

**Multi-year Expert Meeting on Transport, Trade
Logistics and Trade Facilitation
11th Session**

Maritime Transport in Times of Polycrisis

23-24 October 2024, Geneva

**Resilient Maritime Logistics
UNCTAD's Guidance and Related Tools**

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UNCTAD

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Resilient Maritime Logistics

UNCTAD's Guidance and Related Tools

Multi-year
Expert Meeting on

Transport, trade logistics and trade facilitation

11th session

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➤ Resilient Maritime Logistics: Guidebook+

BUILDING CAPACITY TO MANAGE RISKS AND ENHANCE RESILIENCE Guidance for Ports



Resilient maritime logistics:
Understand risks, respond and adapt

Shocks and disruptions to supply chains are becoming increasingly common and putting to test shipping, ports, and their hinterland connections. Building critical supply-chain resilience through more robust maritime transport and logistics is imperative.

<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/dtl1binf2020d1_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>

7. Si vous avez indiqué "Autre", veuillez expliquer

8. Les investissements prévus incluent-ils des investissements visant à atténuer l'impact des perturbations futures et à mieux s'y préparer ?

	Oui	Non	Je ne sais pas/Sans objet
Facteurs naturels et événements météorologiques	☐	☐	☒
Facteurs climatiques	☐	☐	☒
Facteurs liés à la sécurité	☐	☐	☐
Facteurs politiques/réglementaires	☐	☐	☐
Facteurs économiques/financiers	☒	☐	☐
Pandémies/menaces variables	☒	☐	☐
Autre	☐	☐	☐

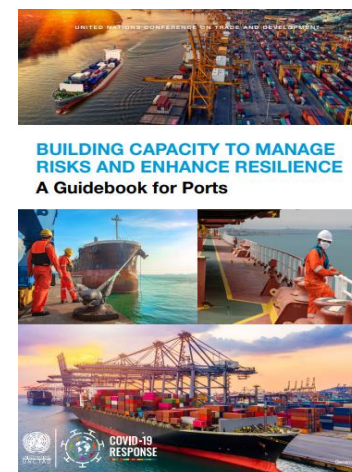
**Survey COVID-19
and Maritime
Transport: :
Resilience and
Preparedness, 2021**



**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



**UNCTAD COURSE
Ports and Maritime Supply Chain Resilience**

BACKGROUND
Maritime transport underpins world economic interdependence and global supply chains. Shipping and ports handle more than 100 per cent of global merchandise trade by volume. Supply chain disruptions caused by shocks such as economic crises, wars, natural disasters, cyber security incidents, and pandemics undermine the role of ports and maritime transport as an important transmission channel that can disrupt supply chains and impact 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 dependent 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 for host 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 the 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.

