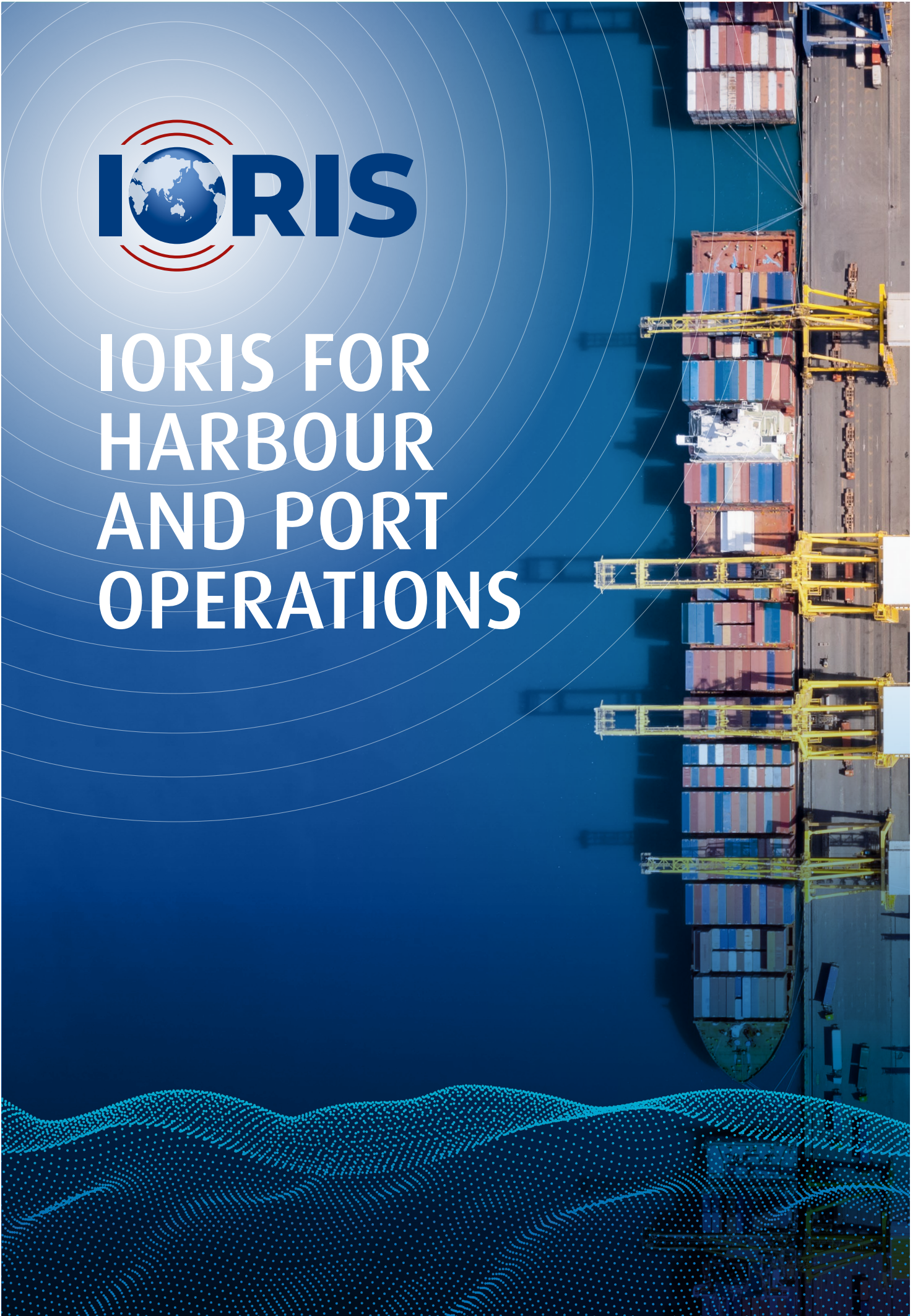




IORIS FOR HARBOUR AND PORT OPERATIONS



INTRODUCTION

Maritime transport is the backbone of international trade and the global economy with over 80% of goods in international trade carried by sea, and the percentage is even higher for most developing countries. These figures reveal how important harbours and ports are for trade, and ultimately for the welfare of people all over the world.

The International Maritime Organization (IMO) emphasizes the need for effective monitoring and response mechanisms to mitigate risks in harbours and ports through robust management and response mechanisms. These have become imperative given the escalating frequency and severity of port-related incidents, which could be intended or accidental.

