

# Port Resilience in a changing world.

Maritime Leadership in a Changing World

March 7<sup>th</sup>, 2023

Antwerp Port House



Port of  
Antwerp  
Bruges



# Vision



We aim to be a world port that reconciles people, climate and economy. Together with our partners and customers, we actively seek sustainable solutions. We **dare to be pioneers** and bring about a transition in the field of mobility, energy and **digitisation**.

We enable society, our partners, customers and employees to grow through our **focus on cooperation**, locally and internationally. We trust each other and work in networks where we develop and apply new insights and alternatives..

As such, we connect all the locations of Port of Antwerp-Bruges into a **unique hub in global trade and industry**, with the unmistakable feeling of a home port. Solid yet agile, we work every day to create the port of tomorrow.



2nd largest  
port in **Europe**



Largest **car handling**  
port in Europe  
3,160,000 cars/year



21,400  
**Seagoing ships**/year



Largest **chemical**  
hub in Europe



Number one **export**  
port in Europe  
147 mio tons/year



**Total throughput**  
289 mio ton/year



Important **cruise**  
port in Benelux  
80,000 passengers (covid-19)  
300,000 passengers



15% of EU **gas** market



## Belgium's most important economic driver



14,322

**Hectares**



1,400

**Companies**



€ 20,8 billion

**Added value**



4,5%

**GDP**



164,000 **jobs**

Direct and indirect



**Energy transition**

frontrunner

# Daily operations

Port Authority as a driver  
for Port of Antwerp-Bruges

*Frontrunner in four roles*



Regulator



Operator

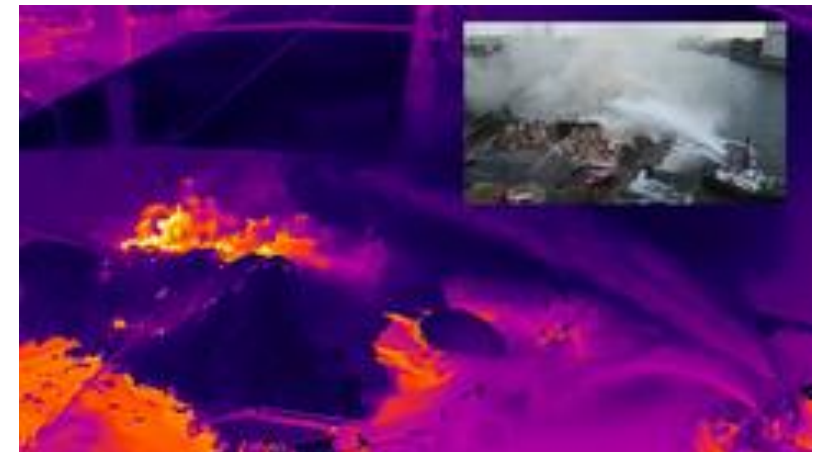
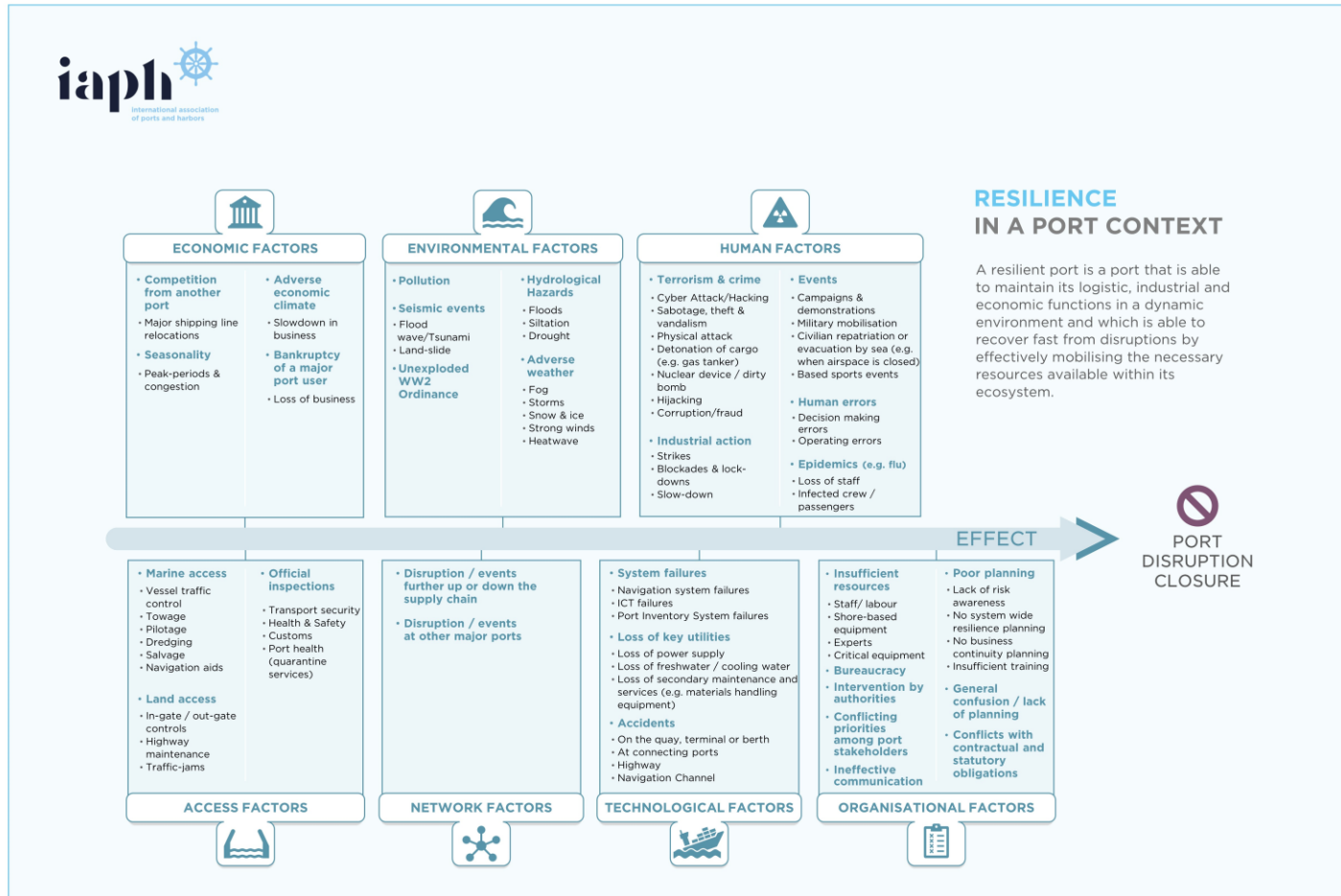