**Training:
Ports and Maritime
Supply Chain
Resilience**

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



UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT

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

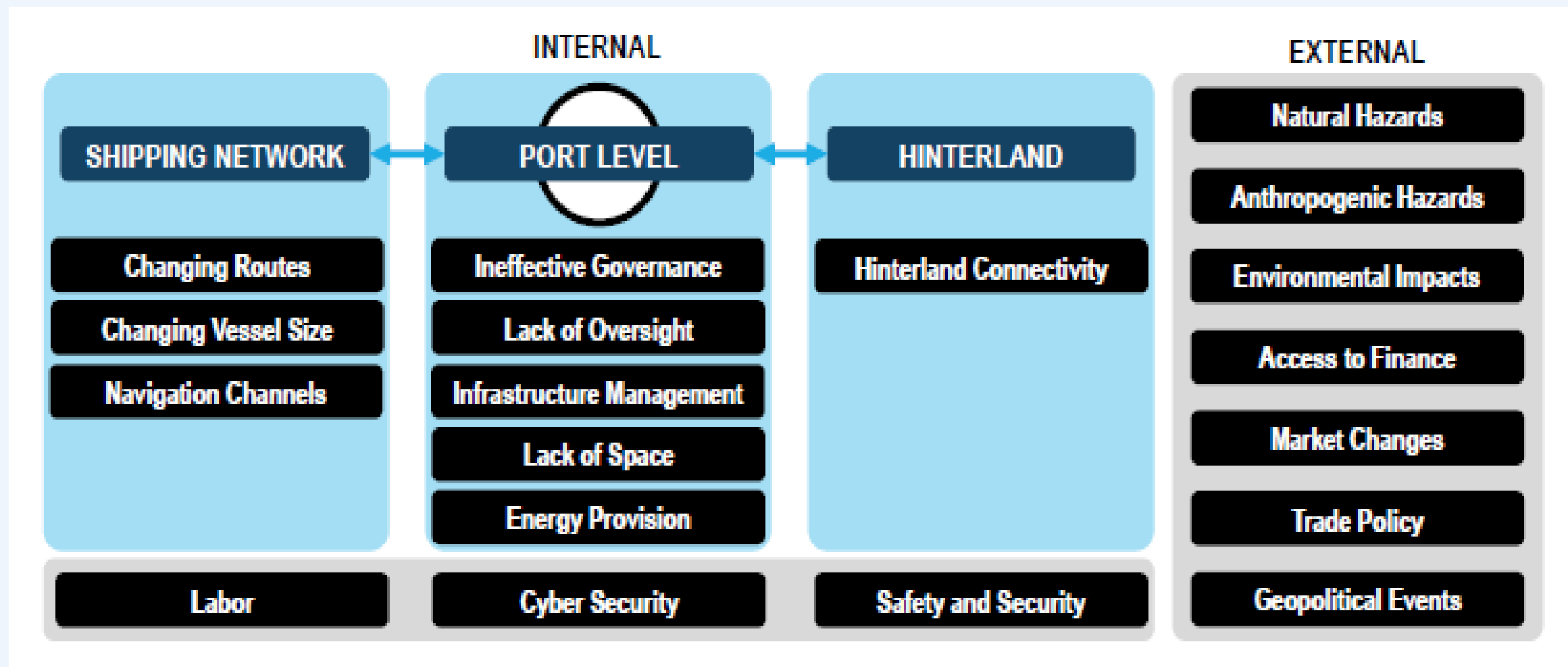
Some key takeaways

