

Smart Ports Initiatives In The Indian Ocean



HAROPA PORT

Le Havre
Rouen
Paris

Port Community Systems
The main brick for Smart Ports achievement

Le Havre

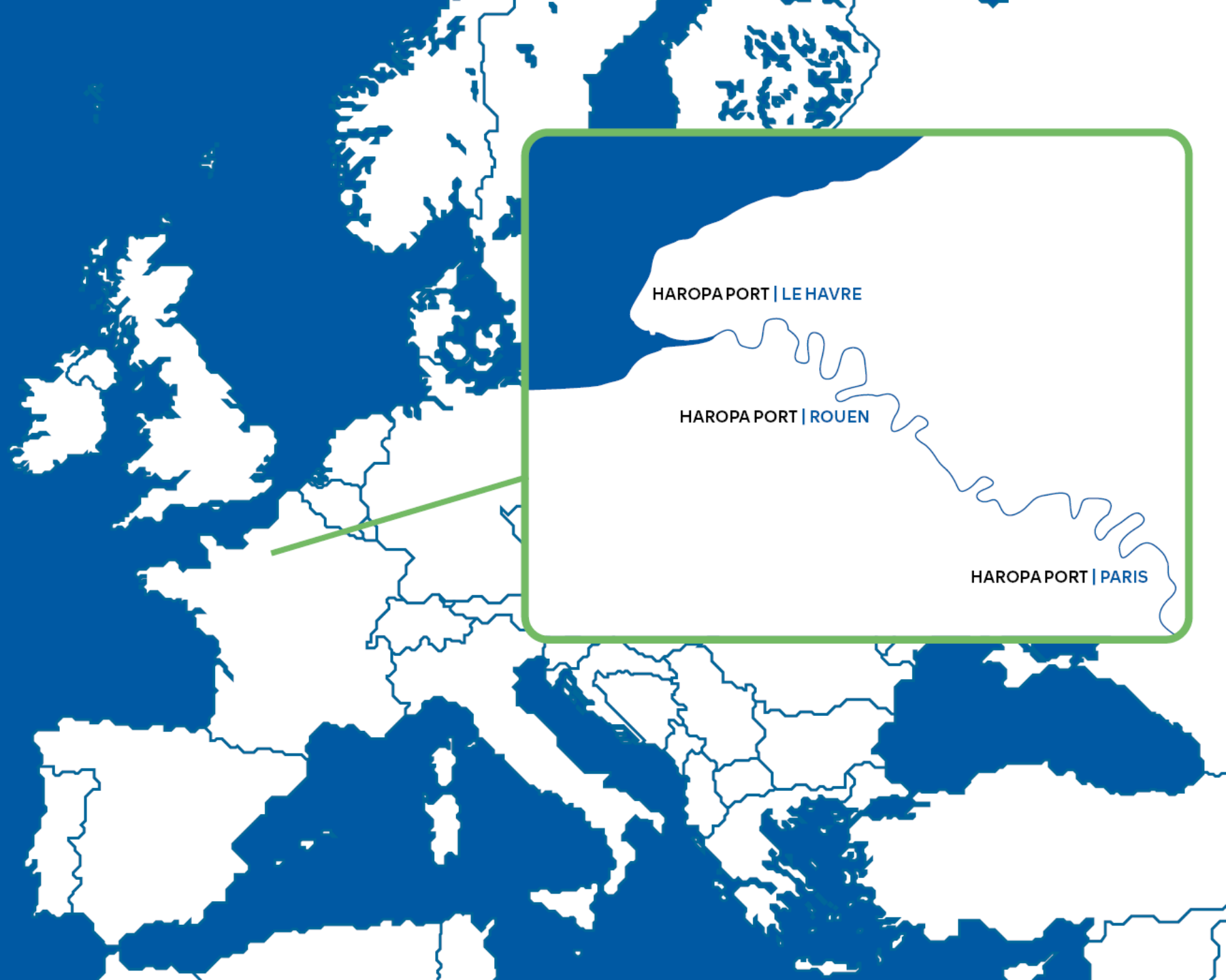
A gateway seaport and port of call
for the world's biggest container
ships

