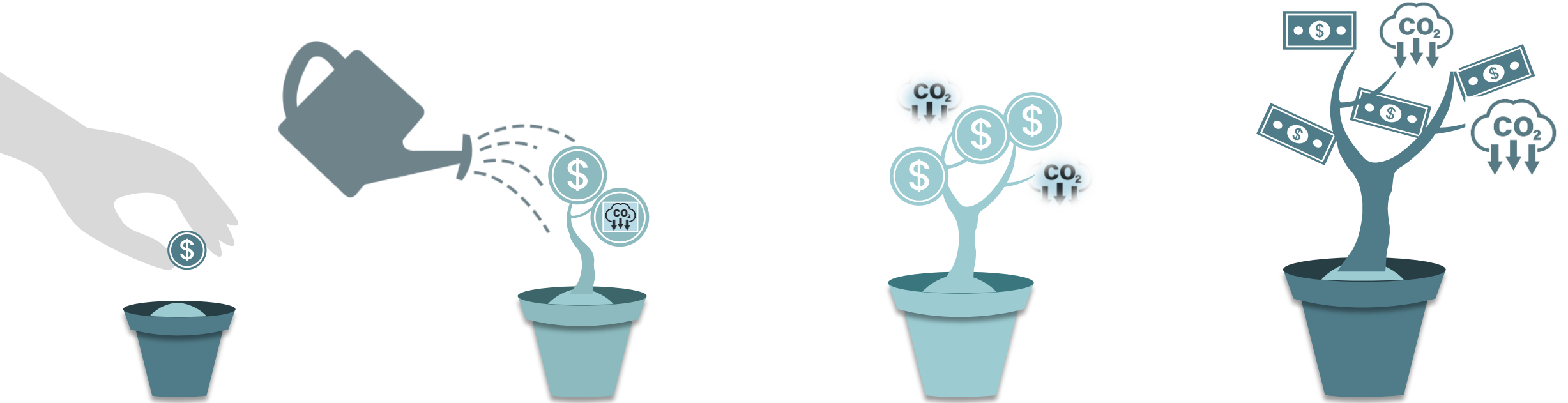
# RAK Ports | Saqr Port - Introduction

## RAK PORTS

**SAQR PORT AND FREE ZONE - A GLOBAL BUSINESS HUB  
FOR THE INDUSTRIAL SECTOR**



# RAK Ports – Channel Optimization with DUKC



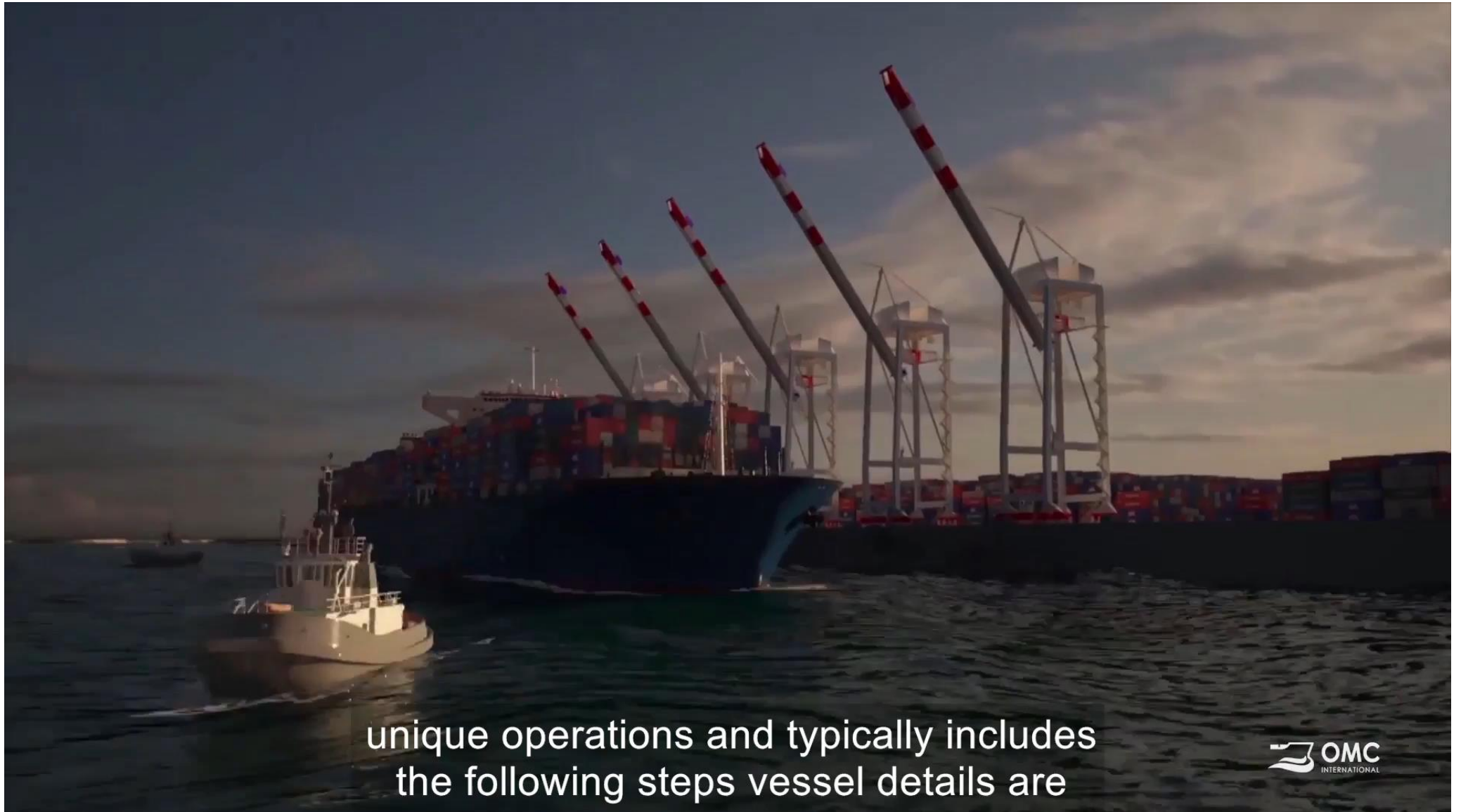
With a **vision** to be a strategic gateway to UAE economic growth, RAK Ports strives to achieve **sustainability**. Hence, Saqr Port has implemented **Dynamic Under Keel Clearance System (DUKC®)**.

Saqr Port installed **DUKC®** on January 1st 2020, as the first usage in the MENA area of this advanced technology. AI assisted assimilation of real-time and forecast enviro. conditions

The average increase in sailing draft realized to date by Saqr Port with **DUKC®** is **0.67m**, thereby allowing ships to sail with **more cargo** whilst **reducing risk**.

With **DUKC®**, Saqr Port has delivered record sailing drafts and tonnages, and a reduction in CO<sub>2</sub> emissions of approximately **100,000** tonnes in the first 23 months for **369 transits**.

# RAK Ports – Channel Optimization



unique operations and typically includes the following steps vessel details are



# WPSP

## Health Safety and Security

# 3

Associated with  
**integrating** health,  
safety and security into  
the **port business** with  
high standards in each  
disciplines

# SUSTAINABLE DEVELOPMENT GOALS



## WPSP Health Safety and Security

### 3

3 GOOD HEALTH  
AND WELL-BEING



4 QUALITY  
EDUCATION



8 DECENT WORK AND  
ECONOMIC GROWTH



9 INDUSTRY, INNOVATION  
AND INFRASTRUCTURE



16 PEACE, JUSTICE  
AND STRONG  
INSTITUTIONS



### Potential topics:

- Promotion of health and safety culture;
- Response plans to COVID pandemic;
- Working in automated environments



