Indian Long Range Identification & Tracking National Data Centre (LRIT - NDC)

Annual Report 2024

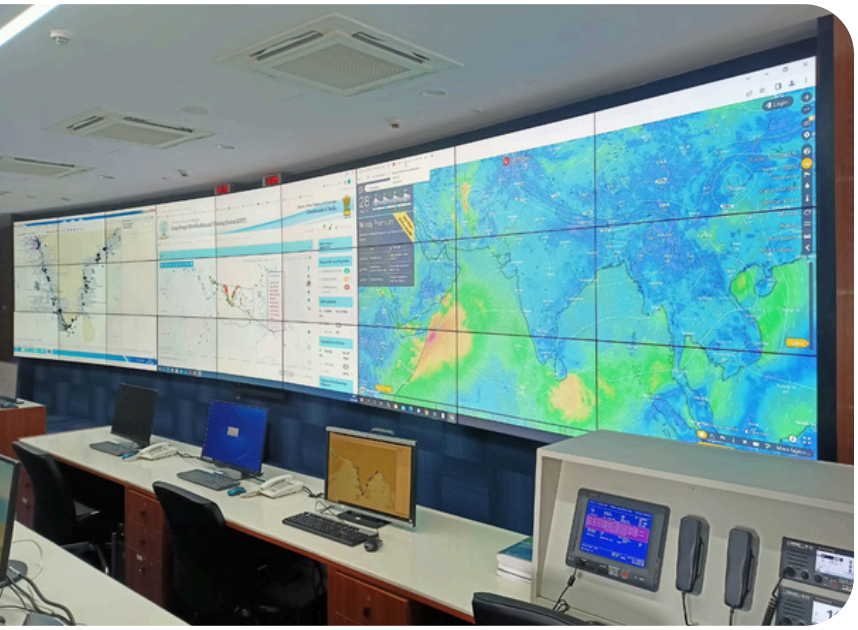
DIRECTORATE GENERAL OF SHIPPING

MINISTRY OF PORTS, SHIPPING & WATERWAYS

GOVERNMENT OF INDIA

TABLE OF CONTENTS

LRIT ACTIVITY



LONG RANGE IDENTIFICATION AND TRACKING (LRIT) - OVERVIEW

Long Range Identification and Tracking (LRIT), conceptualized by MSC.81 in 2006, is a system with critical applications in maritime security, safety, anti-piracy operations, environmental protection, and various operational functions for Flag, Port, and Coastal State administrative entities.

Safety:
LRIT strengthens the safety of navigation by enabling authorities to continuously monitor vessels, respond quickly to emergencies, and support search and rescue operations even in remote ocean regions.

Security:
LRIT helps coastal and port authorities detect and respond to unauthorized or suspicious vessel movements, playing a key role in preventing piracy, smuggling, and maritime terrorism.

Environmental:
LRIT enables proactive monitoring of vessel behaviour to ensure compliance with environmental laws, helping to detect illegal discharges and protect sensitive marine zones.

LRIT facilitates the identification and tracking of LRIT-registered own-flag vessels worldwide. It enables long-range identification and tracking within 1000 nautical miles seaward from the baseline of Coastal States, allowing them to view all flag vessels of LRIT Contracting Governments when their "LRIT Standing Orders" are activated. The system applies to vessels of 300 Gross Tonnage (GRT) and above that are actively registered in the LRIT network. The integration of AIS Satellite technologies further enhances the tracking capabilities of Coastal States, with LRIT continuing to serve as an additional source of tracking information. It complements existing classified and unclassified systems to enhance Maritime Domain Awareness.

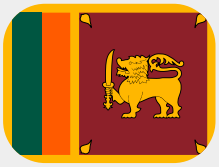
“LRIT – Empowering Safer, Smarter, and more Secure Seas”

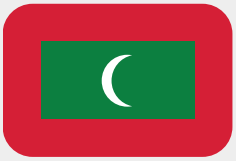
The LRIT "SAR SURPIC" (Search & Rescue Surface Picture) is a cost-free service that can only be raised by a nation's Coast Guard from anywhere in the world. It displays all LRIT flag vessels within a defined circular or rectangular area, helping SAR authorities direct available vessels for assistance. In contrast, the "Coastal SURPIC Request" is a billable service that can be initiated by a Coastal State of an LRIT Contracting Government within its 1000 nautical mile boundary.

