

# Ports as a Gateway to Resilience

Advancing Maritime Adaptation and Resilience Breakthroughs



ARUP



# Aligning Our Impact

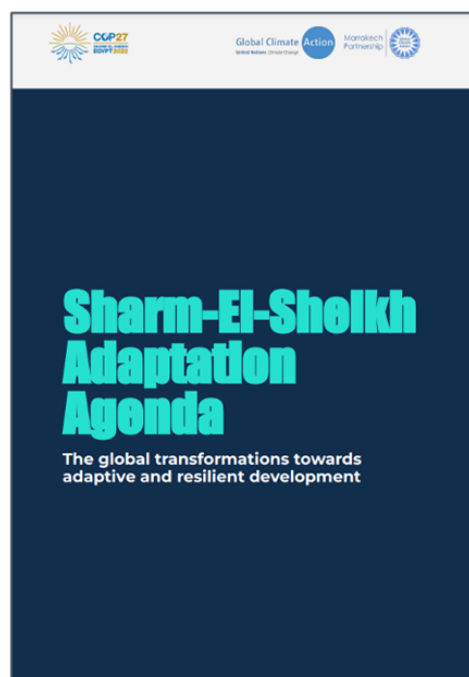
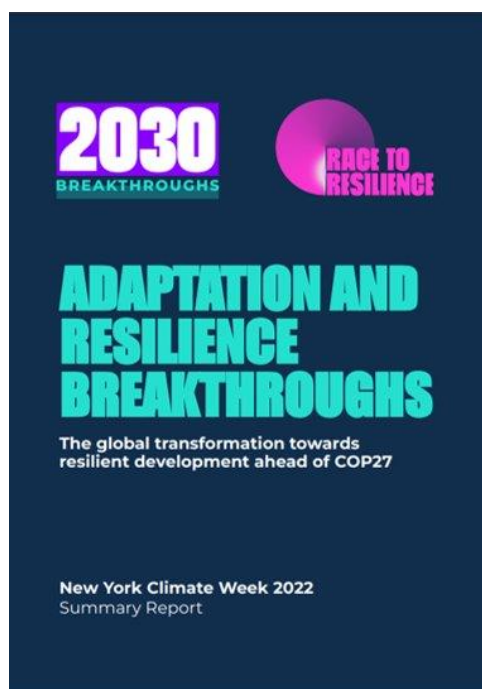
The Maritime 2030 Breakthroughs



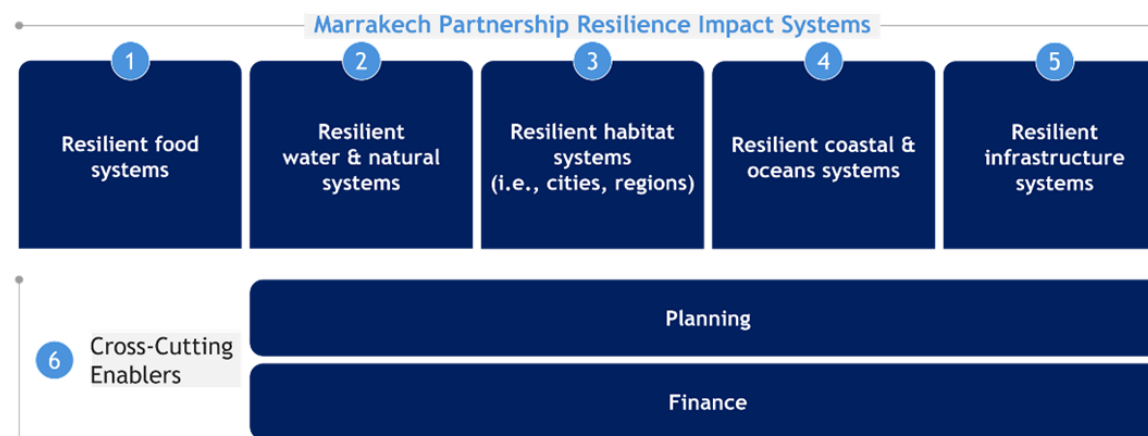
## The Sharm El-Sheikh Adaptation Agenda

Building global momentum to mainstream resilience

**Ports** present a gateway to connect and realize transformation across key impact systems



Sharm-el-Sheikh Adaptation Agenda



## Driving transformation through actionable targets

Maritime Resilience 2030 Targets for ports through the following activities.



