



الأكاديمية العربية للعلوم والتكنولوجيا والنقل البحري  
 Arab Academy for Science, Technology & Maritime Transport

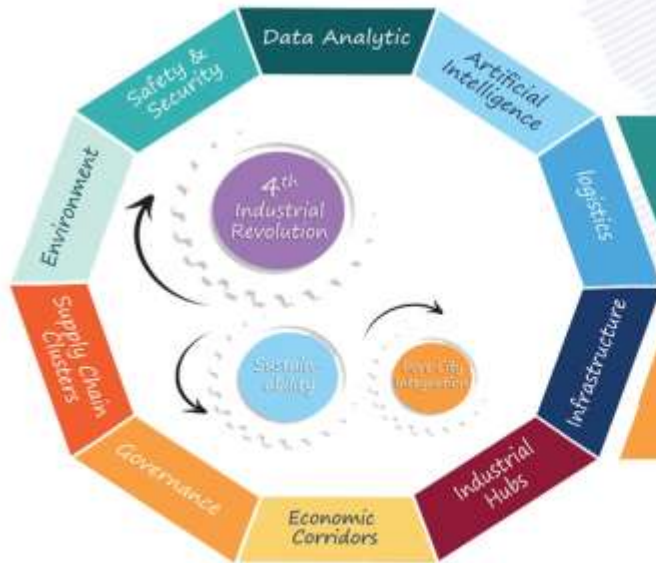


The International Maritime Transport and Logistics Conference "Marlog 9"  
 Impacts of the Fourth Industrial Revolution on Port-City Integration  
 "World Port Sustainability Program Aspects"

# THE CHALLENGE FOR THE PORT-CITIES 2030 A VIEW FROM PIANC

Francisco Esteban Letler

PIANC President



10-12- October, 2020



# 1926 PIANC Congress



*The 1926 Congress In Cairo was the first Congress held In Africa.*



# What PIANC Stands For



The global organisation providing guidance for sustainable waterborne transport infrastructure for ports and waterways

PIANC is the forum where professionals from around the world join forces to provide expert advice on cost-effective, reliable and sustainable infrastructure to facilitate the growth of waterborne transport.

Established in 1885, PIANC is the longest-standing organisation in its field, and continues to be the leading partner for governments and private sector in the design, development and maintenance of ports, waterways and coastal areas.





# Our Mission

**To remain the leading international source of waterborne transport-related information in the 21<sup>st</sup> century**

**To provide expert guidance and technical advice**

- Bringing together the best international experts, both public and private, on technical, economic and environmental issues pertaining to waterborne transport infrastructure
- High-quality *Technical Reports*
- *International Commissions and Working Groups*

**To keep the international waterborne transport community connected**

- *Four-yearly PIANC World Congresses*
- *Four-yearly PIANC-COPEDEC International Conferences on Coastal and Port Engineering in Developing Countries*
- *Two-yearly Smart Rivers Conferences bringing experts together on inland waterway infrastructure.*

**To support Young Professionals and Countries in Transition**



# Our Membership

**43 Qualifying Members (QM)** of which 27 have a **National Section (NS)**


(i.e. governmental and non-governmental organisations representing a country)



**more than 1,800 Individual Members**  
(Students included)


**About 500 Corporate Members**  
(port authorities, chambers of commerce, universities, other public- and private-sector organisations)

# Reports related to Port-City




**PIANC**  
Setting the Course

Report n° 137 - 2014




**NAVIGATION STRUCTURES:  
THEIR ROLE WITHIN FLOOD  
DEFENCE SYSTEMS –  
RESILIENCE AND PERFORMANCE UNDER OVERLOADING CONDITIONS**