Landlord



Community builder

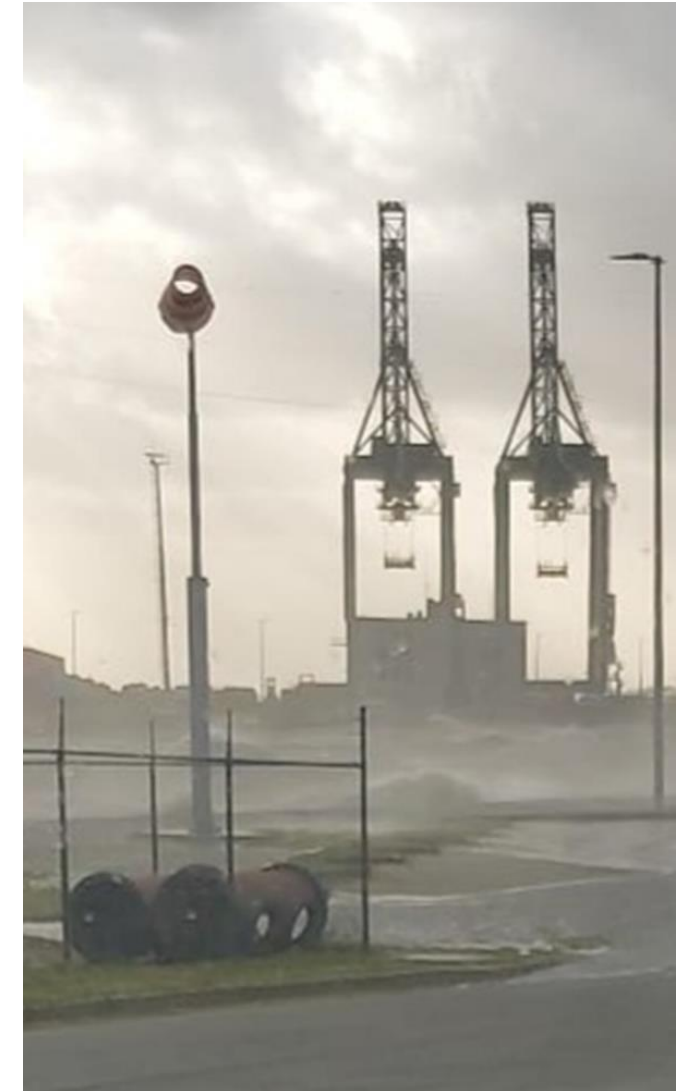
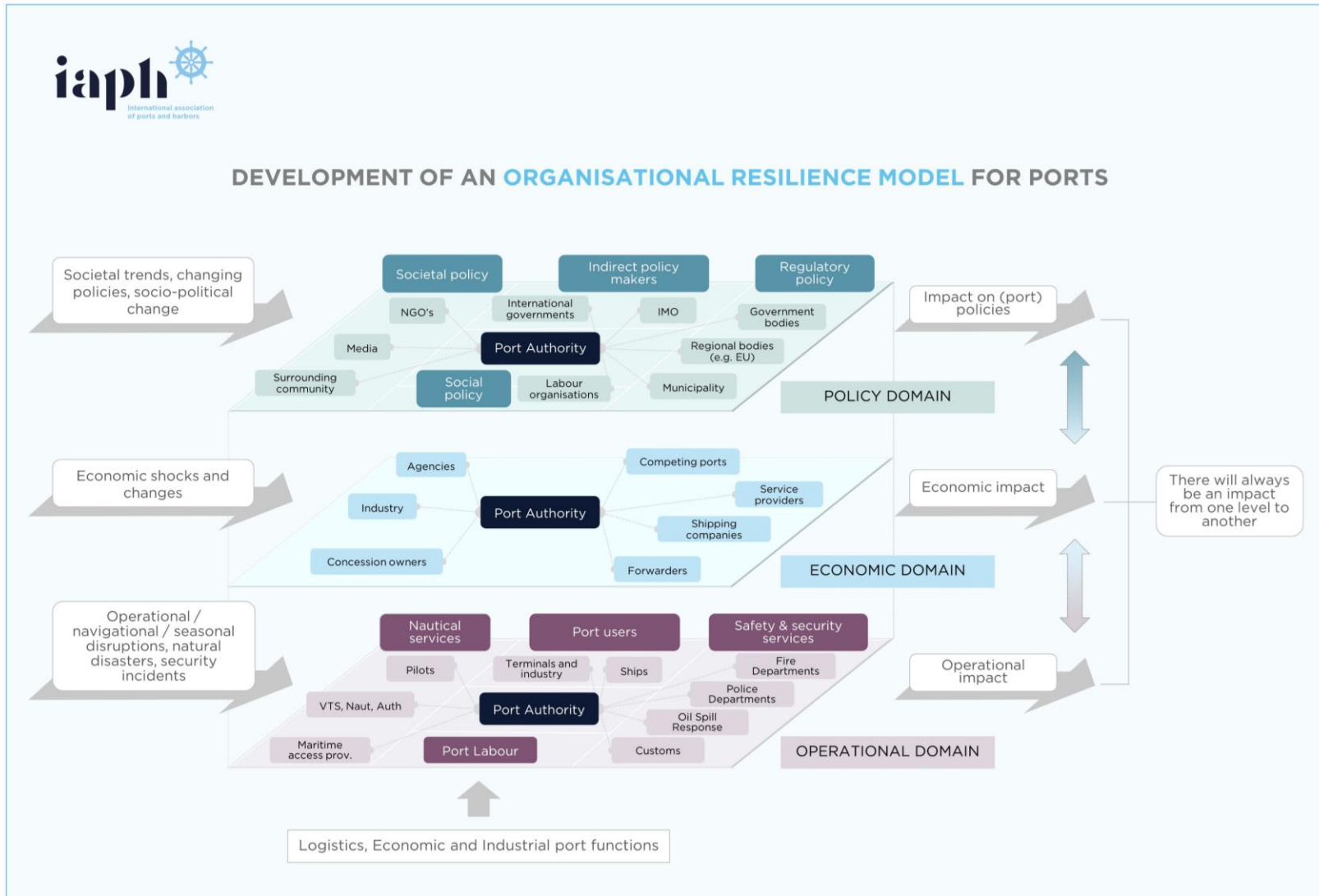
# Threats to Port Operation