<b>Resilient Infrastructure</b>	<b>2030 Target:</b> 30% of global maritime trade moves through climate adapting ports (*), connecting people and supply chains, with a focus on benefitting the world's most vulnerable regions.
<b>Resilient Coastal and Oceans Systems</b>	<b>2030 Target:</b> Across all regions, ports and their communities protect and enhance local coastal and ocean systems through nature-based solutions, to build port resilience and support thriving natural habitats.
<b>Resilient Human Settlements</b>	<b>2030 Target:</b> Across all regions, ports and their communities implement equity-focused social programs including around green jobs and community infrastructure that enable thriving ports and port communities.

(\*) Climate adapting ports are those taking high-impact, specific and systematic actions to factor climate risks in decision-making. They are embedding climate adaptation and resilience considerations into master planning, port governance, asset strategy and planning, and asset management through the asset lifecycle.



# Port Resilience in Action

Introducing a Holistic Framework



Port resilience in action: introducing a holistic framework



ARUP

Mark Button

Maritime Decarbonisation and  
Resilience Leader

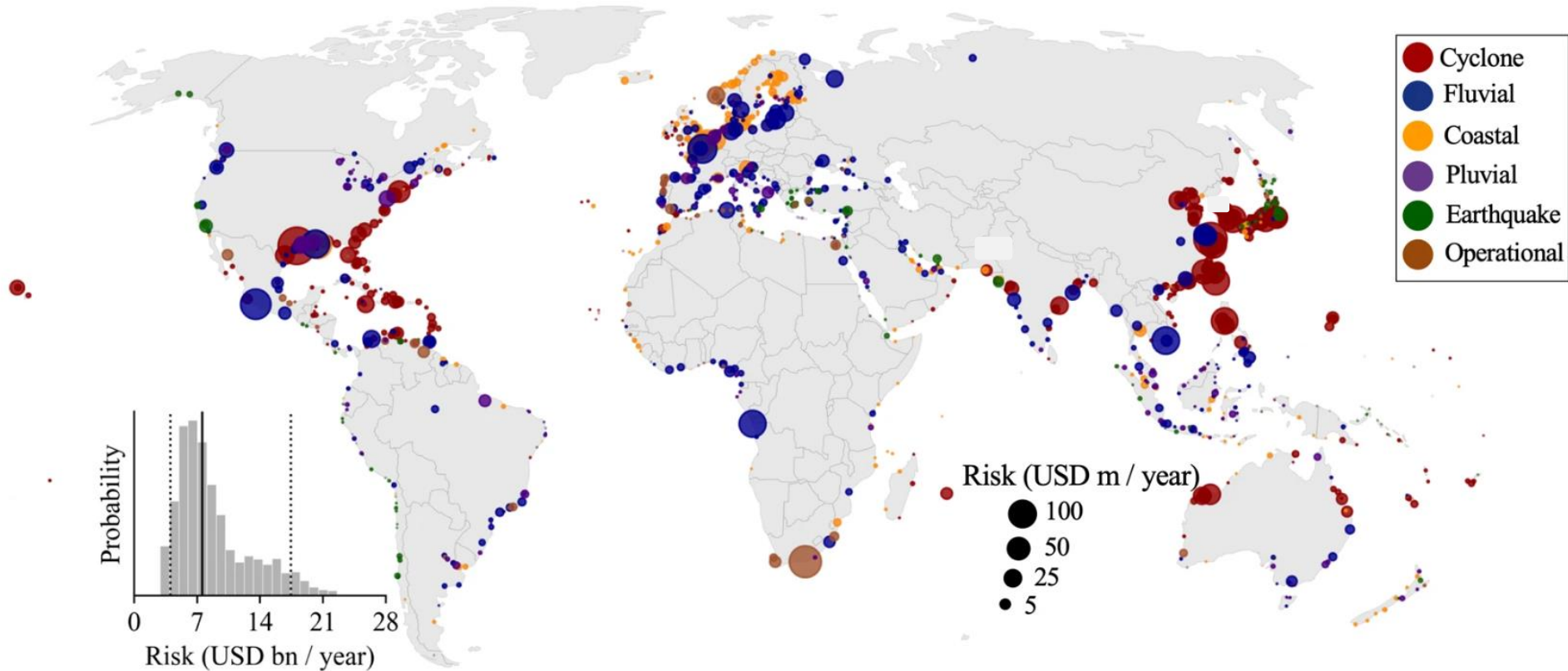


To make the city a better place  
to live, work and invest in



# The impacts of an increasingly uncertain world

## Global Footprint of Port-Specific Natural Hazard Risk



(i) Verschuur, J. "Multi-Hazard Risk to Global Port Infrastructure and Resulting Trade and Logistics Losses", University of Oxford, March 2022