Rouen

The leading West European
port for grain and a specialist
breakbulk port

Paris

A network of 70 urban ports
and the springboard for last
kilometer logistics



HAROPA PORT

Port - based synergy

83.6Mt

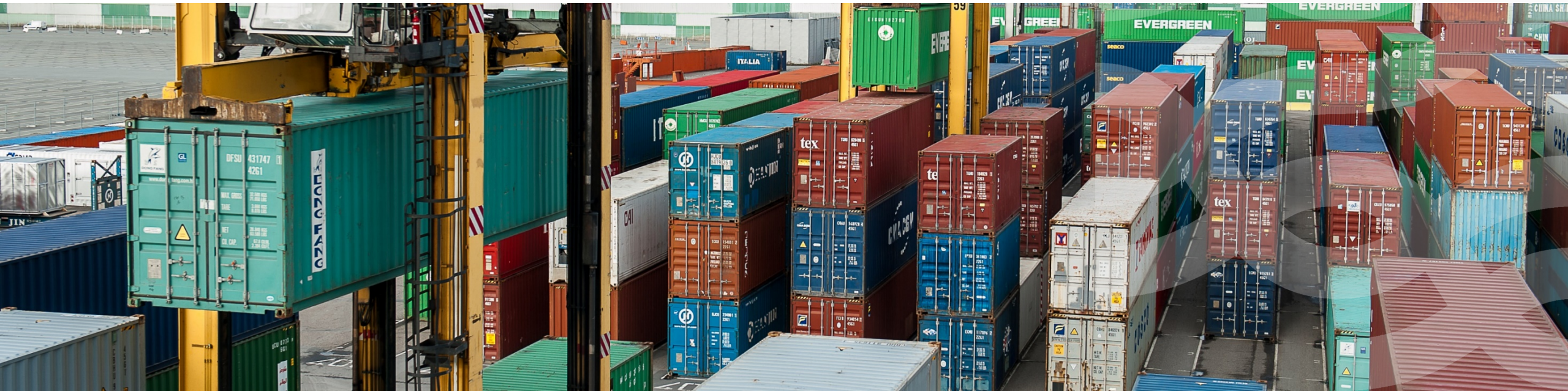
Maritime traffic 2021

22.5Mt

River Traffic Paris
Area 2021

3.1M TEU

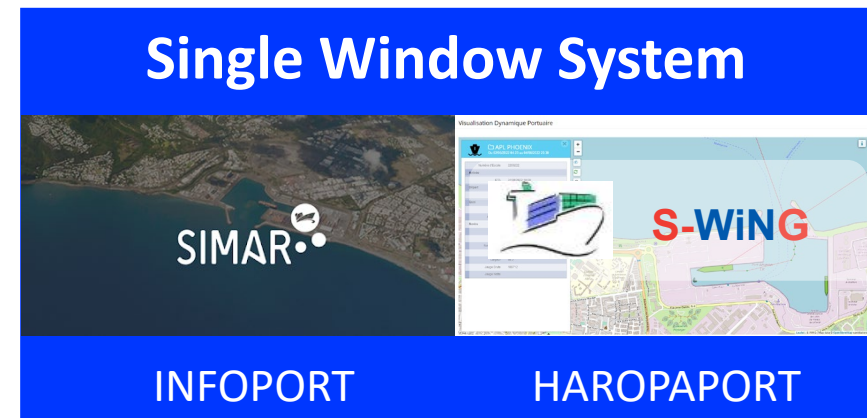
Maritime container traffic 2021

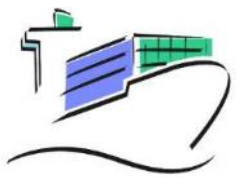


Smart Port

SUSTAINABLE
MODERN
AGILE
RESILIENT
TRANSSPARENT

Digital tools
client oriented services



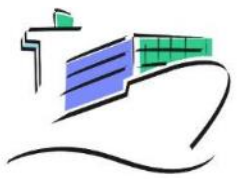


S-WiNG The maritime single window system



Characteristics

- ✓ Single window dedicated to your community
- ✓ Enhance the cyber resilience for your port
- ✓ Designed for mobility
- ✓ Full logistics data flows integration
- ✓ An intuitive and accessible digital environment

