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11th Session

Maritime Transport in Times of Polycrisis

23-24 October 2024, Geneva

Resilient Maritime Logistics
UNCTAD's Guidance and Related Tools

Presentation By

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UNCTAD

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Resilient Maritime Logistics

UNCTAD's Guidance and Related Tools

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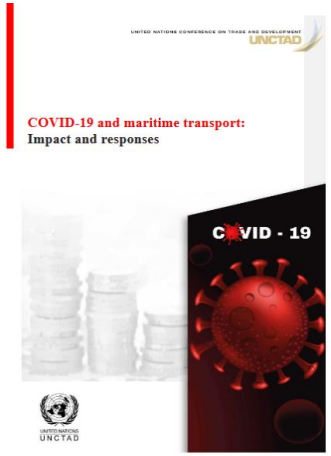
Resilient Maritime Logistics: Guidebook+

BUILDING CAPACITY TO MANAGE RISKS AND ENHANCE RESILIENCE
Guidance for Ports

https://resilientmaritimelogistics.unctad.org/

The process towards: ResilienceMaritimeLogistics.org

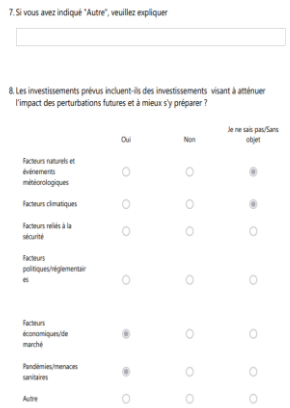


COVID-19 and Maritime Transport: Impacts and Response, 2020

https://unctad.org/system/files/official-document/dtltlbinf2020d1_en.pdf

COVID-19 and Maritime Transport: Navigating the crisis and lessons learned, 2021

https://unctad.org/publication/covid-19-and-maritime-transport-navigating-crisis-and-lessons-learned

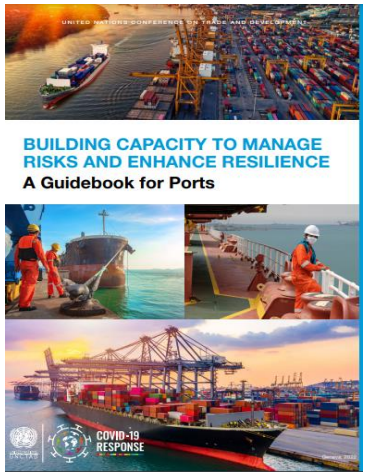


Survey COVID-19 and Maritime Transport: : Resilience and Preparedness, 2021

COVID-19 and Maritime Transport: Regional webinars 2020-2021

Africa, Asia & LAC

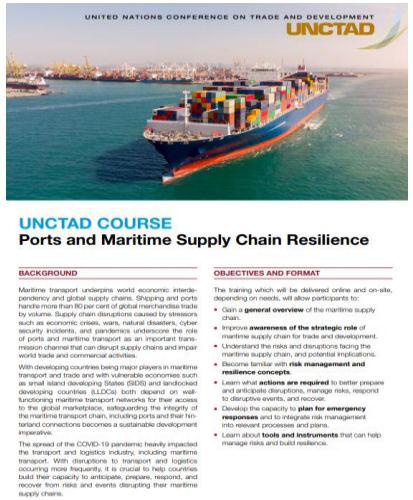
https://unctad.org/meeting/webinar-covid-19-and-maritime-transport-disruption-and-resilience-africa



Guidebook for ports, 2022

Building capacity to manage risks and enhance resilience

https://resilientmaritimelogistics.unctad.org/sites/resilientmaritimelogistics/files/2022-08/UNCTAD_TCS_DTL_INF_2022_3%20WEB_23%20August.pdf



Training: Ports and Maritime Supply Chain Resilience

https://resilientmaritimelogistics.unctad.org/training/unctad-course-ports-and-maritime-supply-chain-resilience

BUILDING CAPACITY TO MANAGE RISKS AND ENHANCE RESILIENCE

A Guidebook for Ports

PART I

- Key concepts and approaches to ***risk identification, assessment, and management***, ***response and recovery measures***.
- ***A stepwise methodology***
- ***A Toolbox for Port Risk Management and Resilience-Building***

PART II

- Expands on Part I and further details the various ***hazards and risks that can disrupt activity***.