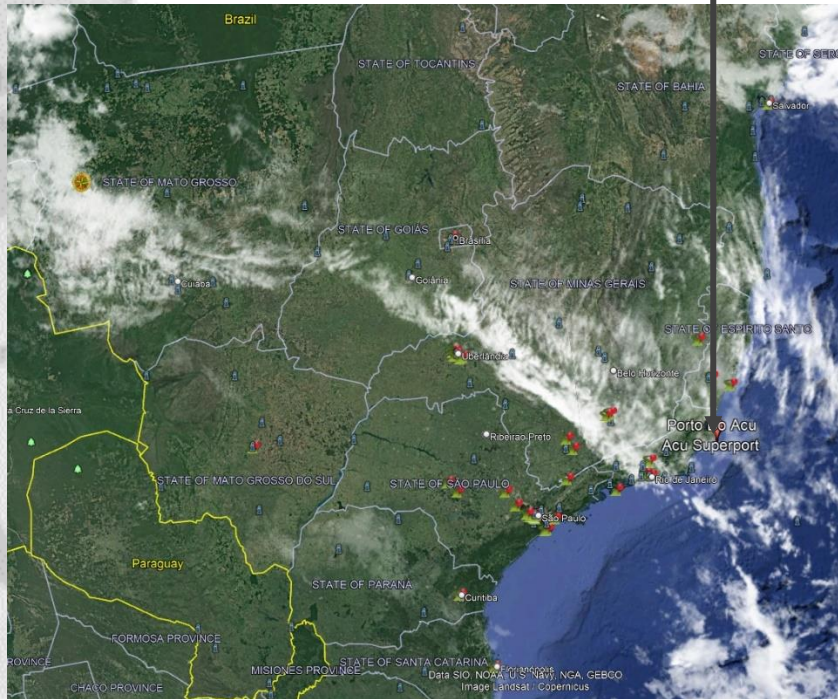
# Port of Açu – CORE Center of Operations and Response to Emergencies

Brazil, 2021

**Health Safety & Security**  
- Area of Interest



# Port of Açu – CORE Center of Operations



## Some of clients & partners

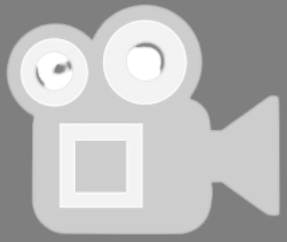


Close to <b>54%</b> Brazilian GDP	<b>100%</b> Private	<b>130km<sup>2</sup></b> Total area of the enterprise	<b>3GW</b> Largest gas-fueled thermoelectric park in Latin America
<b>10</b> World-class terminals	<b>21</b> Companies installed	<b>Licensing</b> expertise for greenfield projects	<b>2,4GW</b> Solar & wind energy under development
<b>21.7m</b> Max terminal draft able to receive VLCCs	<b>57.4 Mtons</b> cargo handled in 2022 (+3%)	<b>40km<sup>2</sup></b> dedicated to an environmental reserve	<b>Connection to Grid (SNI)</b>

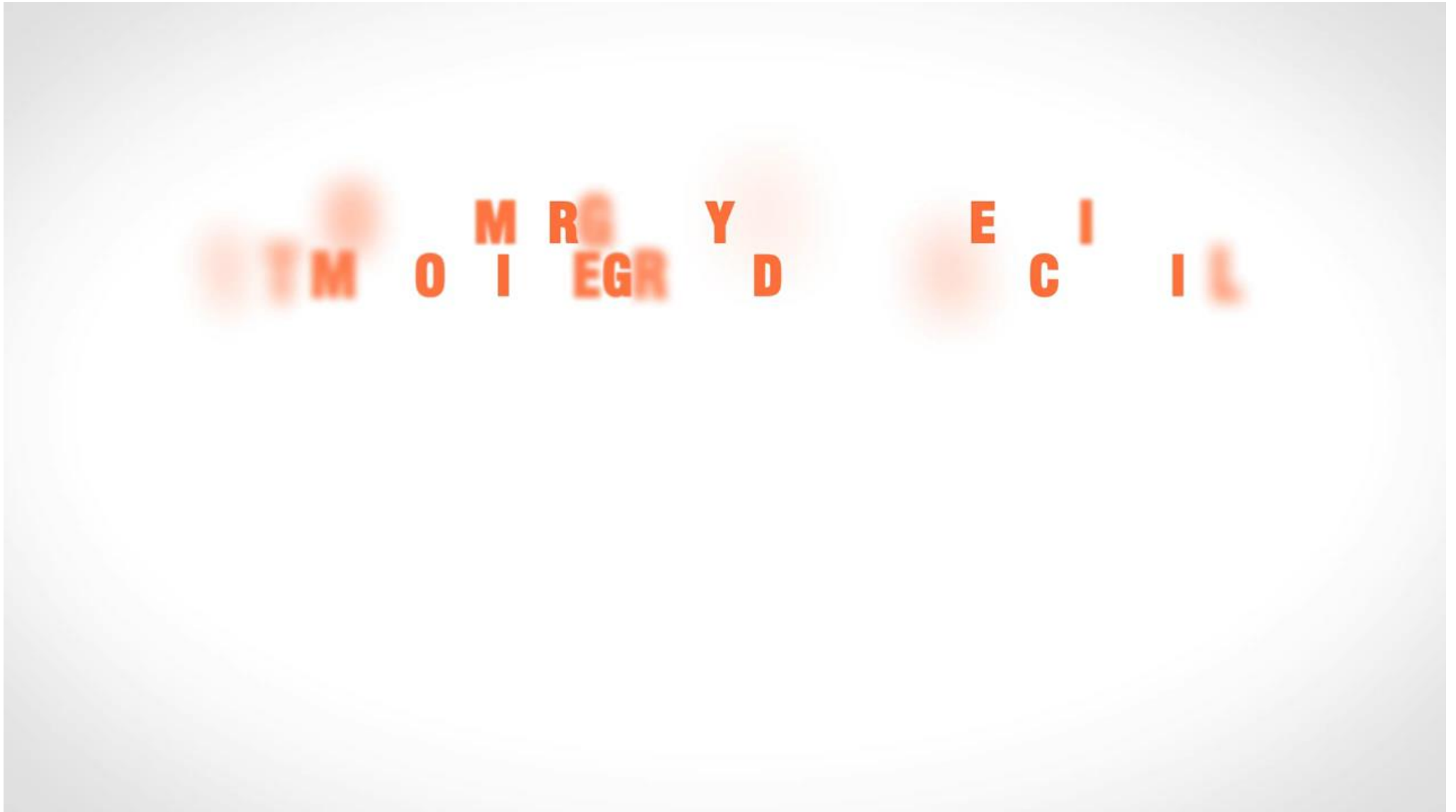
# Port of Açu – CORE Center of Operations