## RESILIENCE IN A PORT CONTEXT

A resilient port is a port that is able to maintain its logistic, industrial and economic functions in a dynamic environment and which is able to recover fast from disruptions by effectively mobilising the necessary resources available within its ecosystem.

# Our network – our social resources



# Increasing resilience potential

(E. Hollnagel, 2012)

The capacity to:

Monitor

- Understanding what is going on around us
- The situational awareness
- Short term

Anticipate

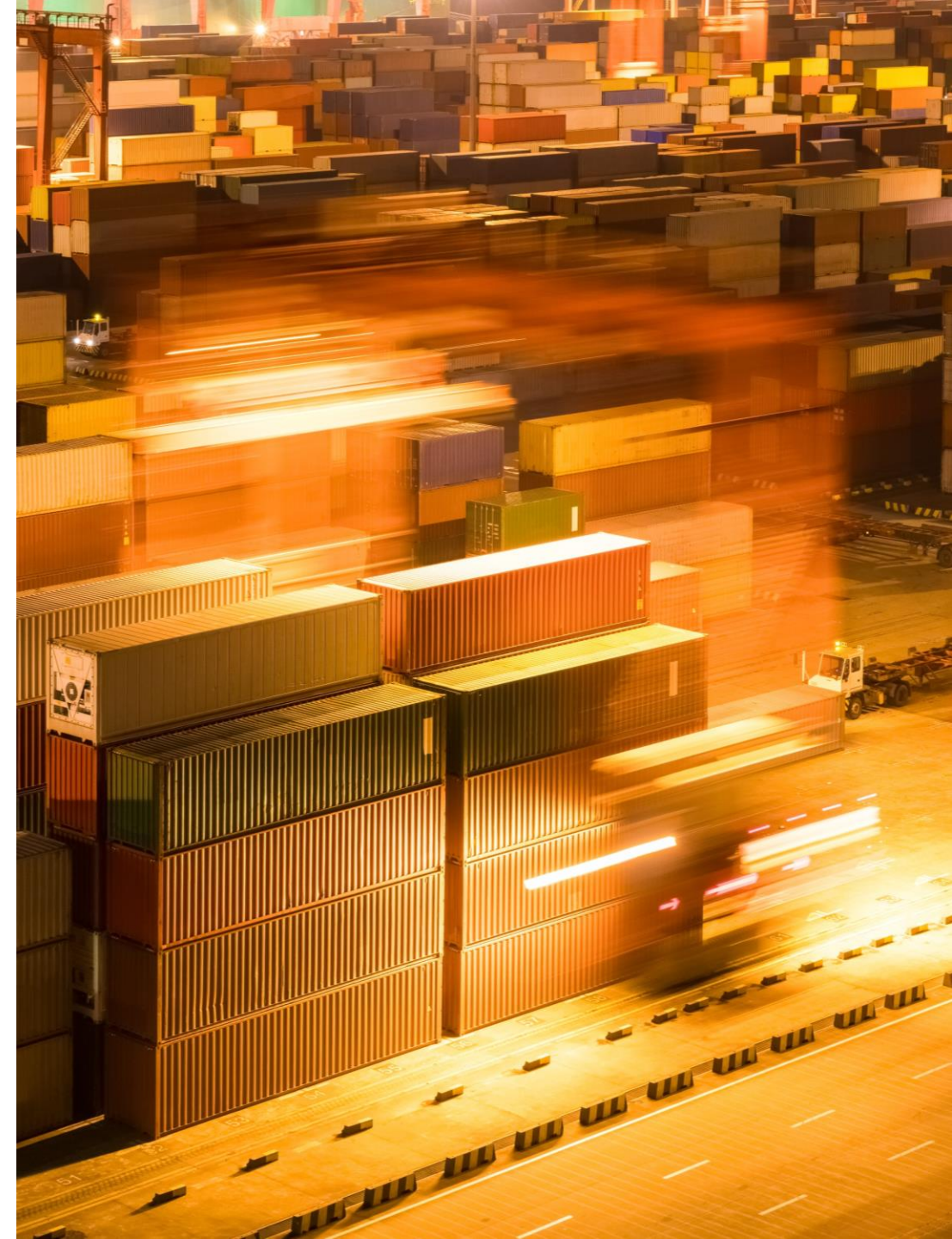
- Understanding what is going to come
- Imagining the possibilities
- Long term