PART III

- ***Case studies*** relaying disruption experiences from different regions
- Compilation of ***good practices*** and lessons learned.

PART IV

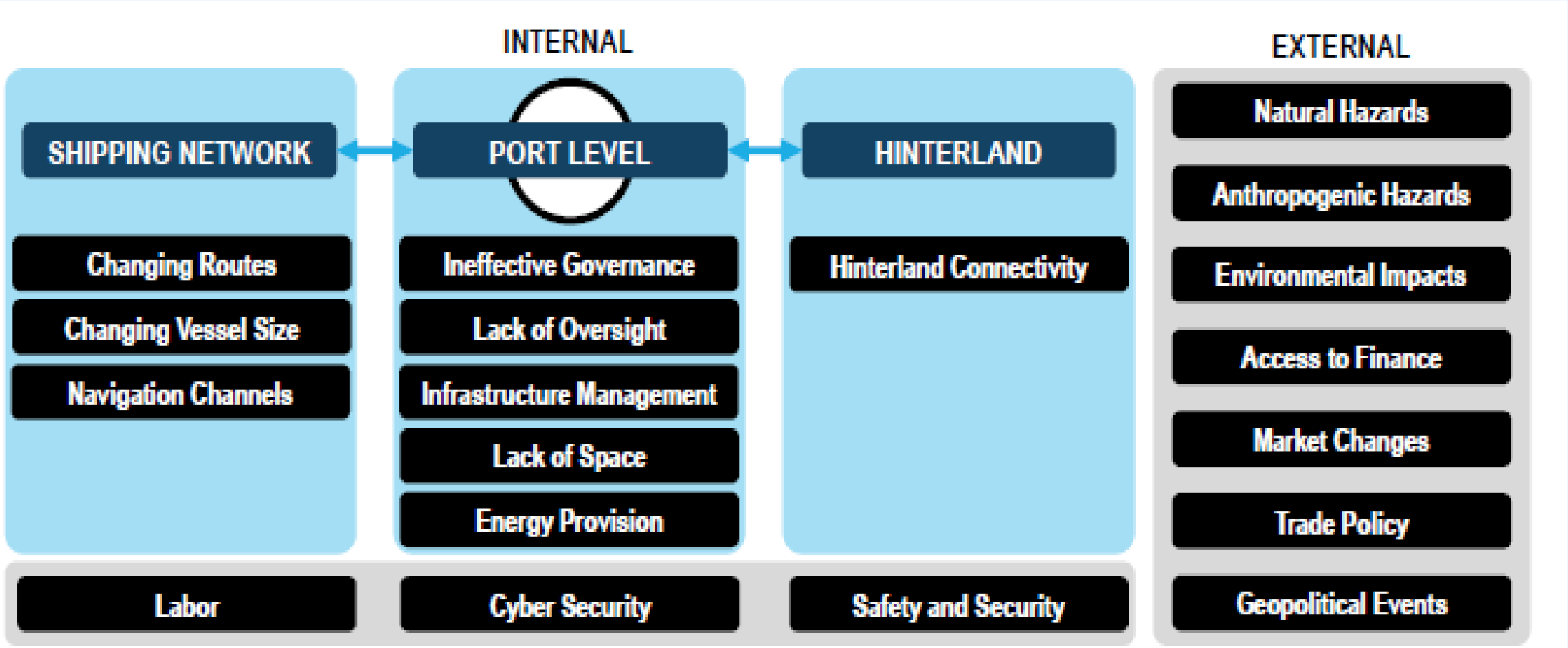
- Definitions and concepts
- List of relevant resources
- More information on the Port Risk Management and Resilience-Building Toolbox

Some key takeaways

- Hard to predict the next disruption; But a future disruption remains a certainty.
- Disruptions hinder transport & logistics ability to deliver trade & link supply chains.
- There are challenges to resilience-building (uncertainty, costs, trade-offs/priorities).
- Resilience better promoted when seen as a competitiveness factor (vs a cost).
- Resilience building needs to become a “default” feature.
- A new paradigm: preventive & proactive strategies (vs reactive)
- UNCTAD Guidebook provides some guidance in this respect.