- 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.



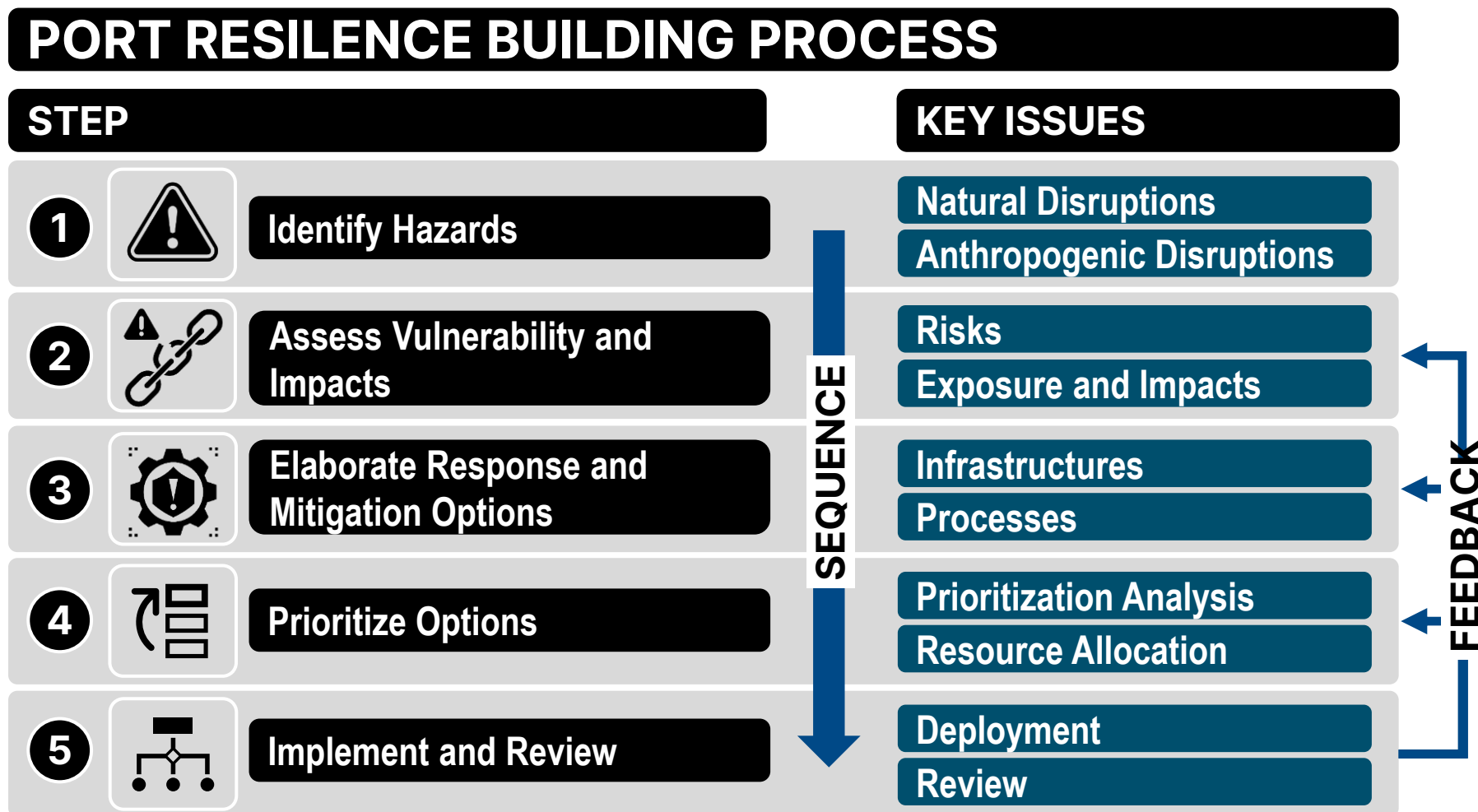
A resilient port can cope with shocks, absorb disruptions, quickly recover and restore operations to a level similar to – or even above – a baseline, as well as adapt to changing conditions, as it continues to develop and transform.