INDIA'S LRIT SERVICES UNDER THE TRILATERAL MARITIME COOPERATION WITH SRI LANKA & MALDIVES

Overview

As part of a trilateral cooperation between India, Sri Lanka, and the Maldives, India provides comprehensive LRIT services free of cost to Sri Lanka and the Maldives, enabling them to meet international compliance requirements without the burden of maintaining independent infrastructure. India's National Data Centre (NDC) serves as both the Testing ASP and CSP, conducting Conformance Tests, issuing Conformance Test Certificates (CTCs), and ensuring secure data transmission. The Indian NDC's software is designed to be scalable and is capable of serving as a Regional Data Centre (RDC), offering LRIT services to additional countries beyond the current cooperation. A dedicated Graphical User Interface (GUI) with role-based access has been provided to maritime stakeholders such as shipping companies, naval forces, port authorities, and coast guards, allowing them to independently monitor vessel activity in real time. Beyond technical enablement, the Indian NDC offers continuous operational support, handling ship onboarding, de-registration, inspection readiness, real-time tracking, and providing live assistance during maritime emergencies or port state inspections. India's National Data Centre plays a significant role in the regional implementation of LRIT, extending its responsibilities beyond national boundaries to support neighbouring maritime administrations, and positioning itself as a reliable and collaborative RDC for the region.





India's NDC enables uninterrupted LRIT services through 24x7 operational support, secure vessel tracking up to 1000 nautical miles, and regular data coordination with the International Data Exchange. The Indian system provides a reliable interface for ship registration, conformance testing, emergency tracking, and post-registration assistance. Importantly, India extends these services to partner nations like Sri Lanka and Maldives at no cost, reinforcing its leadership in regional cooperation. With a system capable of generating SAR SURPIC data, facilitating poll-to-ship actions, and maintaining compliance history, India's NDC ensures that both national and regional authorities are empowered with accurate, real-time maritime data. This trusted, service-led model demonstrates India's proactive stance in maritime security, transparency, and collaboration.

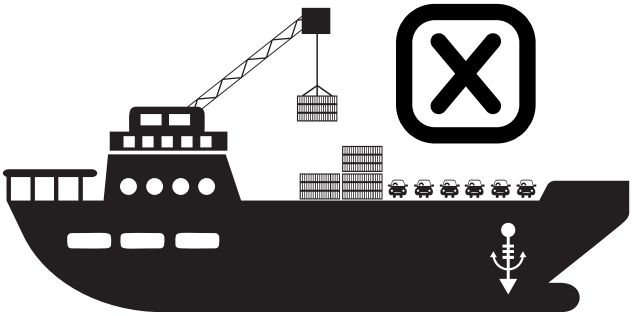
Backed by scalable infrastructure and a team of experienced personnel, the Indian NDC has emerged as a trusted regional partner, offering continuous support and streamlined LRIT services to neighbouring countries through a secure, efficient, and cooperative framework.By supporting Sri Lanka and Maldives through real-time access, administrative assistance, and technical expertise, India's NDC has positioned itself as a regional hub for LRIT services. It is not only ensuring regulatory adherence but also promoting inclusive maritime security and cooperation in the Indian Ocean region.

Ship Registration Details

During the period, India recorded 37 new registrations, indicating moderate activity in terms of onboarding or adding new entities to the system. This suggests a continued engagement with the platform or process. Sri Lanka had 1 registration, reflecting minimal but present activity.