The World Association for Waterborne Transport Infrastructure



**PIANC**

RecCom WG Report  
n° 147 - 2020



**GUIDELINES FOR MANAGING THE RELATIONSHIP  
BETWEEN RECREATIONAL NAVIGATION  
AND COMMERCIAL PORTS**

The World Association for Waterborne Transport Infrastructure



**PIANC**  
Setting the Course

Report n° 150 - 2014



**'SUSTAINABLE PORTS'  
A GUIDE FOR PORT AUTHORITIES**

The World Association for Waterborne Transport Infrastructure




**PIANC**

Report n° 152 - 2016




**GUIDELINES FOR CRUISE TERMINALS**

The World Association for Waterborne Transport Infrastructure



**PIANC**

EnviCom Task Group  
n° 193 - 2020




**RESILIENCE OF THE MARITIME AND INLAND  
WATERBORNE TRANSPORT SYSTEM**

The World Association for Waterborne Transport Infrastructure




# Reports related to Port-City




**PIANC**  
Setting the Course

Report n° 158 - 2014




**MASTERPLANS FOR THE DEVELOPMENT OF EXISTING PORTS**

The World Association for Waterborne Transport Infrastructure




**PIANC**

EnviCom WG Report  
n° 176 - 2018




**GUIDE FOR APPLYING WORKING WITH NATURE TO NAVIGATION INFRASTRUCTURE PROJECTS**

The World Association for Waterborne Transport Infrastructure



**PIANC**

EnviCom WG Report  
n° 178 - 2020



**CLIMATE CHANGE ADAPTATION PLANNING FOR PORTS AND INLAND WATERWAYS**

The World Association for Waterborne Transport Infrastructure



**PIANC**

EnviCom - Task Group 3  
Climate Change and Navigation



**Waterborne transport, ports and waterways:  
A review of climate change drivers,  
impacts, responses and mitigation**

"Navigation, Ports, Waterways  
Transportation, Ports, Inland Navigation"



# Ongoing WGs related to Port-City



RecCom

RecCom

*Navigation Recreational of Influence– 202WGRecCom-ICOMIA •  
Infrastructures (RNI) in Waterfront Projects*





# Working With Nature



## ‘Working With Nature’ to Port- of Application City interventions



- Project Needs and Objectives .1**
- Understand the Environment (natural and urban) .2**
- Engage Stakeholders from early stages .3**
- Project Proposal/Design to benefit the Port and the City .4**  
**and identify win-win opportunities**
- Build and implement .5**
- Monitor, Evaluate and Adapt .6**



# PIANC Declaration on Climate Change



COP25 Presented in  
10th December 2019



## PIANC Declaration on Climate Change

The climate is changing. The evidence is unequivocal. Climate change represents a significant risk to business, operations, safety and infrastructure – and hence to local, national and global economies. However, a positive, proactive response, now and into the future, can both reduce these risks and bring business opportunities. Uncertainties remain, but these can be addressed and are not reasons for delay. It is time to reinforce the message and upscale prudent action.

Waterborne transport infrastructure will be adversely affected by climate change. In addition to playing their role in decarbonisation (i.e. moving to 'net zero' greenhouse gas emissions), owners and operators need to take urgent action to strengthen resilience and adapt – both to gradual changes in parameters such as temperature and sea level, and to the expected increase in the frequency and severity of extreme meteorological, hydrological or oceanographic events.

PIANC recognises the importance of the climate change challenge and will actively pursue the sustainable future of the waterborne transport industry by supporting its members in addressing this challenge. PIANC and its members will strive to:

- develop approaches to decarbonise the operation of port and navigation infrastructure (i.e. move to net zero emissions), whilst at the same time enabling the reduction of greenhouse gas emissions from vessels by providing the necessary facilities, infrastructure and, where appropriate, incentives
- prioritise inspection and maintenance to optimise the resilience of existing infrastructure
- apply monitoring systems and effective data management to inform and support timely climate change action
- strengthen operational resilience by developing risk assessments, contingency plans and warning systems
- collaborate with energy and water suppliers, onward transport providers and others involved in the supply chain to understand interdependencies and reduce exposure to associated risks
- seek win-win opportunities, including through nature-based solutions such as PIANC's Working with Nature programme
- consider a range of climate change scenarios when developing adaptation strategies and include an appropriate combination of structural, operational and institutional measures set out in phased adaptation investment pathways
- focus on flexible and adaptive infrastructure, systems and operations to allow for future modification and to avoid 'locking in' to solutions that prove inappropriate as conditions change
- promote engineered redundancy to improve resilience.

PIANC will continue to support ports, harbours, marinas and inland waterways by facilitating knowledge sharing and preparing practical technical guidance to help them manage the climate change challenge through effective risk management.

PIANC will also contribute to the global discussion to ensure that waterborne transport infrastructure interests are properly acknowledged, and to disseminate key messages to its members and the wider port and navigation community, through implementation guidelines where appropriate.

PIANC and its members will join forces with other waterborne transport infrastructure stakeholders to meet these new challenges, explore opportunities and contribute to a responsible, informed and sustainable way forward.