Learn

- Learning from inside and outside
- First order learning
- Second order learning

Respond

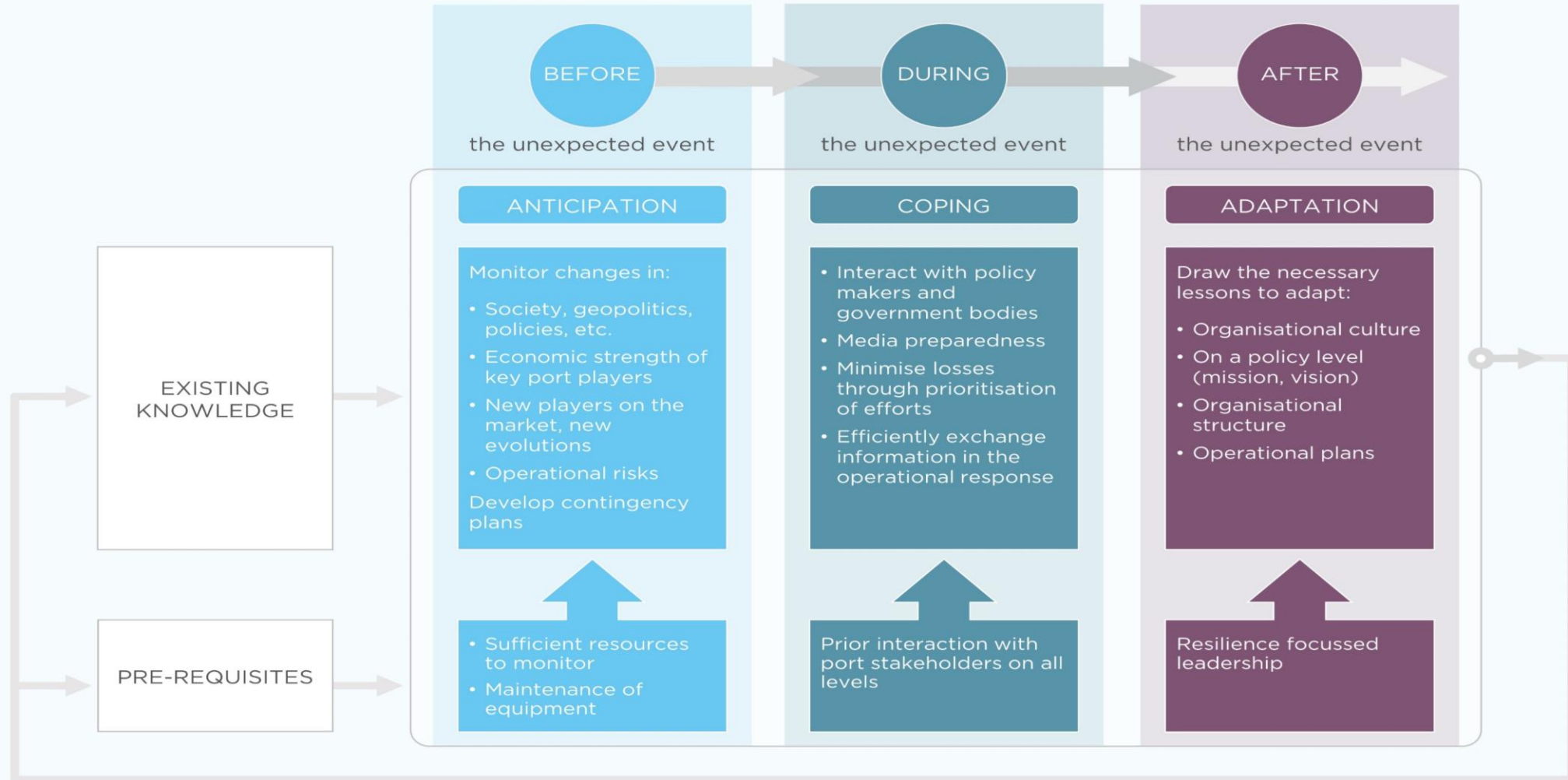
- Relevant and Effective
- Timely but only when necessary
- Competencies and resources