Figure 10: Port risk factors and challenges to resilience



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

A Stepwise Approach to Resilience



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

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

Propagation & back-propagation

Reduced or unavailable capacity, reliability and call configuration of maritime shipping services.

Port Level

Propagation & back-propagation

Reduced or unavailable capacity, performance and reliability of port services.

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.

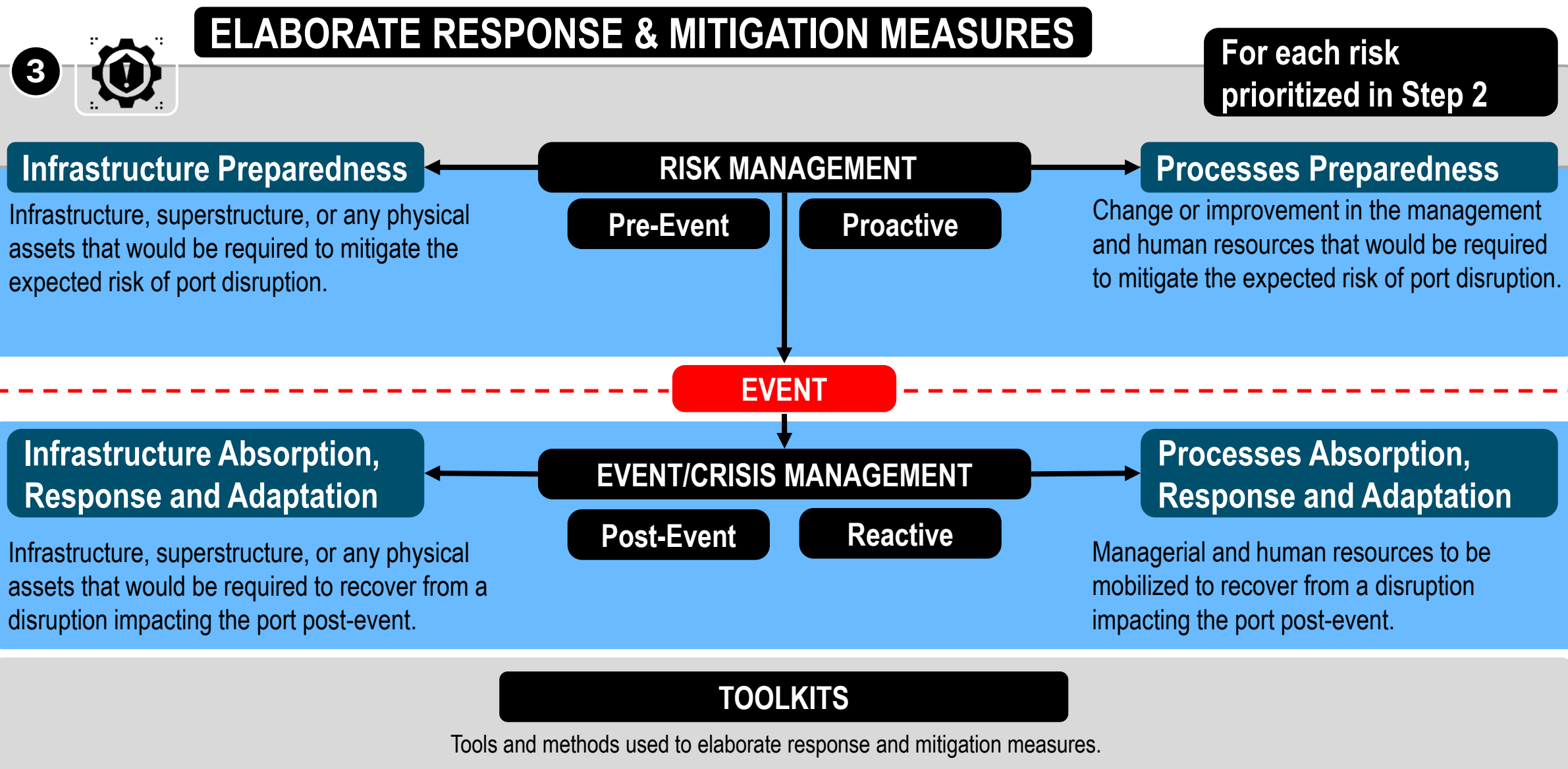
Compounded

Risk increasing the likelihood and severity of another event (s).

TOOLKITS

Tools and methods used to identify and prioritize risks.

Step 3: Elaboration of Response and Mitigation Measures



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

4



PRIORITIZE MITIGATION & RESPONSE MEASURES

For each mitigation in Step 3

Economic Valuation Analysis

Cost of inaction

Proactive versus reactive

Low hanging fruits

Opportunity cost

Resource Allocation

Financial resources

Managerial resources

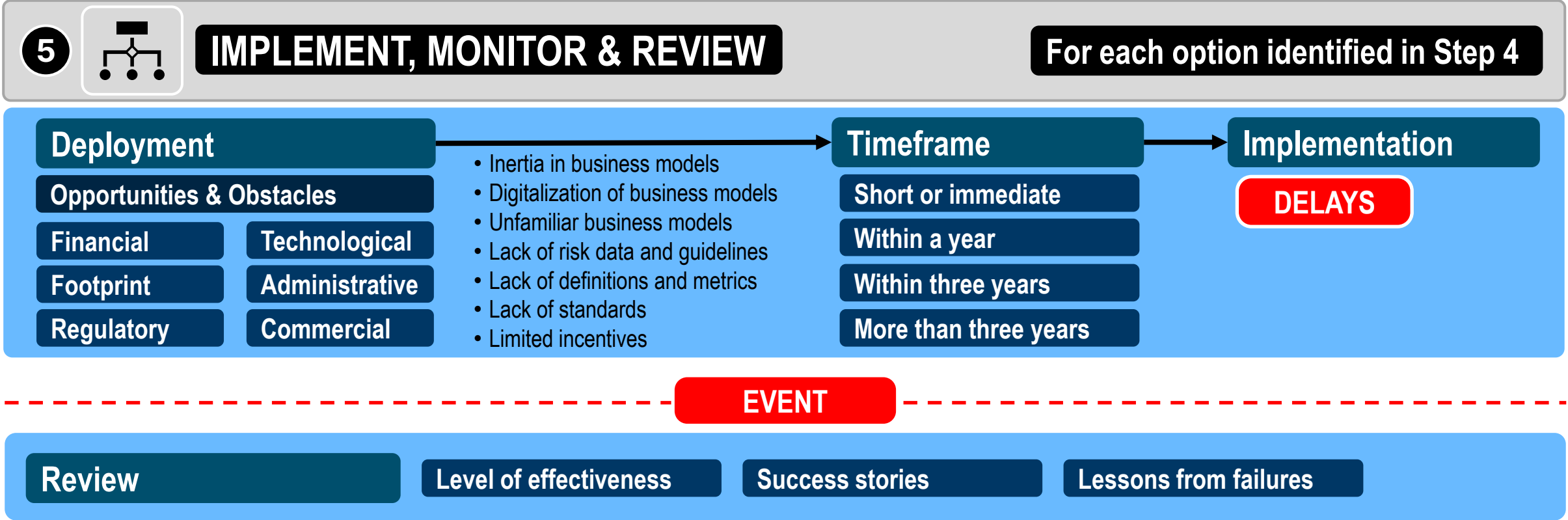
Labor resources

Time

TOOLKITS

Tools and methods used to prioritize mitigation and response options.