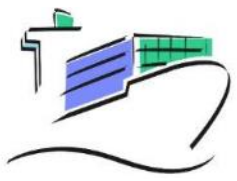


S-WiNG The maritime single window system



Functionalities

- ✓ Integrate and generate billing data (port dues and services)
- ✓ Interconnect with shipowners' systems
- ✓ Respond to regulatory constraints by securing the monitoring of hazardous materials and certifying waste collection
- ✓ Improve fluidity by optimizing placement and handling operations, connected to CCS SIMAR
- ✓ Reduce accidents by securing traffic and operations in the port area
- ✓ Anticipate cruise stopovers for better management of associated services
- ✓ Centralize and log meteorological and environmental data



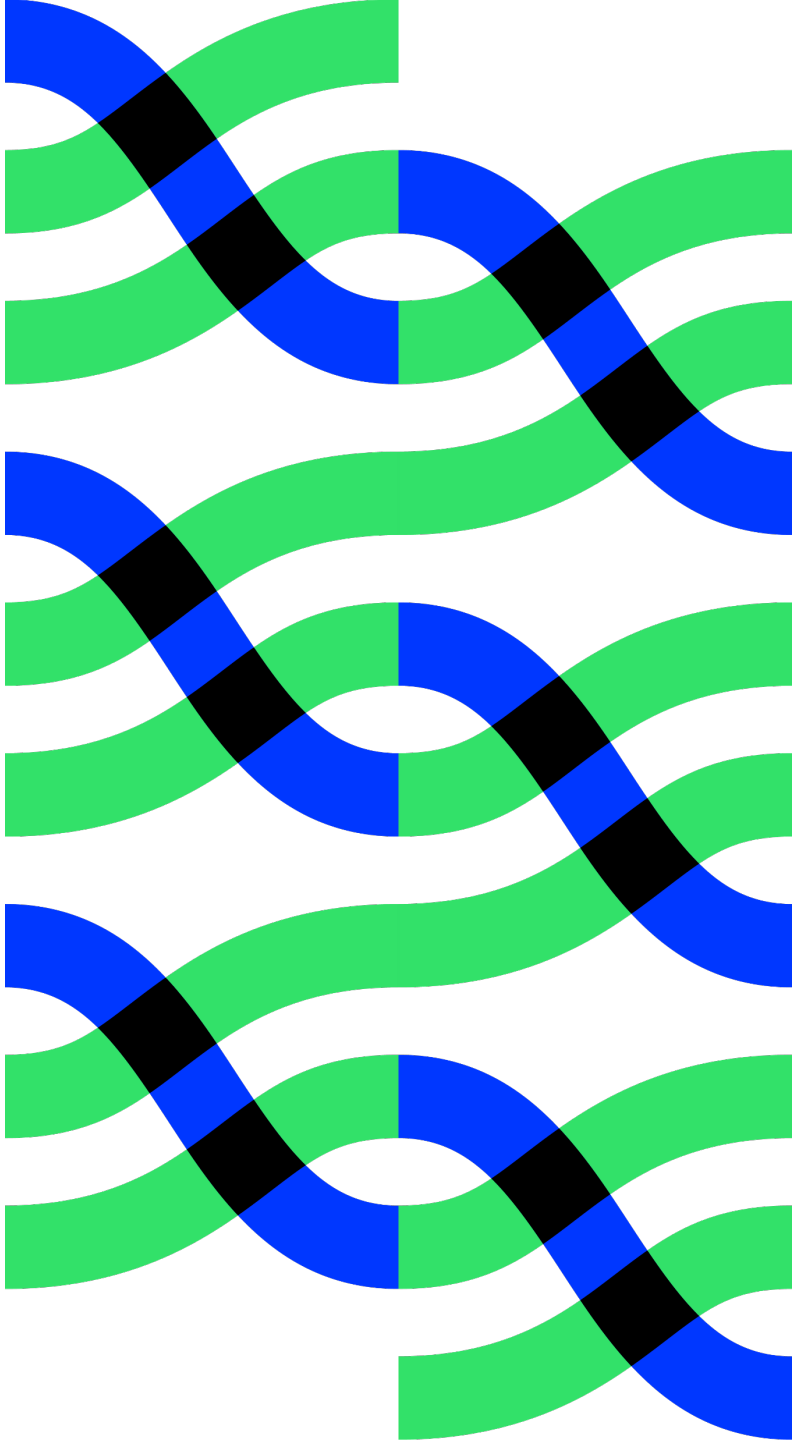
S-WiNG The maritime single window system



Innovation and technologies

- ✓ IOT: increases the number of possible measurements
- ✓ API: simplifies interconnections between systems
- ✓ NoSql databases : Stores and generates data for KPIs
- ✓ Blockchain: secures transactions

S-W iNG : Designed for Smart Ports



2017:
cooperation agreement signature

2018 :
S-WiNG Dangerous goods
management system module (TIMAD)
deployed for the port community of La
Réunion

2020 :
setup of 2 main S-WiNG modules
(Ship calls, port dues)

2022 :
TIMAD upgrade and Waste collection
management module



HAROPA and PORT REUNION cooperation



Full compliance with international and European regulations (IMO FAL, EMSW, etc.)