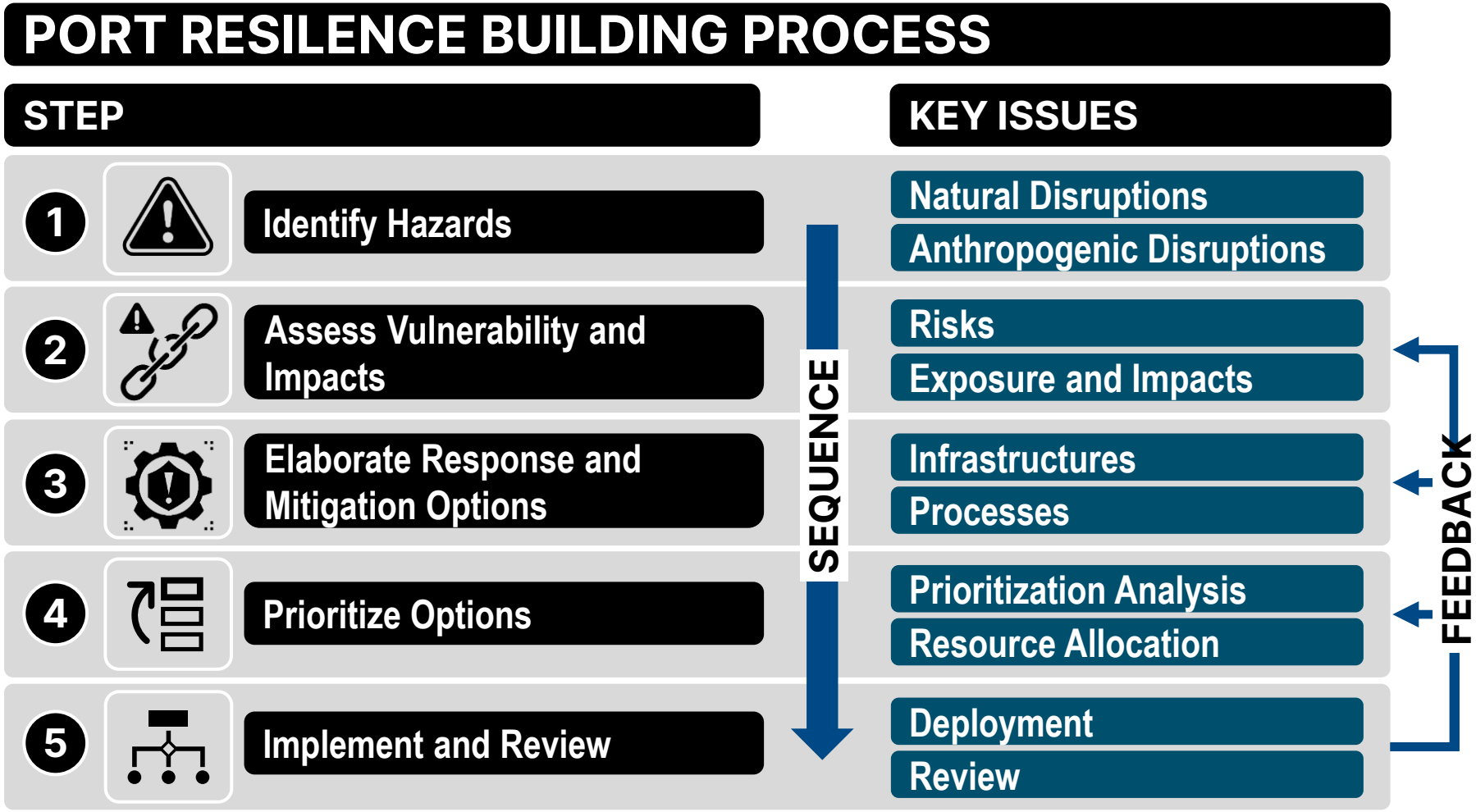
A resilient port can cope with shocks, absorb disruptions, quickly recover and restore operations to a level similar to – or even above – a baseline, as well as adapt to changing conditions, as it continues to develop and transform.