In 2021, the Port Administration launched its **C**enter of **O**perations and **R**esponse to **E**mergencies – **CORE**, an innovative structure that brings together maritime traffic, safety and security, and emergency management in an integrated environment.





# Port of Açu – CORE Center of Operations





# WPSP Environmental Care

# 4

Associated with addressing the **environmental impact** of port operations on air, water, soil, sediment, and natural habitats.

# SUSTAINABLE DEVELOPMENT GOALS



## WPSP Environmental Care

# 4

### Potential topics:

- Addressing air pollution, dust, noise and water pollution;
- Addressing soil and sediment contamination.



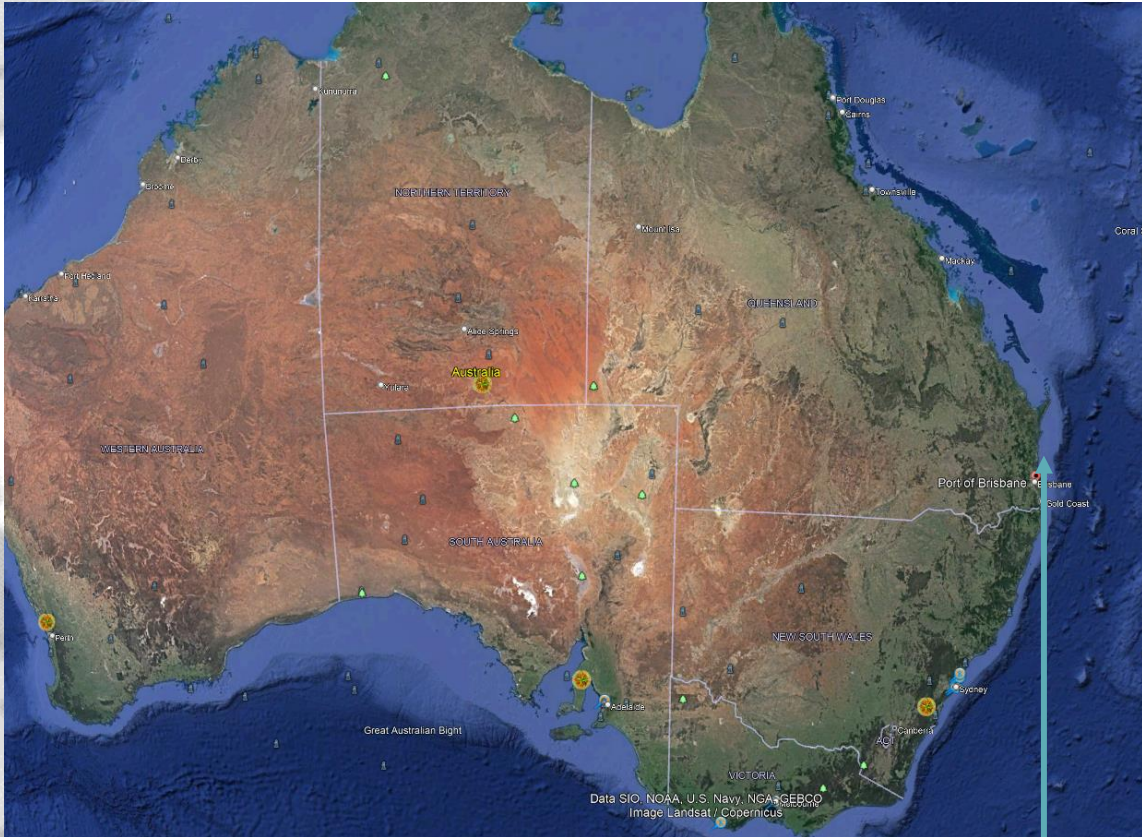
# Port of Brisbane – Solar Powered Automatic River Cleaner trial