Increased security with even better knowledge of DG flows

Improved anticipation of ship visits

More in-depth knowledge of port dues

Better control of waste deposits

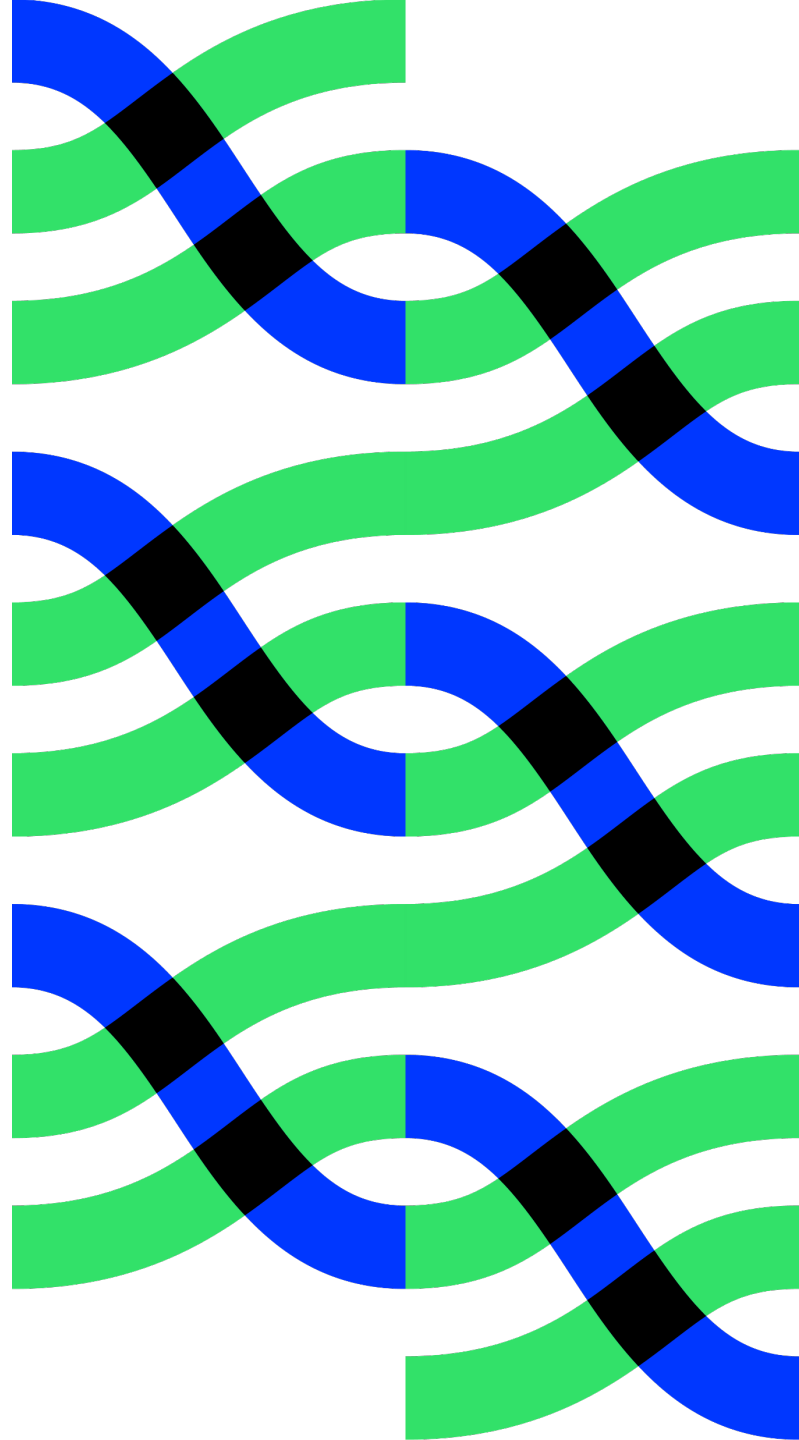
Improvement of digital exchanges for the benefit of the port community

IOT Implementation to come (Gantry cranes location and status...)