Figure 10: Port risk factors and challenges to resilience



Source: Adapted from Kim, Y., and L. Ross (2019).

A Stepwise Approach to Resilience



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Step 1: Identification of Hazards Impacting

1 **IDENTIFY HAZARDS**

Provide a list of likely hazards

Natural Disruptions

Extreme Weather Events
- Storms
- Hurricanes
- Heat Waves
- Floods

Geophysical Disruptions
- Earthquakes
- Geomagnetic Storms
- Tsunamis
- Landslides

Climate Change
- Sea Level Rise
- Water Cycle Disruptions

Anthropogenic Disruptions

Accidents
- Infrastructure Failures
- Equipment Failures
- Port and Channel Blockage
- Industrial Accidents

Labor
- Strikes
- Labor Shortages
- Skills
- Safety
- Health

Economic and Financial
- Demand Shocks
- Inflation
- Shortages
- Capital Availability

Geopolitical
- Political Instability
- Terrorism
- Trade Restrictions
- Corruption
- Theft and Illicit Trade
- Piracy

Information Technologies
- IT Failures
- Cyberattacks

Sanitary
- Outbreaks
- Epidemics
- Pandemics

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Step 2: Assessment of Vulnerability and Potential Impacts

2 ASSESS VULNERABILITY & IMPACTS

For each hazard identified in Step 1

Risk Category

- **Operational** — Capability and reliability
- **Competitive** — Customers and markets
- **Financial** — Revenue generation and costs
- **Governance** — Control, planning and monitoring
- **Reputational** — Public and customer perception

Risk Positioning and Propagation

- **Shipping Network** — Reduced or unavailable capacity, reliability and call configuration of maritime shipping services.
- Propagation & back-propagation
- **Port Level** — Reduced or unavailable capacity, performance and reliability of port services.
- Propagation & back-propagation
- **Hinterland** — Reduced or unavailable capacity, performance and reliability of hinterland services (road, barge, rail).

Risk Prioritization

- **High Priority** — Critical consequences for port operations. Good and predictable chance to take place.
- **Average Priority** — Important consequences for port operations. Reasonable but difficult to predict chance to take place.
- **Low Priority** — Could have consequences for port operations. Small and unpredictable chance to take place.
- **“Black Swan”** — Deviates beyond what is normally expected. Very rare but of high impact.

- **Cumulative** — Single event impacting several risk categories.
- **Compounded** — Risk increasing the likelihood and severity of another event (s).

TOOLKITS

Tools and methods used to identify and prioritize risks.