## The impacts of an increasingly uncertain world



Extreme weather events are increasingly impacting ports and their connecting infrastructure systems

Impacts of flooding at the Port of Durban. Image Credit: Port Technology



## The impacts of an increasingly uncertain world



Geo-political factors are creating barriers to trade and transport.

Vehicles queuing at the Port of Dover. Image Credit: PA Media

## The impacts of an increasingly uncertain world



Port disruption, linked to the impact of Covid-19, has led to long wait times for vessels, with persistent knock-on effects for supply chains.

Vessels waiting in San Pedro Bay. Image Credit: Mario Tama.

## Port resilience in action: introducing a holistic framework

### What are resilient ports?

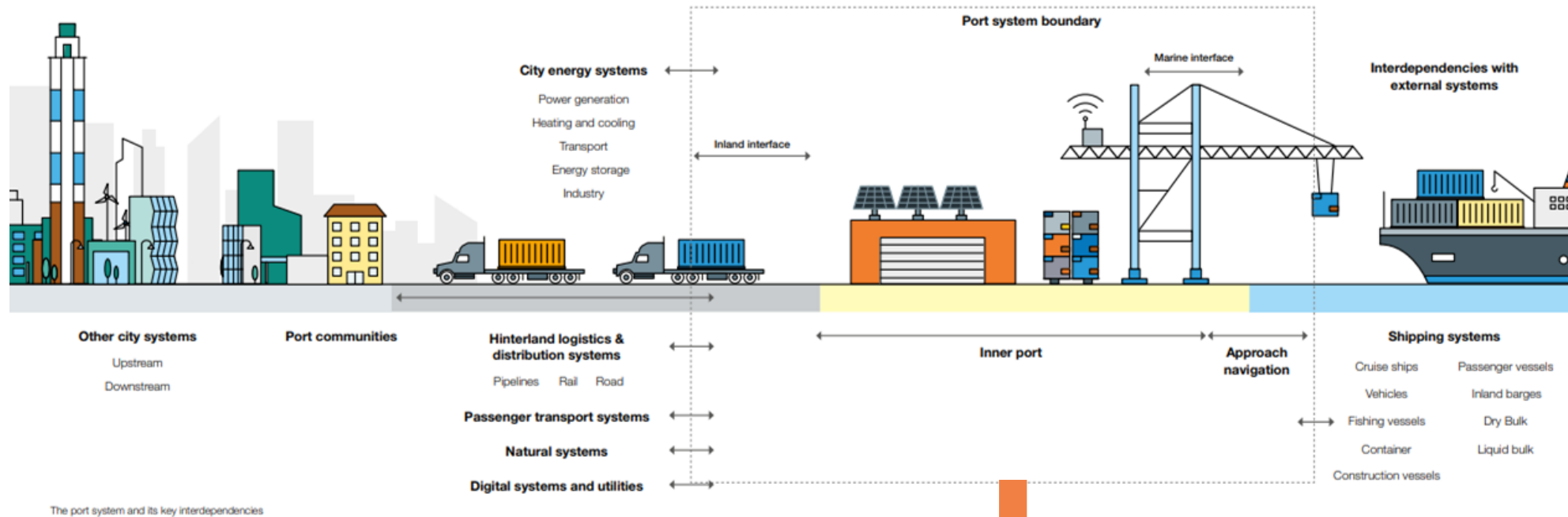
Resilient ports can withstand and adapt to changing conditions and recover positively from shocks and stresses.

Resilient ports are able to continue providing essential services despite whatever shocks and stresses they may face now and into the future.