In this context, the IORIS maritime cooperation platform for communication and coordination (MARCO3), offers a comprehensive tool to address routine information exchange and incident management, which depend on interagency solutions. This paper aims to explain how IORIS could play a pivotal role in complex harbour and port operations, managing infrastructures, establishing procedures and dealing with security/safety incidents.



THE ADVANTAGE OF IORIS FOR HARBOUR / PORT OPERATIONS AND INCIDENT MANAGEMENT

IORIS OVERVIEW

IORIS is a collaborative tool for sharing critical maritime information among various stakeholders, including harbour and port authorities, law enforcement agencies, shipping companies, and other relevant entities. This is because the platform enables real-time communication, data exchange, and analysis, thereby enhancing situational awareness and facilitating timely decision-making.

IORIS FUNDAMENTALS

IORIS provides a secure web-based portal that facilitates the exchange of information across a diverse range of partner agencies, domestically and internationally, with the following advantages:

- Harbour/ port authorities and agencies can share whatever information they want to share, when they want to share it, with who they want to share it in a packaged manner;
- The ability to create Communities Areas (private working spaces), managed by one or more designated "Area Administrators"; and
- Access to community areas by invitation only, allowing participation in areas based on a "need to know".

IORIS FUNCTIONALITIES

The following functionalities ensure the platform is effective and efficient:

- Group messaging or private chat, for both official and non-official exchanges, all exportable in PDF;
- Real-time translation functionalities;
- Sharing and archiving of encrypted documents and images;
- Developing bespoke template forms to support operational and logistical activities; and an interactive map with data feeds, and options to insert markers, etc;
- Markers / flagging allows for suspicious vessels such as black/grey listed and sanctioned vessels, to be controlled/ monitored, to inform flag and port States in advance.

IORIS FOR HARBOUR/PORT OPERATIONS (SINGLE WINDOW)

IORIS enables real-time information-sharing in support of port/harbour operations in support of authorities, shipping companies, law enforcement agencies, and other stakeholders, also together. Utilizing IORIS as a Single Window in Port Operations, allows the uploading of all documents, including container risk evaluations, linking ship agents, owners, maritime authorities, port authorities and Port Facility Security Officers (PFSO).

More specifically IORIS offers an opportunity to communicate the following:

- Vessel Pre-arrival Messages: Vessels approaching port would be able to send pre-arrival messages (whether directly or through Shipping Agents) offering a Single Window for multi-agency for the following information:
 - ▶ crew list;
 - ▶ Passenger list;
 - ▶ Cargo manifest;
 - ▶ Maritime declaration of health;
 - ▶ Declaration of hazardous cargo;
 - ▶ Waste and residues;
 - ▶ Change of shipping agent; and
 - ▶ Visualization of Ship's Clearance.
- Port Information
 - ▶ International Ship and Port Facility Security Code (ISPS) information including security level in place;
 - ▶ Regulations, inspections, monitoring of secured anchorages; and
 - ▶ Local navigation warnings;
- Mooring Information: Vessels can request permission to make a port call, through anchorage/mooring requests via a dedicated form for each port on IORIS, including information on works in progress, MARPOL facilities, etc.



IORIS IN SUPPORT OF HARBOUR/PORT INCIDENT MANAGEMENT

COORDINATION

Since IORIS enables real-time information-sharing in support of Port Authorities/Harbour Masters/Multi-Agency, by linking port authorities, shipping companies, law enforcement agencies, and other stakeholders, during port incidents, relevant parties can use IORIS to disseminate incident-related information, such as the nature of the incident, location, severity, and ongoing response efforts. These incidents could be:

- Pollution Incident Response
- Port Explosion Management
- Fire Management Onboard Ships
- Sinking Ships

By providing a common platform to coordinate response activities, IORIS could be used to enhance resource sharing, request assistance from neighbouring ports or relevant agencies to manage incidents effectively, enabling swift response measures. Authorities could thereby:

- evacuate the areas;
- implement safety protocols;
- coordinate emergency services; and
- track the availability and deployment of resources, such as emergency response teams, equipment including containment booms and de-watering pumps, and vessels, to ensure they are allocated efficiently based on the evolving needs of the incident.

to effectively minimize casualties and contain the damage.

MONITORING

IORIS could integrate pollution monitoring and in the future, if satellite imagery is provided, detect the spread of pollutants in real-time.

RISK PLANNING

IORIS can support port authorities conduct risk assessments and develop incident response plans to enhance preparedness for potential incidents and mitigate risks.