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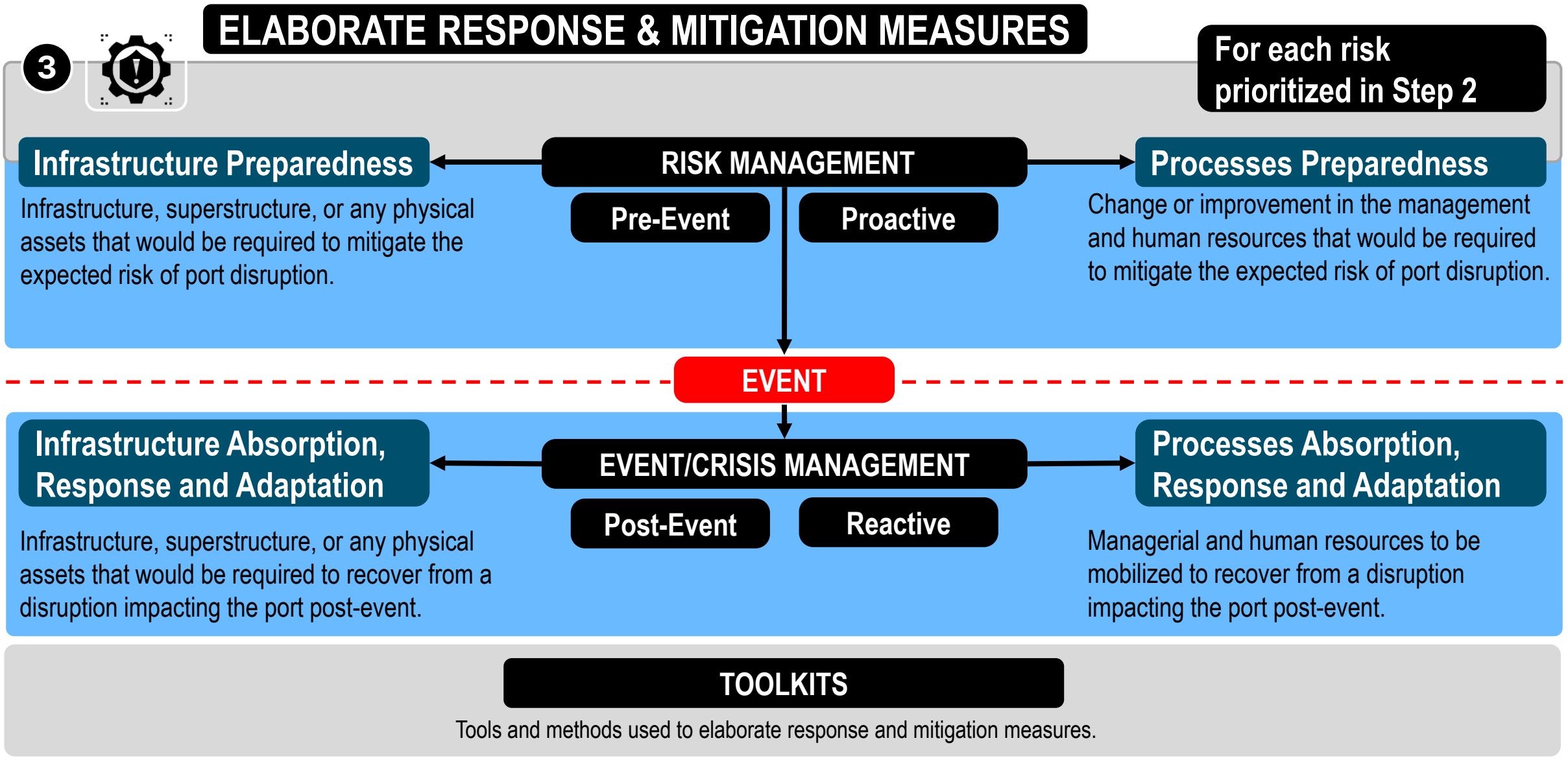
Step 3: Elaboration of Response and Mitigation Measures