Photo by [Ronan Furuta](#) on [Unsplash](#)

# Port resilience in action: introducing a holistic framework

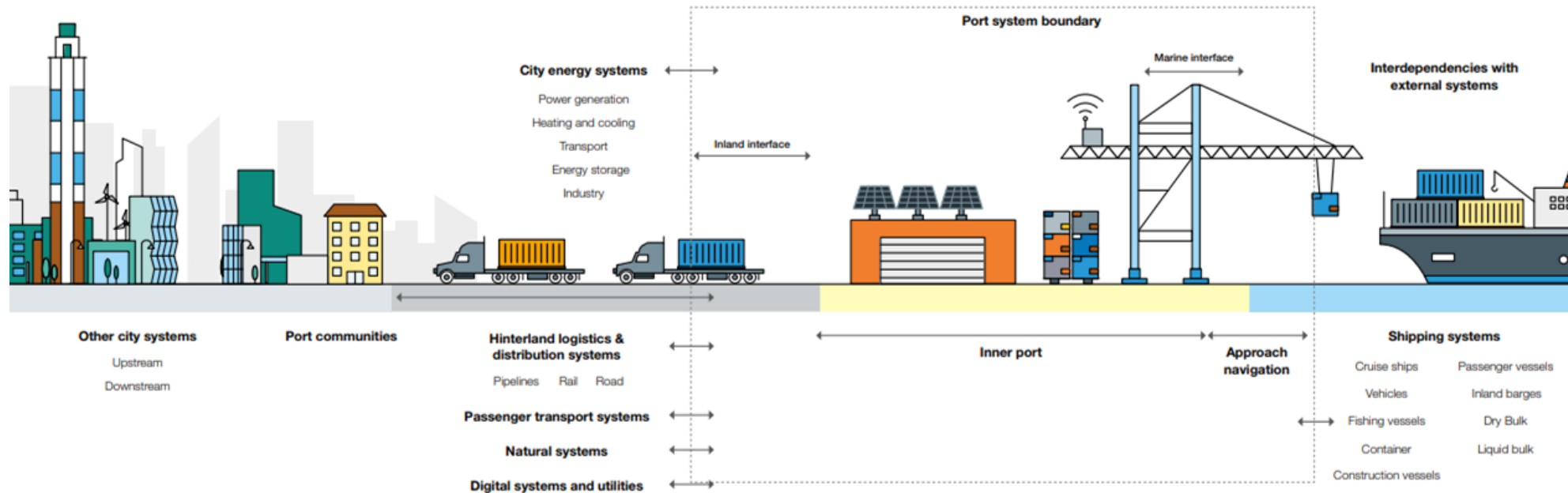


## Port elements

Think broadly, consider exposure, vulnerability and criticality.



# Port resilience in action: introducing a holistic framework



The port system and its key interdependencies

← Port interdependencies →

We must enhance the connections between ports and the systems the connect.

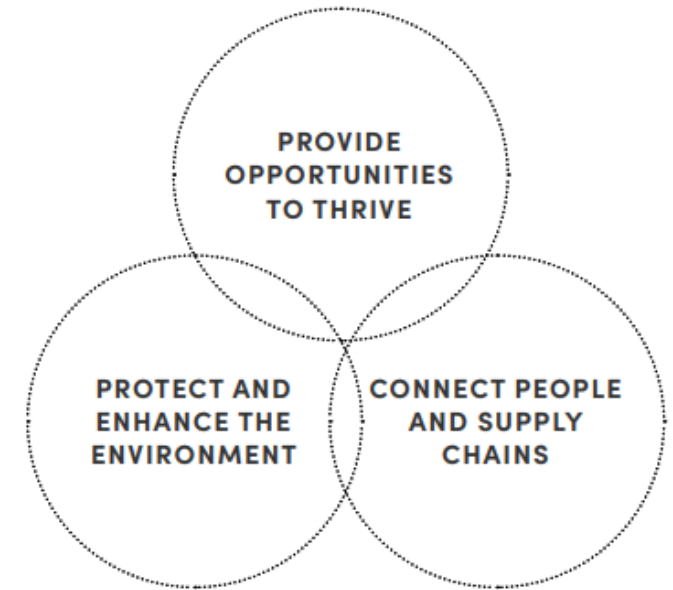
## Port resilience in action: introducing a holistic framework



Photo by [Bernd Dittrich](#) on [Unsplash](#)