Australia, 2021

**Environmental Care**

- Area of Interest

# Port of Brisbane – Solar Powered Automatic River Cleaner trial



Marine debris in our oceans is an increasing issue that requires serious investment. In 2021, Port of Brisbane partnered with Ocean Crusaders and other stakeholders to support an innovative rubbish clean-up project at the mouth of the Brisbane River.





# Port of Brisbane – Solar Powered Automatic River Cleaner Trial

The project developed Solar Powered Automatic River Cleaner (SPARC) – a 24/7 collection device that can be used in rivers to collect debris, lift it out of the water and place it in a bin, ready for removal.



# Port of Brisbane – Solar Powered Automatic River Cleaner trial



Ocean Crusaders trials its new  
Automatic River Cleaner



# WPS&P Community Building

# 5

Associated with the **societal integration** of ports, aligning and integrating **port and community** objectives for the betterment of both.

# SUSTAINABLE DEVELOPMENT GOALS



## WPS Community Building

# 5



### Potential topics:

- Community and social engagement programs;
- Education, equal opportunities and employment initiatives.

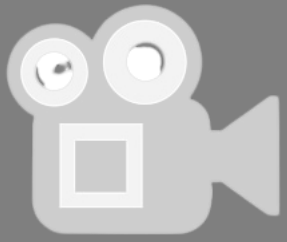
# Port of Açu – Employability Network

Brazil, 2014

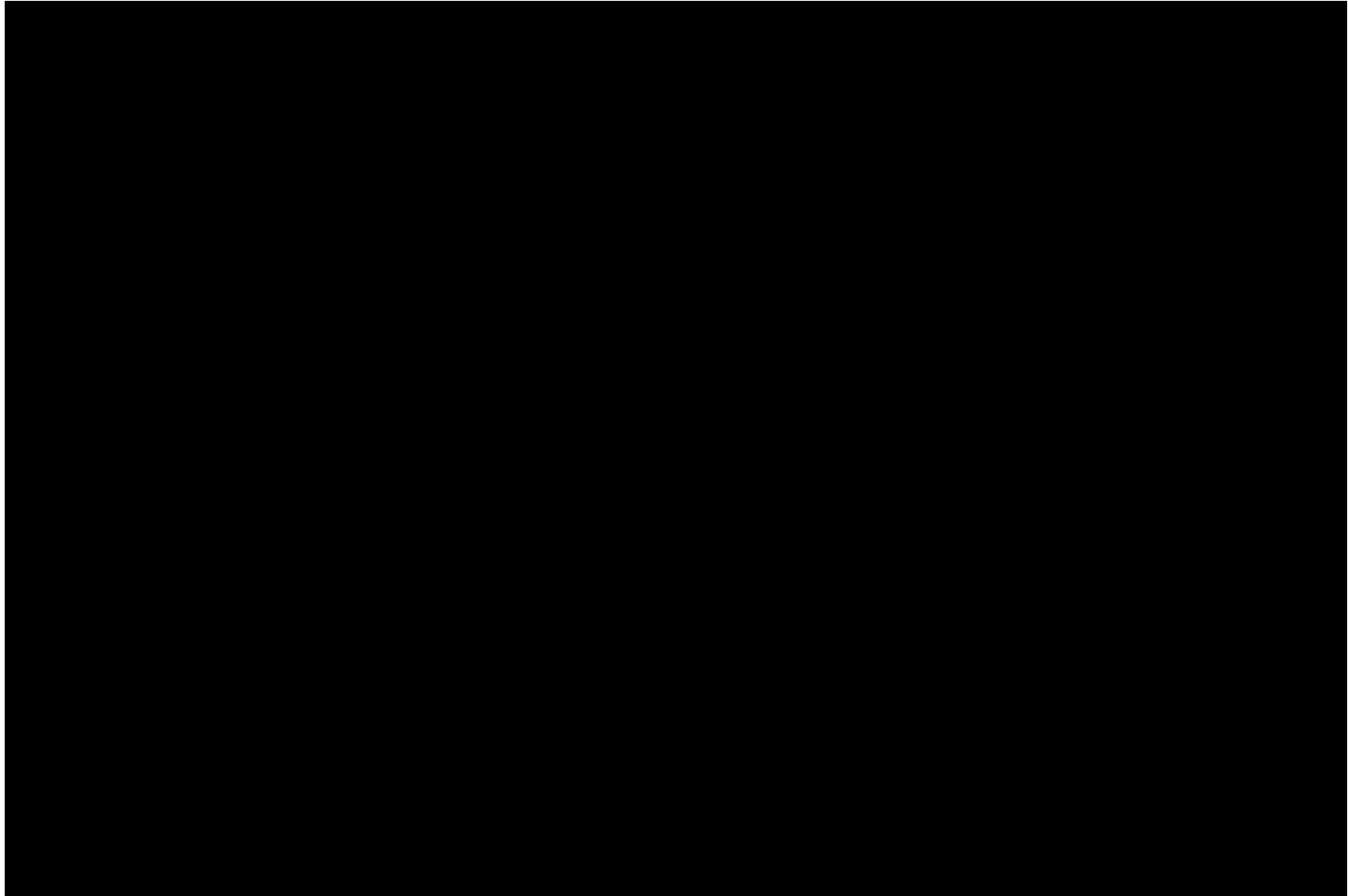
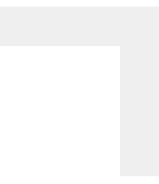
**Community Building**

- Area of Interest

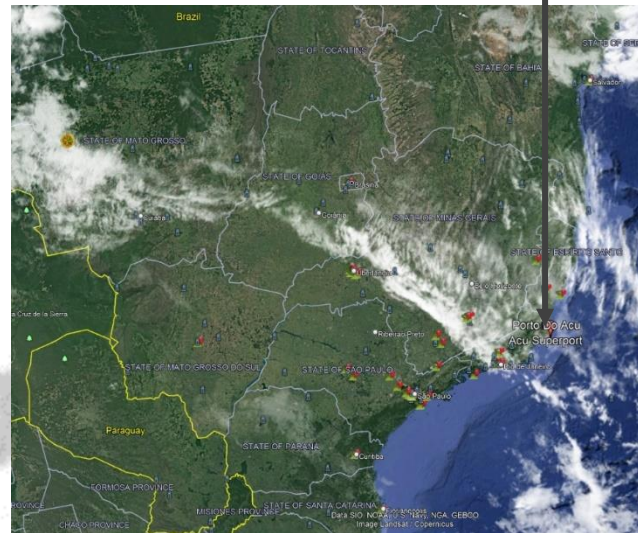




# Port of Açu – Employment Network



# Port of Açú – Employment Network



The Employability Network has allowed Port of Açú to reach more than 70% of its job opportunities fulfilled by local workforce.

It has proven to be a successful tool to implement SGD 8, by promoting sustained, inclusive, and sustainable economic growth, and productive employment.



# WPPSP Climate and Energy

# 6

Associated with efforts for striving towards in terms of CO<sub>2</sub>-neutral ports in order to help achieve global climate goals.



# SUSTAINABLE DEVELOPMENT GOALS



## WPSP Climate and Energy

# 6

### Potential topics:

- Energy efficiency; Renewable energy;
- CO<sub>2</sub> reduction initiatives;
- low and zero-carbon bunkering infrastructure.