Step 5: Implementation, Monitoring, and Review

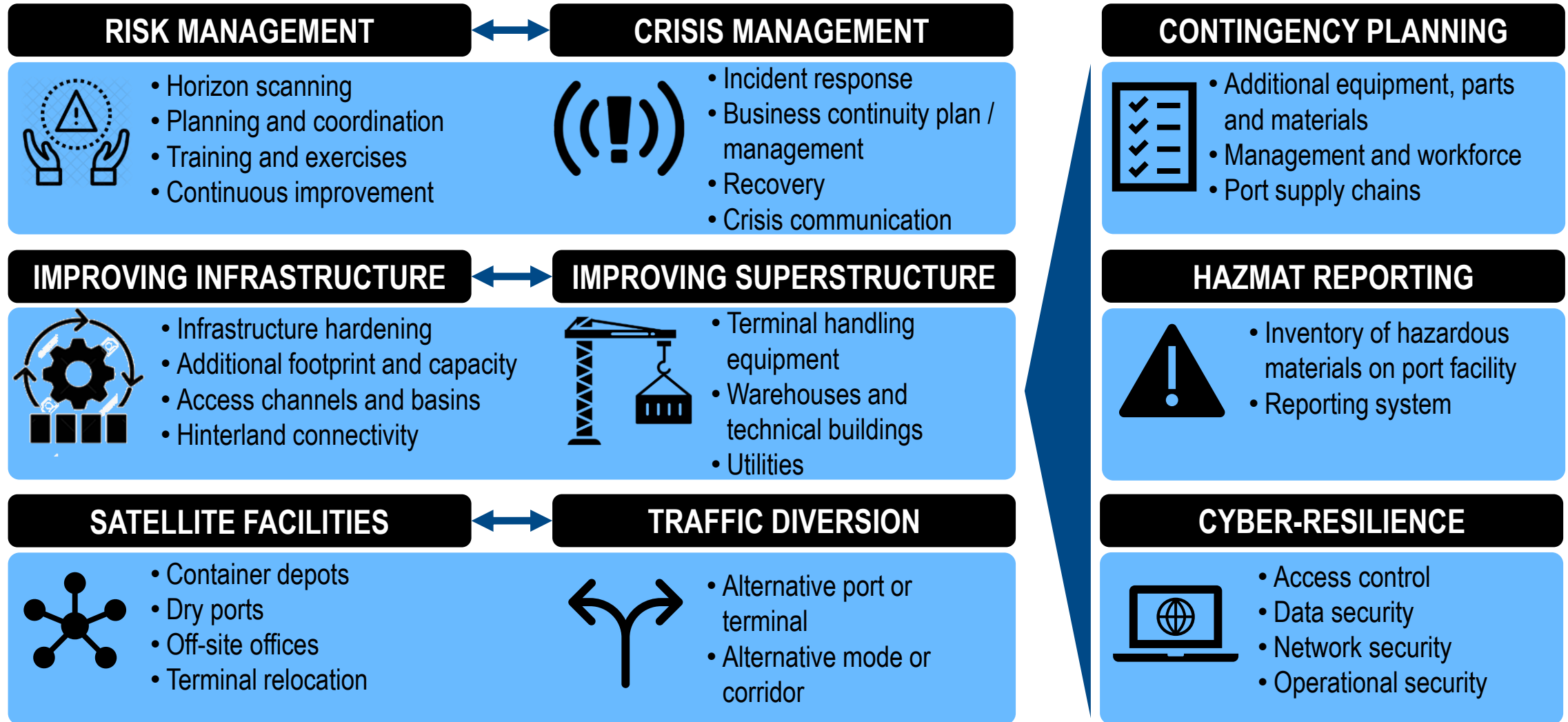


Measuring resilience: variables for KPIs

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



Main Toolbox

TOOLKIT

TIMING OF ACTION

- | | TOOLKIT | Pre-Event | EVENT | Post-Event |
|---|---|-----------|-------|------------|
| 1 | Governance Enabling Framework
Port resilience efforts led/supported by top management with appropriate governance measures. | | | |
| 2 | Enterprise Risk Management
Integrated and coordinated approach to all the risks faced by the port. | | | |
| 3 | Horizon Scanning
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
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
Assert control over uncertainty by identifying future assumptions and determining how the port will respond. | | | |

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.				



UNCTAD COURSE

Ports and Maritime Supply Chain 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