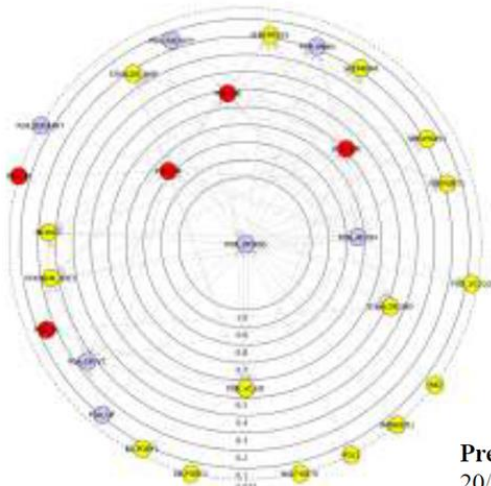


# Model for an organizationally resilient port

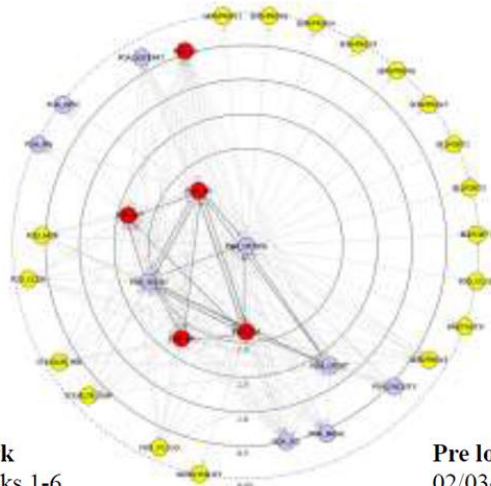
ORGANISATIONAL RESILIENCE MODEL FOR PORT AUTHORITIES



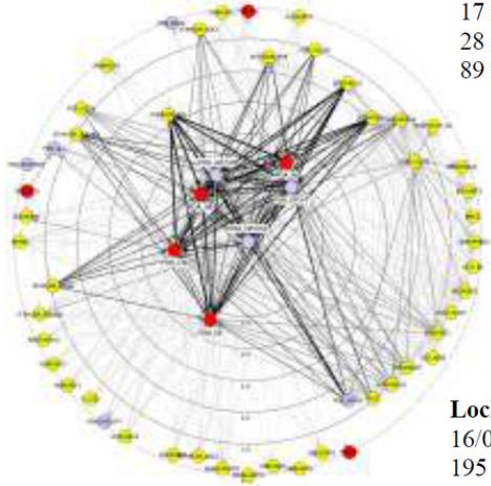
# Resilience in practice – Covid-19



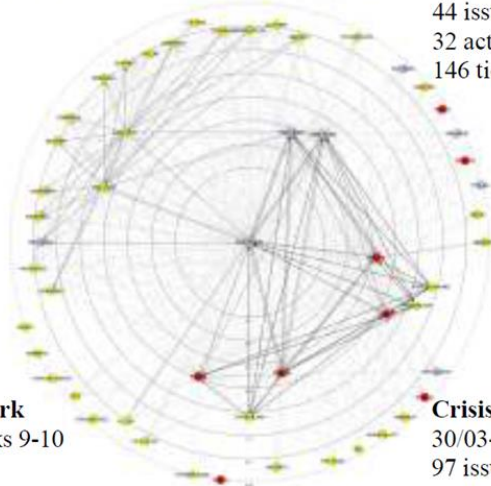
**Pre crisis network**  
20/01-01/03 | weeks 1-6  
17 issues  
28 actors  
89 ties



**Pre lock down network**  
02/03-15/03 | weeks 7-8  
44 issues  
32 actors  
146 ties



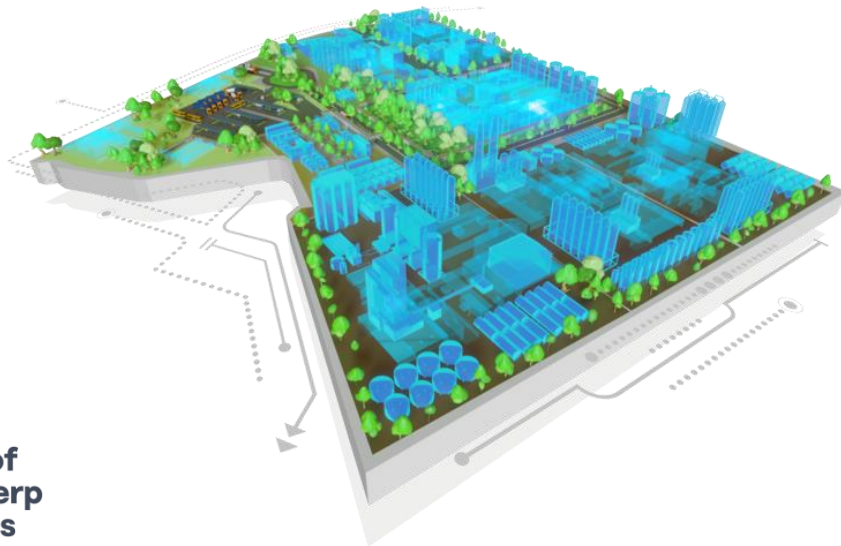
**Lock down network**  
16/03-29/03 | weeks 9-10  
195 issues  
57 actors  
482 ties



**Crisis network**  
30/03-12/04 | weeks 11-12  
97 issues  
53 actors  
416 ties



# Resilience in practice: Churchill Zone



# Business plan looking to the future



On our way to a **global** port  
reconciling people, climate and economy, together

# Frontrunner energy transition

## Projects in energy, industry and shipping



### Sustainable Energy



**Expand Onshore wind** production capacity Hyoffwind



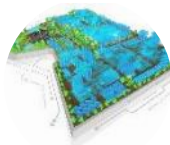
**Backbones for sustainable flows** (H<sub>2</sub>, CO<sub>2</sub>, waste heat & steam)



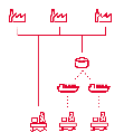
**Hydrogen Import Coalition / Pilots**



### Sustainable Industry



**NextGen District** – hotspot for circular Economy



**Antwerp@C – CCS**



**Power-to-Methanol** green methanol production (CCU)



### Sustainable Shipping



**Multi Fuel Port** – alternative fuels on offer



**Onshore power supply** for vessels



**Tugboats on H<sub>2</sub> & methanol**

# Frontrunner energy transition

More sustainable fleet and vessels Port Authority

Hybrid  
Patrol vessels



Methatug

Hydrotug



RSD energy-efficient  
tugs

# Frontrunner digital transition

5G

RX/seaport

NxtPort

Customs

Digital twin



**In tune with the world**