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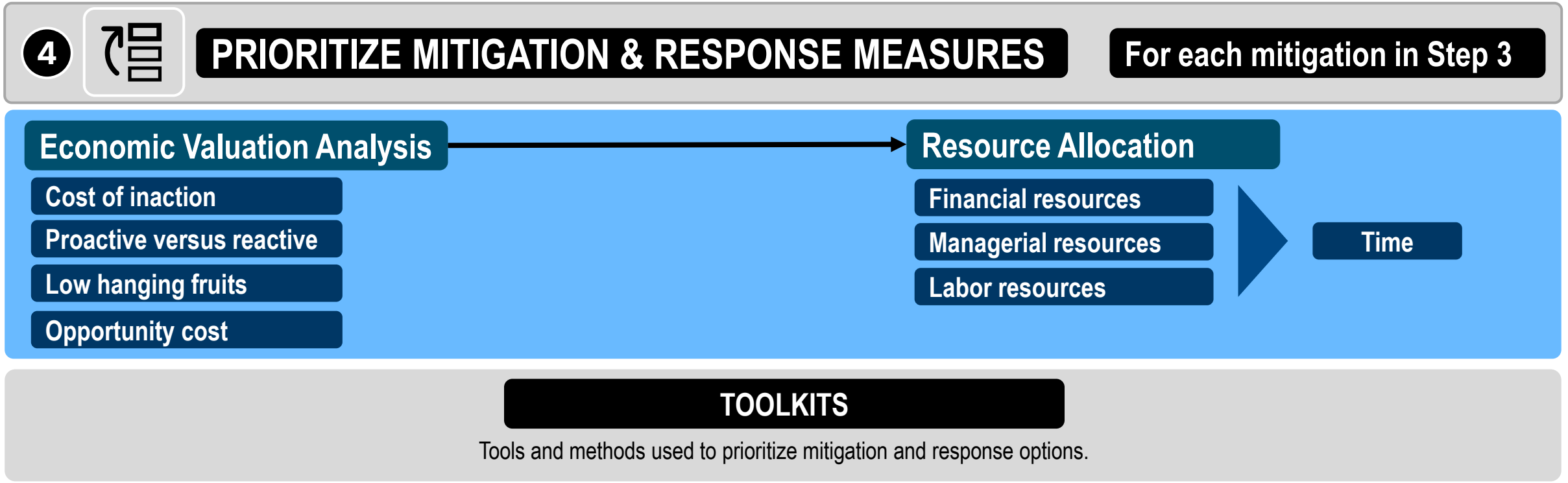
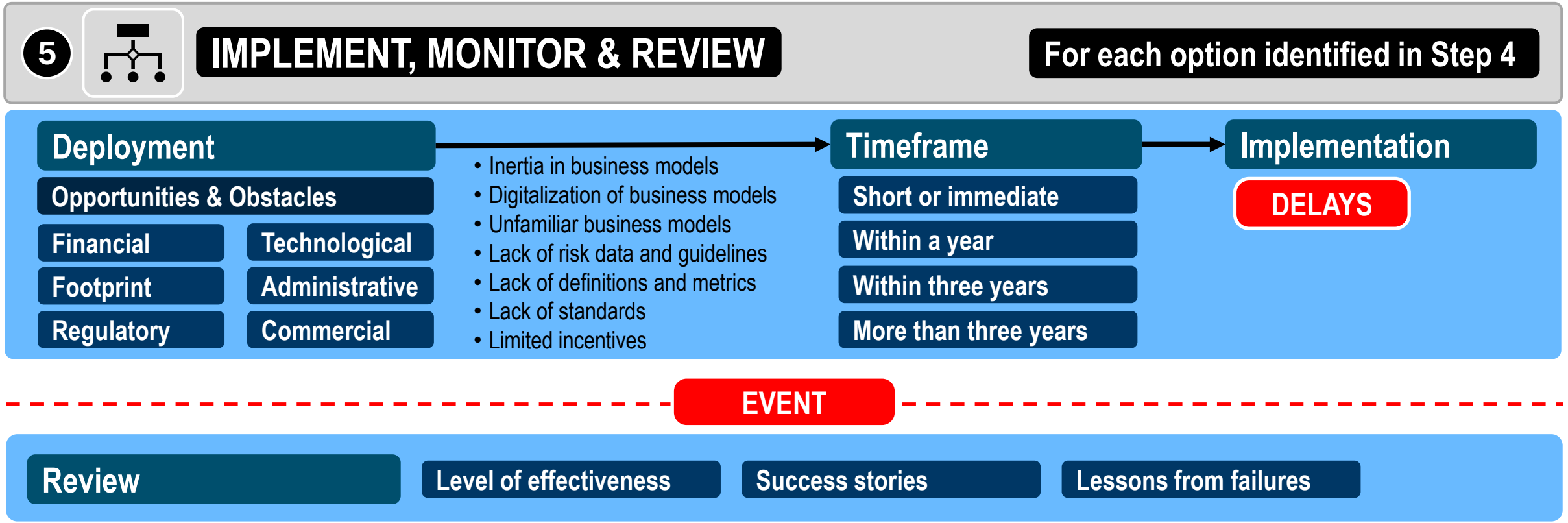
Step 4: Prioritization of Response and Mitigation Measures and Resource Allocation