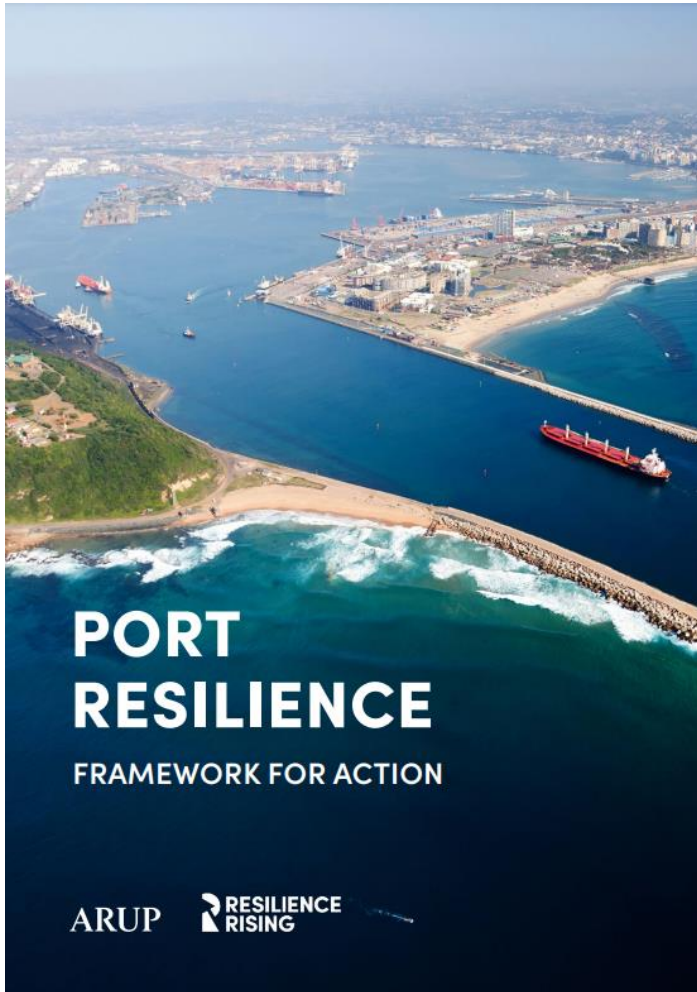
### Port diversity

"When you've seen one port - you've seen one port!"



## The Opportunity

The framework for action



### DIRECT OUTCOME

New and existing ports can deliver essential services regardless of the shocks and stresses they face now and into the future.



### IMPACT

This will result in ports supporting the global economy and local communities through turbulent times, through the essential services ports provide.