7 AFFORDABLE AND CLEAN ENERGY



8 DECENT WORK AND ECONOMIC GROWTH



9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



12 RESPONSIBLE CONSUMPTION AND PRODUCTION



13 CLIMATE ACTION



3 CLIMATE ACTION



# North Sea Ports – Solar Park

**BELGIUM –THE NETHERLANDS**

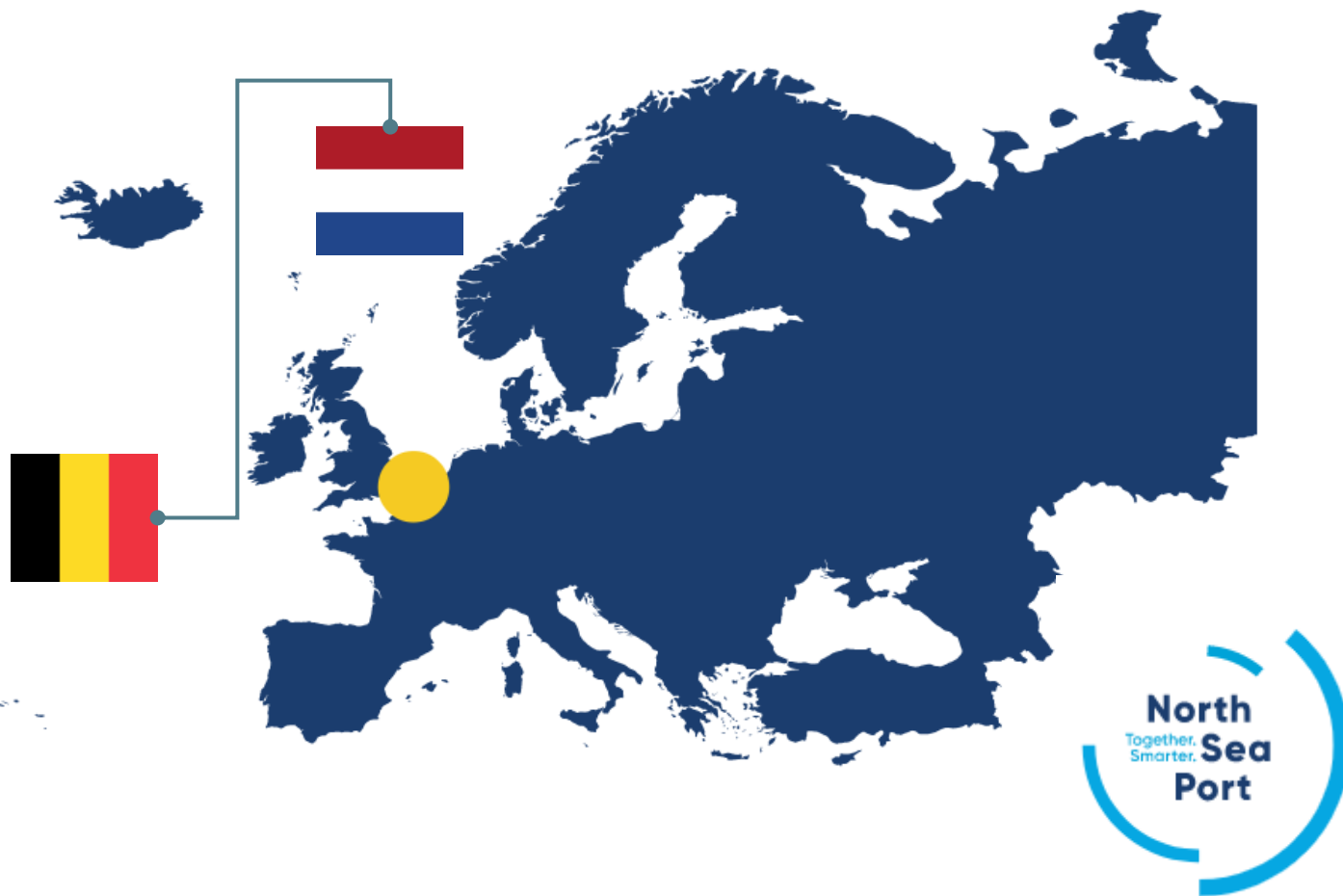
**2021**

**CLIMATE AND ENERGY**

- Area of Interest



# North Sea Ports - Introduction



**North Sea Ports** is the 60-kilometer-long cross-border port area that stretches from Vlissingen on the North Sea coast in the Netherlands, some 32 kilometers inland to Ghent in Belgium