Step 5: Implementation, Monitoring, and Review



Measuring resilience: variables for KPIs

Figure 24 : Resilience-related variable and metrics

ROBUSTNESS	REDUNDANCY	VISIBILITY
Deviation from normal throughput	Reserve capacity (equip. and workforce)	IT to track operations
Continuation of operations	Energy and utilities backup	IT to track equipment and workforce
Stability of operations	Reserve capacity for demand surges	Business data intelligence
Effect of multiple disruptions		

FLEXIBILITY	COLLABORATION	AGILITY
Adjust delivery schedules to disruptions	Interact with key stakeholders	Respond to uncommon customer requests
Adjust workforce to disruptions	Develop objectives with key stakeholders	Respond to changes
Port users can adjust capacity	Develop synergies with key stakeholders	Workforce able to perform diverse tasks

INFORMATION SHARING	RESPONSE	RECOVERY
Relevant information with stakeholders	Quick response to disruptions	Financial ability to recover
Timely information with stakeholders	Effective response to disruptions	Lessen the cost of disruption
Accurate information with stakeholders	Available contingency plan	Lessen the cost of recovery

Some Key Mitigation and Response Measures

RISK MANAGEMENT

- Horizon scanning
- Planning and coordination
- Training and exercises
- Continuous improvement

CRISIS MANAGEMENT

- Incident response
- Business continuity plan / management
- Recovery
- Crisis communication

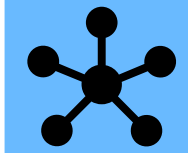
IMPROVING INFRASTRUCTURE

- Infrastructure hardening
- Additional footpoint and capacity
- Access channels and basins
- Hinterland connectivity

IMPROVING SUPERSTRUCTURE

- Terminal handling equipment
- Warehouses and technical buildings
- Utilities

SATELLITE FACILITIES



- Container depots
- Dry ports
- Off-site offices
- Terminal relocation

TRAFFIC DIVERSION

- Alternative port or terminal
- Alternative mode or corridor

CONTINGENCY PLANNING

- Additional equipment, parts and materials
- Management and workforce
- Port supply chains

HAZMAT REPORTING

- Inventory of hazardous materials on port facility
- Reporting system

CYBER-RESILIENCE

- Access control
- Data security
- Network security
- Operational security

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Main Toolbox

	TOOLKIT	TIMING OF ACTION		
1	Governance Enabling Framework	Pre-Event	EVENT	Post-Event
	Port resilience efforts led/supported by top management with appropriate governance measures.			
2	Enterprise Risk Management	Pre-Event	EVENT	Post-Event
	Integrated and coordinated approach to all the risks faced by the port.			
3	Horizon Scanning	Pre-Event		
	Systematic examination of information to identify potential threats, risks, emerging issues, and opportunities allowing for better preparedness around risk mitigation and policy setting.			
4	Business Impact Analysis	Pre-Event		
	Systematic process to determine and evaluate the potential effects of an interruption to port operations as a result of a disaster, accident or emergency.			
5	Scenario Planning	Pre-Event		
	Assert control over uncertainty by identifying future assumptions and determining how the port will respond.			

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Main Toolbox

6 Business Continuity Management

Pre-Event | EVENT | Post-Event

Identify risks threatening the port, analyze their potential consequences, and support efforts to prepare for and recover from disruptive incidents when they occur.

7 Risk Registry and Metrics

Pre-Event | EVENT | Post-Event

Risk registry: Record of the risks faced by a port, including controls currently in place, additional controls, and responsibility for control activities. Metrics: Appropriate measures to track progress.

8 Incident and Crisis Management

EVENT | Post-Event

Application of strategies designed to help a port deal with a sudden and significant negative event.

9 Third Party Risk Tools

Pre-Event | EVENT | Post-Event

Tools that can be used to improve a port's resilience in respect of third-party risks (procurement).

10 Insurance Risk

Pre-Event | EVENT | Post-Event

Insurance industry offers the opportunity for a port to transfer some of its risks and often provide relevant risk advisory services.