EXERCISES

Port authorities can use IORIS as a platform for conducting live and tabletop exercises with simulations, to test their incident response capabilities. By simulating various incident scenarios within the IORIS environment, port stakeholders can evaluate their readiness, identify areas for improvement, and refine their response plans and procedures accordingly.

INTEGRATION WITH OTHER SYSTEMS

With a bit of investment, IORIS can be integrated with existing port management systems, such as port security systems, incident reporting mechanisms, to streamline information flow and enhance interoperability during incident management operations.

Another option could be to use IORIS as the basis for a Vessel Traffic Monitoring and Information System (VTMIS) by feeding all sensor information directly into the platform, thereby offering a comprehensive maritime picture, for safer and more secure navigation.

IORIS IN SUPPORT OF HARBOUR/PORT SECURITY

By aggregating and analysing maritime data from various sources, including Automatic Identification System (AIS) data, satellite imagery, and reports from users, IORIS can provide port authorities with enhanced situational awareness. This awareness can help port authorities better assess potential risks.

- At the national level, IORIS could allow port authorities to link with enforcement agencies, to conduct risk assessments based on incoming intelligence, vessel traffic patterns, and provide security alerts, to identify suspicious activities, track suspect vessels, and implement security measures to deter and intercept potential threats before they materialize, including armed robbery, and terrorist attacks.

Taken to another level, IORIS could foster interagency collaboration through the establishment of counter-narcotics centres composed of officials from the Prosecution Office, Port Authority, National Police, Customs and Navy.

- At the regional level, IORIS could serve as a means to interconnect ports authorities globally, facilitating the reporting of relevant information about vessels arriving to their areas of responsibility, and/or informing authorities in the “Next Port of Call” of any suspicious activity noticed. This is especially relevant for vessels transiting coastal States’ exclusive economic zones, as diverting a vessel to a national port for an inspection, boarding and inspecting at sea and taking remedial action is labour intensive, costly and carries a risk that no country would wish to assume.

This could be especially useful to coordinate counter-narcotics operations and/or facilitate intelligence transfer discretely amongst national agencies and foreign ports to address narcotic trafficking, especially in Latin America, and between Latin America and Europe.

UTILIZING IORIS FOR ADMINISTRATIVE CONTROLS

REGULATORY COMPLIANCE INCIDENTS

IORIS can link existing regulatory compliance databases or monitoring systems, and when violations occur, such as those related to the ISPS Code, safety standards, and/or environmental non-compliance, operators could send real-time alerts to all relevant enforcement agencies through IORIS. The benefits are two-fold:

- IORIS centralizes incident data, which can be archived, ensuring timely reporting and collaboration.
- Regulatory agencies can track compliance violations and take corrective actions efficiently.

LOGISTICAL INCIDENTS

IORIS can integrate with logistics management systems used by port operators, shipping companies, and customs. When logistical disruptions occur, such as cargo damage, equipment failures, all responsible agencies can be alerted through IORIS. The benefits are two-fold:

- IORIS streamlines communication among stakeholders during incidents; and
- incident documentation and coordination become more effective.

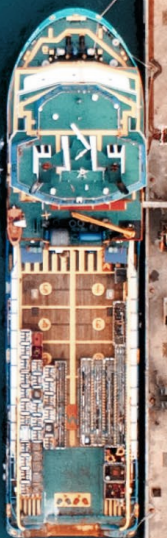
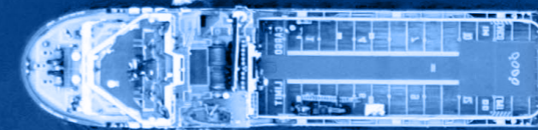
CONCLUSION

The scenarios presented underscore the critical role IORIS could play in enhancing port safety and security by effectively managing a range of potential incidents, from natural disasters to man-made threats.

By leveraging advanced technology and fostering collaboration among stakeholders, IORIS provides real-time situational awareness, facilitating effective communication and collaboration, and supporting proactive response strategies. It will empower port authorities to safeguard lives, protect the environment, and preserve critical infrastructure.

IORIS enables proactive risk management, rapid response, and effective mitigation measures, to deal with various port-related incidents, ranging from explosions and pollution incidents to fires, sinking ships, and terrorist threats, ultimately safeguarding lives, protecting the environment, and preserving the integrity of port operations.

As ports continue to play a vital role in global trade and transportation, the adoption of IORIS will emerge as a fundamental step towards enhancing the safety and security of maritime operations worldwide.





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