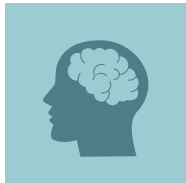
# North Sea Ports – Solar Park



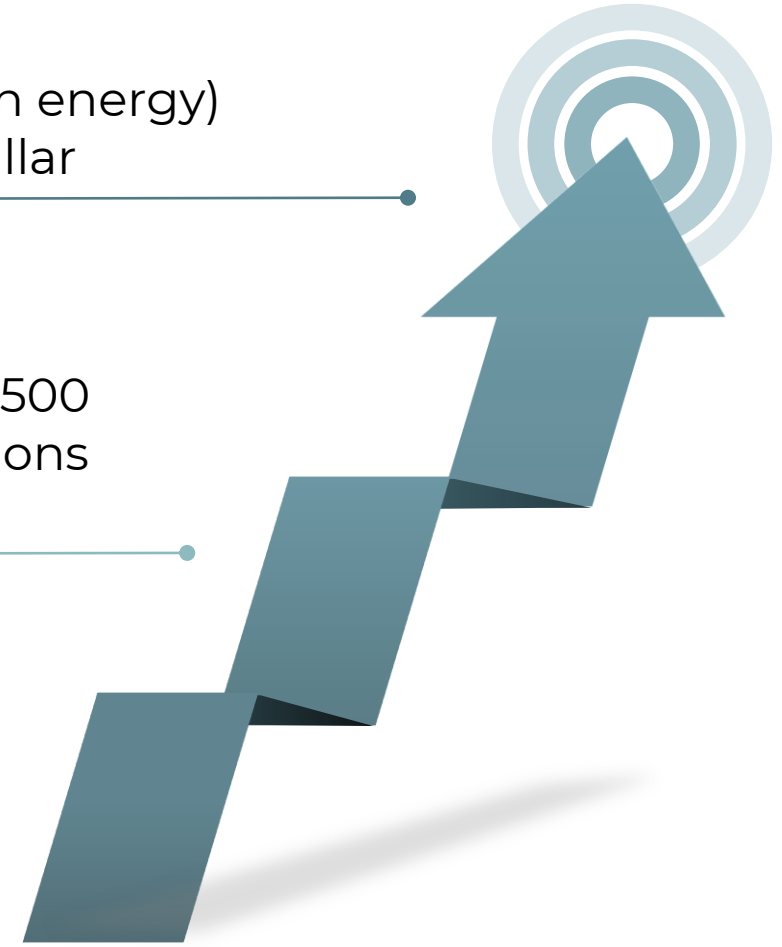
This project contributes on  
SDG 7 (affordable and clean energy)  
Climate and energy – 6<sup>th</sup> Pillar

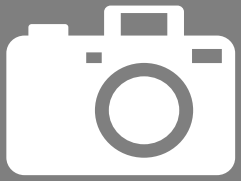


This amount can supply power to 5500  
households and reduce CO2 emissions  
by 10,200 tons a year.



More than 140,000 panels are almost  
installed, with a total capacity of 50  
million watts in 2021.





# North Sea Ports



# North Sea Ports



# SUSTAINABLE DEVELOPMENT GOALS

7 AFFORDABLE AND CLEAN ENERGY



9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



11 SUSTAINABLE CITIES AND COMMUNITIES



12 RESPONSIBLE CONSUMPTION AND PRODUCTION



13 CLIMATE ACTION



WORLD PORTS SUSTAINABILITY PROGRAM



**Climate & Energy**





WORLD PORTS SUSTAINABILITY PROGRAM

# 4 Conclusion and Discussion



# Conclusion

In today's port business, there is an increasing need to focus on achieving sustainability over port-projects, port communities are rushing to achieve the UN SDGs into their projects.

02

The strategic framework of the YEP MED is based on 4 Thematic Objectives as aligned over 6 UN SDGs as a contribution to the challenges of the Mediterranean region.



01



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For Sustainable Development



# Conclusion

One of the main objectives of the YEP MED project is to provide youth of the Mediterranean with the qualifications needed to work in ports of the MED.

Today we want to confirm that in order to be able to maintain such opportunity and be able to go forward, you must be well-aware of the WPSP and how to implement it , otherwise you will fall behind.

**This is where the world is heading now, and that is what you should do to help your port community to head there too.**



**THE GLOBAL GOALS**  
For Sustainable Development



WORLD PORTS SUSTAINABILITY PROGRAM

# Every Dream Starts with a First Step



YEP MED

*Thank You*



Great thanks to my colleagues:

Eng. Mohamed Abo Elnaser

Arch. Amira Mamdouh

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