Benefits for Port of La Réunion

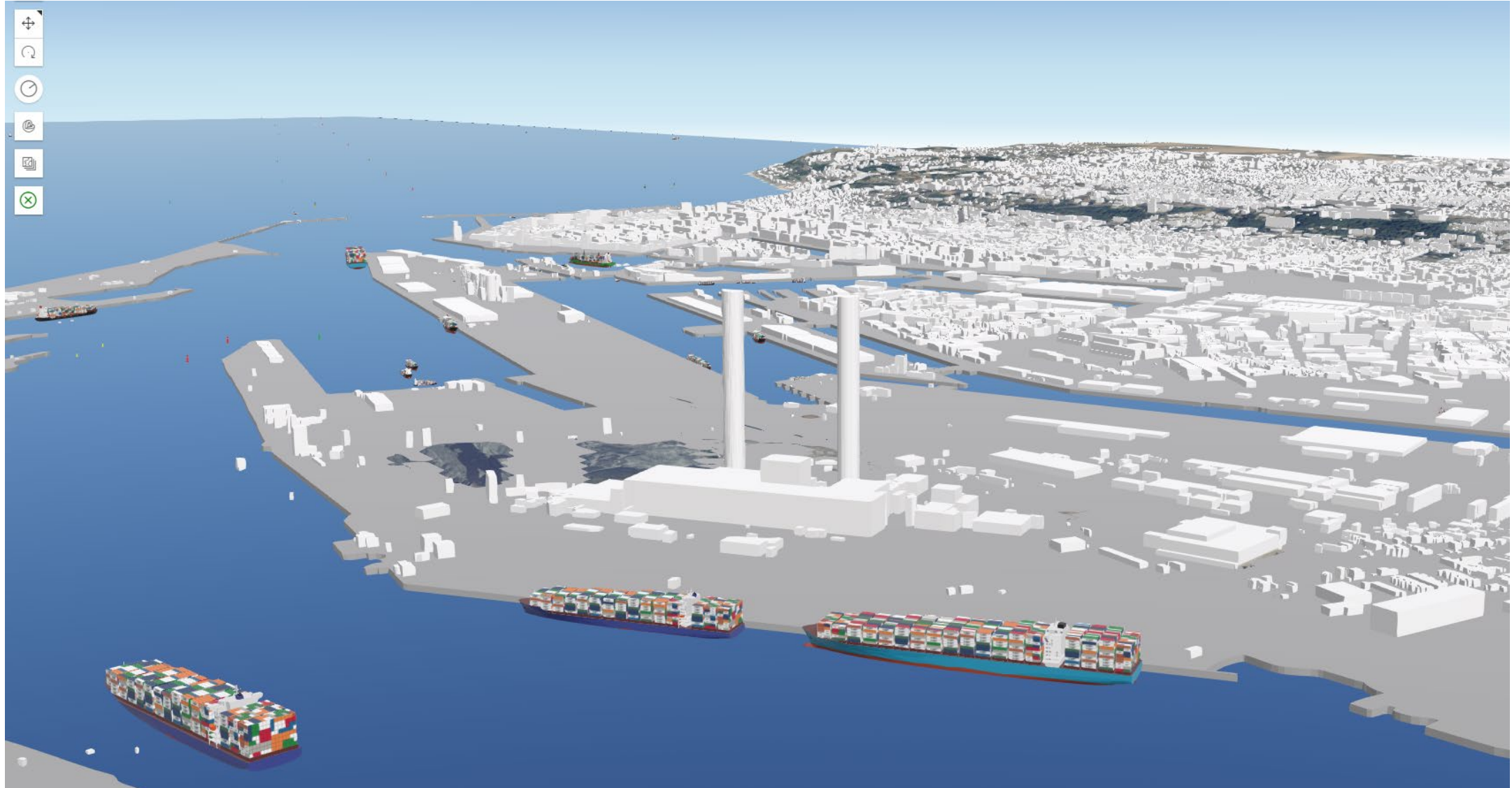


Thank you for your attention



Annexes

Real time Digital Twin



Real time Digital Twin