# Relation between Ports and Cities



## Port and city:

- Common history
- Valuable historic, and artistic cultural heritage
- A relation of centuries... or millennia
- Dialogue of the Local (City) and the Global (Port)
- Social and economic interaction



# Evolution of Port-City Relations

## 1. Common start Common start .1

*Port and city are undistinguishable in the beginning* •

## 2. Proximity-distance cycles Proximity-distance cycles .2

*Port loses weight in the economy of the City as it becomes more complex* •

*Ruled by relative economic capabilities of port and city* •

*The area of influence of the Port grows* •

## 3. Competition Competition .3

*Both compete for the same land:* •

*The Port wants land to attend logistic demand* •

*The City wants high value urban land near the centre* •

## 4. Confluence Confluence .4

*Port and City find win-win solutions attending Port and City needs* •

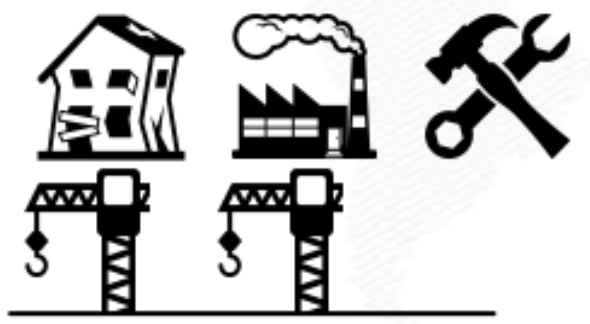
*Desirable status of cooperation* •

# The effect of containerisation

Container Terminals



Waterfront



# A New Situation



## 1. The Port

### The Port .1

- *From final stop to a node between maritime and inland transport systems*
- *Economic impact: from local to regional and global*
- *Weakening of local economic impact*
- *Redefinition of Hinterland (physical, logistic, economic)*
- *Impact of traffic congestion*

## 2. The City

### The City .2

- *Demand on land of the waterfront (high value)*
- *Demand of environmental improvement and better quality of life of citizens*
- *Rejection of land transport congestion*
- *Reduction of direct local employment*



# Opportunities

## Collaborative solutions

## Collaborative solutions

*Innovative collaborative solutions should be found* •

*Waterfront development should be oriented to:* •

*The historic Port character of the waterfront by keeping **compatible port uses*** •

*Museums and installations dedicated to dissemination of knowledge and innovation recognizing value of:* •

*Historic and cultural heritage (museums...)* •

*Knowledge of the marine environment* •

*Value of Ports, Logistics and Commerce* •

*Blue Economy* •

*Business facilities dedicated to IT, Smart City and Smart Port: high quality local employment generation* •

*Leisure, Commercial and Sport facilities* •

*Urban utilities and citizen services* •

*Singular architectural elements that provide visibility to the intervention (landmarks)* •