RESILIENT PORTS

PROVIDE OPPORTUNITIES TO THRIVE

PROTECT AND ENHANCE THE ENVIRONMENT

CONNECT PEOPLE AND SUPPLY CHAINS



# The Opportunity

The framework for action



Actor

**GOVERNMENTS**



**PORT OWNER AND OPERATORS**



**INVESTORS**



**DESIGNERS AND ADVISORS**



**CONTRACTORS**



**CIVIC SOCIETY**



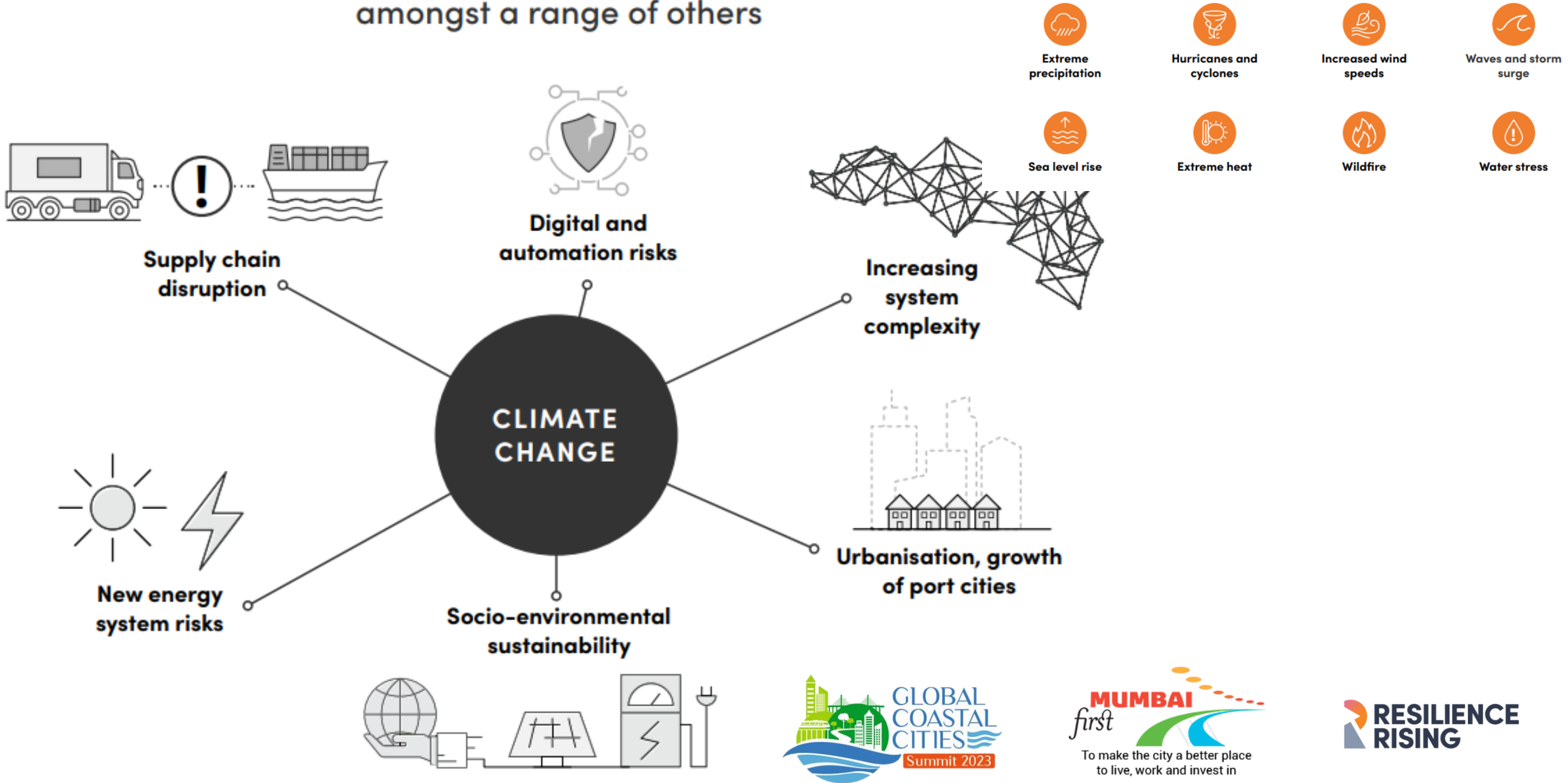
**PORT USERS**





# Climate change is a central disruptor for ports, amongst a range of others

Climate change exposes ports to increasingly frequent and severe shocks and unpredictable stresses



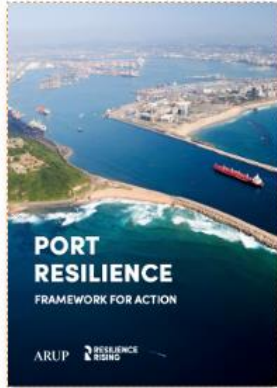
# Innovating, Testing, and Scaling

The Resilience4Ports Labs



## Building the case for transformation

Resilience Rising's thought leadership on ports resilience



### Port Resilience Framework for Action

November 2022



### Port energy supply for green shipping corridors

March 2022



### Resilience4Ports - Gateways to a resilient future

Jan 2021



### Resilience Shift Primer - Ports: An industry guide to enhancing resilience

May 2019



### Resilience Shift Round-Table - Ports and Logistics

February 2019



### Resilience of Global Food Supply Chains

June 2019

## Resilience4Ports Innovation Lab

In alignment with the Sharm-El-Sheikh Adaptation Agenda and the Maritime Resilience Breakthroughs, we aim to mobilize a diverse set of actors to collectively **enhance the resilience of ports**, surrounding **communities**, **coastal environments** and **connected supply chains** to the shocks and stresses of an uncertain future through a high-impact and collaborative effort that focuses on delivering holistic solutions.



Initial lab partners

ARUP



## Resilience4Ports Innovation Lab Program approach and workplan