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UNCTAD COURSE
Ports and Maritime Supply Chain Resilience

BACKGROUND

Maritime transport underpins world economic interdependency and global supply chains. Shipping and ports handle more than 80 per cent of global merchandise trade by volume. Supply chain disruptions caused by stressors such as economic crises, wars, natural disasters, cyber security incidents, and pandemics underscore the role of ports and maritime transport as an important transmission channel that can disrupt supply chains and impair world trade and commercial activities.

With developing countries being major players in maritime transport and trade and with vulnerable economies such as small island developing States (SIDS) and landlocked developing countries (LLDCs) both depend on well-functioning maritime transport networks for their access to the global marketplace, safeguarding the integrity of the maritime transport chain, including ports and their hinterland connections becomes a sustainable development imperative.

The spread of the COVID-19 pandemic heavily impacted the transport and logistics industry, including maritime transport. With disruptions to transport and logistics occurring more frequently, it is crucial to help countries build their capacity to anticipate, prepare, respond, and recover from risks and events disrupting their maritime supply chains.

OBJECTIVES AND FORMAT

The training which will be delivered online and on-site, depending on needs, will allow participants to:

- Gain a **general overview** of the maritime supply chain.
- Improve **awareness of the strategic role** of maritime supply chain for trade and development.
- Understand the risks and disruptions facing the maritime supply chain, and potential implications.
- Become familiar with **risk management and resilience concepts**.
- Learn what **actions are required** to better prepare and anticipate disruptions, manage risks, respond to disruptive events, and recover.
- Develop the capacity to **plan for emergency responses** and to integrate risk management into relevant processes and plans.
- Learn about **tools and instruments** that can help manage risks and build resilience.

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COURSE STRUCTURE AND CONTENT

The course contains **six modules**. It is supported by the accompanying multimedia lectures and suggested additional reading on issues covered in the course. The course is complemented by the information contained in UNCTAD's Guidebook on "Enhancing Capacity to Managing Risks: A Guidebook for Ports", analytical reports, data and statistics, and other useful resources. Relevant real-world case studies will illustrate some concepts and approaches.

MODULE 1:
Introduction to the maritime supply chain

- Ports: Definition, types and users.
- Port systems.
- Key stakeholders and their relevance.
- Shipping.
- Shippers and beneficial cargo owners (BCOs).
- Port hinterland connections and corridors.

MODULE 2:
Defining and understanding resilience

- Concepts and definitions.
- Resilience and what it means for the maritime supply chain.
- Resilience for ports and their hinterland connections.
- Trends and recent disruptions: The case for resilience building and preparedness.
- Key stakeholders for maritime supply chain resilience.

MODULE 3:
Disruptions and impacts

- Understanding the risks and the potential disruptions.
- Impacts on shipping lines.
- Impacts on hinterland connections and inland transport operations.

MODULE 4:
Case studies: disruptions, response measures, and approaches to resilience

- Selected case studies of port disruptions from UNCTAD's Guidebook on ***"Enhancing Capacity to Managing Risks: A Guidebook for Ports"***.
- Other relevant case studies related to current and unfolding events.

MODULE 5:
Enhancing maritime supply chain resilience: Tools and approaches

- Proactive and reactive resilience.
- Type of measures: Pre-event, during the event, post-event.
- Risk Management and Port Resilience Toolbox.
- Key players and layers of intervention.
- Cross-cutting considerations and enabling factors.
- Role of Government: National, Regional and Local.

MODULE 6:
Ports as a resilience-building platform

- Resilience-by-design.
- Resilience-by-intervention.
- Other issues: Port Development, Strategic Planning and Vision, Port Financing and Investment, Private Sector Participation, Smart and Sustainable Ports.

TARGET AUDIENCE

The course targets all stakeholders with a role in building the maritime supply chain resilience, in particular, policymakers with responsibility in the fields of ports, shipping, and hinterland transport operations.

CERTIFICATE OF COMPLETION

A UNCTAD certificate of completion will be delivered at the end of the course.

Thank you

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