*Cooperation of the City with the role of the Port as economic engine* •

*Promote the establishment of logistic and maritime services business* •

*High value land for Real State developments* •



# Compatible Port Activities



Cruises

Cruises

**Limit adverse environmental impacts:** •

Onshore Power Supply •

Access and connection with land transportation at arrival/departure •

Alternative land uses when there are no cruise boats •

Organisation of port calls •

Avoid night disturbance: noise, light pollution... •

Waste and supply management •

**Marinas and leisure boat facilities**

**With due services and auxiliary facilities** •

**Charter and Megayachts** •

**Small ferries and touristic boats**

**Traditional port communities:**

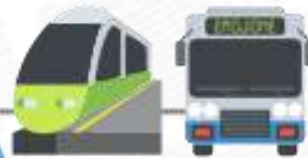
**Artisan and sport fishing** •





# Port - City Opportunities

City



Seamless connection

Waterfront



Data Center



# Success factors

## Governance

*Coordination between Administrations and Institutions* •

***Stakeholders participation and transparent information***

*Port and City Stakeholders* •

*PIANC Working with Nature* •

***Use of PPP***

***Set common goals on economic issues***

***Long Term Consensus on the Development***

***Conflict Management tools***

***Solutions adapted to social, economic and cultural features of the City***

***Otherwise: a strange body that would not provide access to the sea*** •

## Governance



# Planning principles

- *Spatial zoning:*

- *Water depending uses (Port uses generate Port revenues)*

- *Water related uses*

- *Water independent uses*

- *Maintain Port identity*

- *Satisfy demand of waterfront access by citizens*

- *Combine traditional and modern elements*

- *Address mobility as a single topic in a holistic way*

- *Definition of business units ensuring appropriate financing*

- *Take opportunities of Smart City-Smart Port structures*

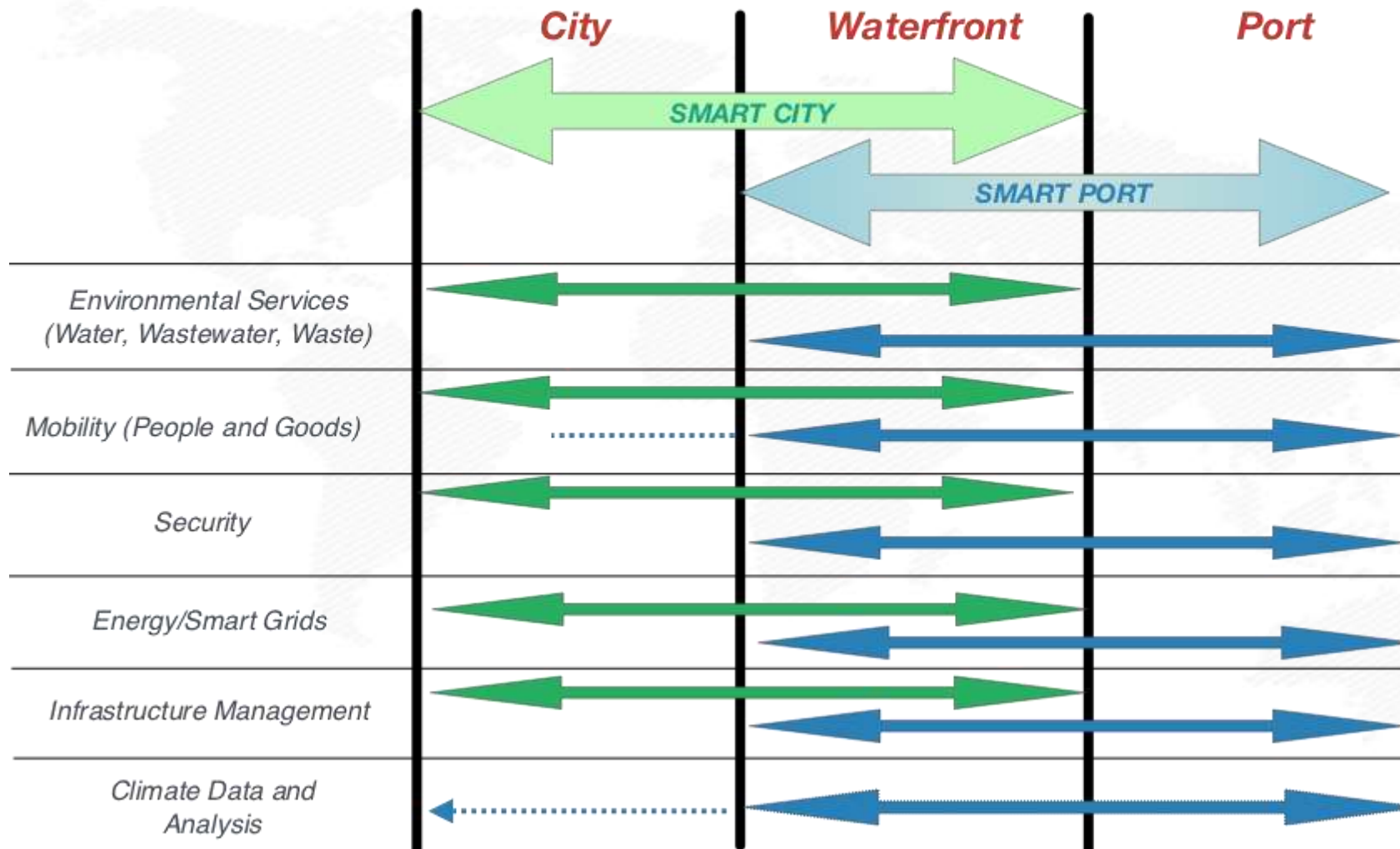
- *Ensure contribution of Port Infrastructure and governance to protection of the urban environment regarding extreme meteorological events and adaptation to Climate Change*

- *Intervention of comprehensive multi-disciplinary teams*

- *Spatial zoning:*

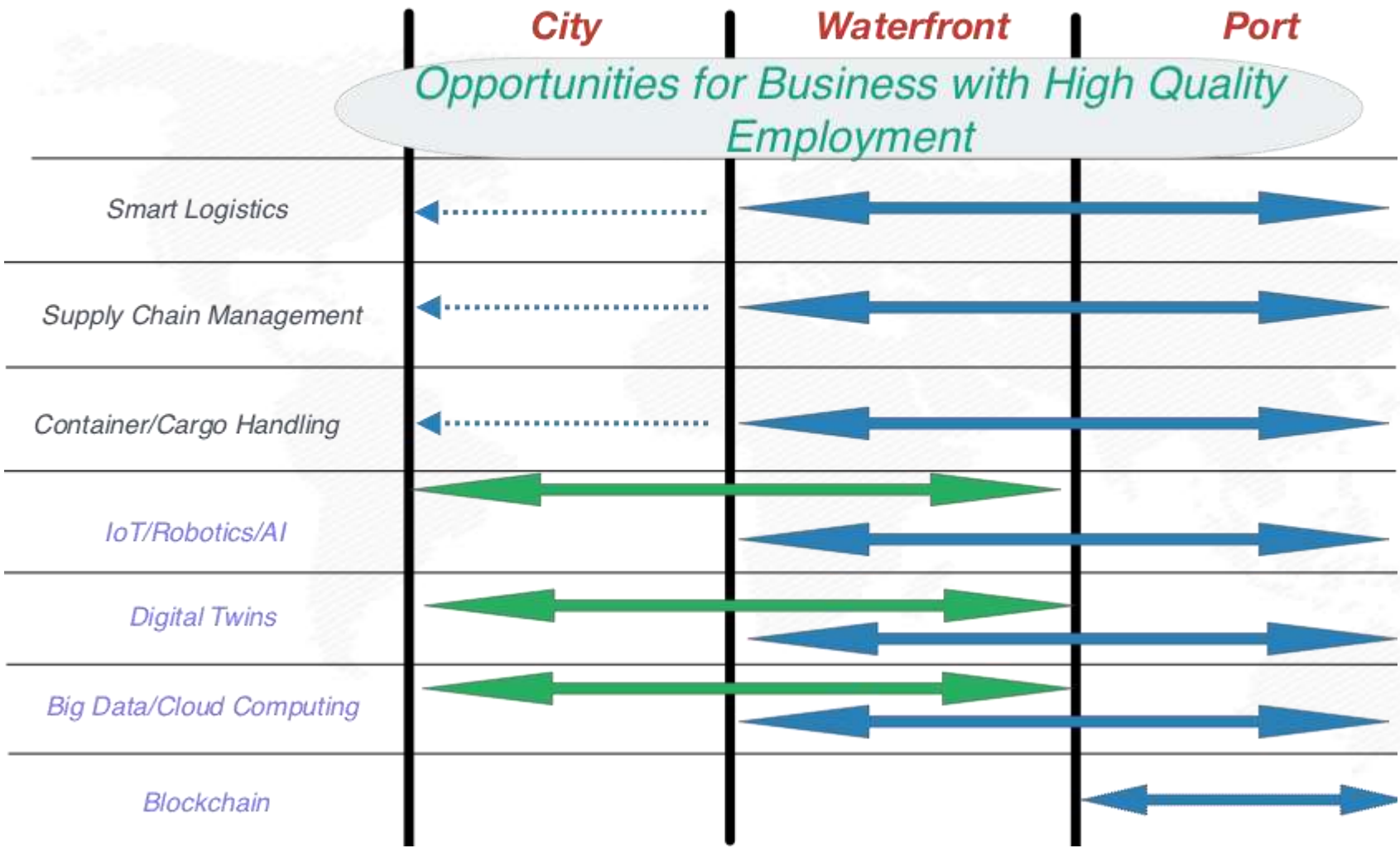


## Smart City and Smart Port (I)

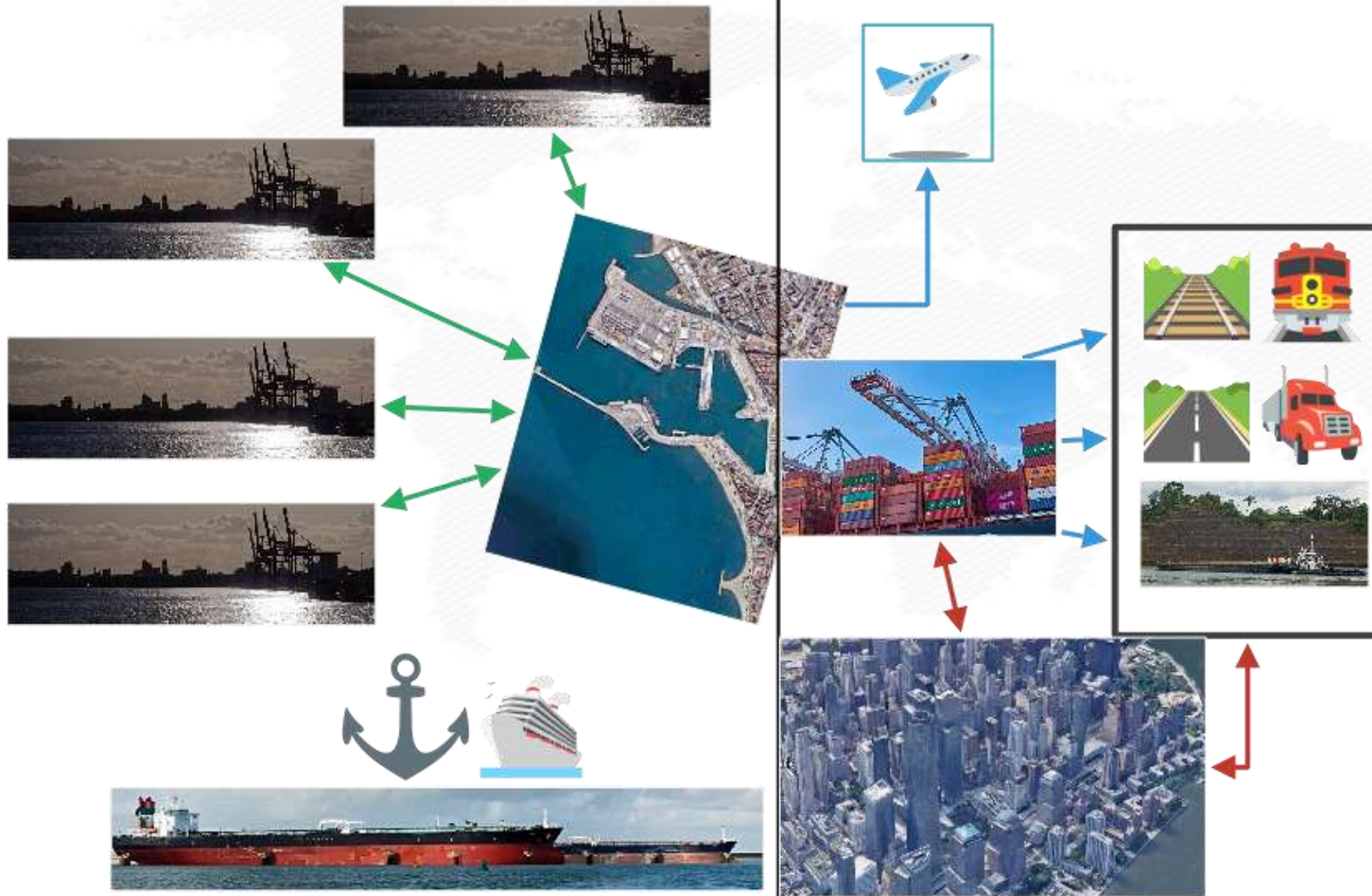


## Smart City and Smart Port (II)

*Opportunities for Business with High Quality Employment*



# COVID-19 Impact on Ports



# Conclusions



*The evolution of Ports, mainly due to containerisation provides high quality available land in the waterfront of the cities* •

*This waterfront is a unique opportunity for successful Port-City interventions* •

*Smart Ports and Smart City structures provide opportunities for connection* •

*In addition to improving the quality of life of citizens several targets can be achieved:* •

*Recover the historic and cultural links of the Port and the City* •

*Value heritage* •

*Recover part of the local economic impact of the Port on the City* •

*Provide urban equipment* •

*Find self-financing plans* •

*Keep the Port compatible activities as a remark of the waterfront character* •

*Create High Quality Employment* •

*Improve resiliency to low-probability high-impact event (as COVID-19)* •



# Thank you for your attention !



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