Ships Registered

During the period, India recorded 37 new registrations, indicating moderate activity in terms of onboarding or adding new entities to the system. This suggests a continued engagement with the platform or process. Sri Lanka had 1 registration, reflecting minimal but present activity. On the other hand, Maldives reported zero new registrations, pointing towards either no recent operations or a stagnant phase in terms of new entries.

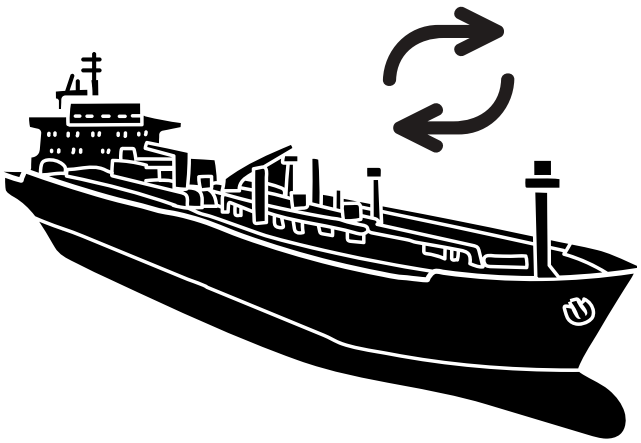


Ships Deregistered

The deregistration activity was observed only in India, with 02 entities removed from the system. This may indicate a data cleansing effort, deactivation of inactive users, or regulatory-driven removals. Maldives and Sri Lanka did not report any deregistrations, which could either mean data stability in those regions or simply no changes recorded in this category.

Ships Re-registered

A significant highlight is India's remarkably high number of re-registrations, totalling 103. This may reflect a large-scale reinstatement campaign, reactivation of previously deregistered entities, or policy-driven updates. Sri Lanka showed 01 re-registration, which, though small, indicates some user engagement or recovery. Maldives, once again, reported no re-registration activity, staying consistent with its inactivity across other metrics.



SHIP INACTIVATION

As of 31st December 2024, a total of 92 vessels were marked as inactive in the LRIT system. During the year, 2 ships from India were newly made inactive, while no vessels were marked inactive from Sri Lanka or the Maldives. Inactivation is carried out to avoid false “Not Responding Normally” alerts and to reduce unnecessary satellite communication costs. Common reasons include ships being converted to River-Sea vessels, sending excessive position reports, or undergoing major repairs or long lay-ups. This process ensures better tracking accuracy and improves overall system efficiency.

OTP’S ISSUED

One-Time Polling (OTP) is a manual request mechanism within the LRIT system that allows authorities to retrieve the immediate position of a ship outside of its regular reporting schedule. It is commonly used during inspections, maritime emergencies, or for monitoring vessels of interest. In the year 2024, a total of 151 OTPs were sent to ships from India, supporting real-time operational decisions and enhancing maritime situational awareness. This capability plays a crucial role in reinforcing maritime security, regulatory compliance, and readiness during unforeseen events.

ERRATIC REPORTING SHIPS

In 2024, a total of 800 vessels were identified for close monitoring due to variations in LRIT data transmission. These cases were primarily linked to operational adjustments or onboard system configurations.

The tracking team ensured data continuity and maintained oversight to support accurate vessel monitoring across all flagged instances.

VESSELS DELETED DUE TO LACK OF PRIOR NOTICE

In 2024, a total of four vessels were deleted from the LRIT system through command-line operations (DNID/Vessel Delete) due to the absence of any prior notice regarding changes in their operational status. These deletions typically occur when vessels are reclassified into non-ocean-going categories such as River-Sea, and the respective shipping companies fail to inform the authorities in advance. To maintain process transparency, the LRIT team issues a formal notice and proceeds with deletion only after allowing a 48-hour response window. This ensures that stakeholders have sufficient time to provide clarification or updates. If no response is received within this period, LRIT-specific identifiers such as DNID and Member Numbers are removed from the shipborne equipment, effectively disconnecting the vessel from the LRIT system. Should the vessel later resume ocean-going status, these details must be manually restored. This controlled approach ensures the integrity and accuracy of the LRIT database by retaining only active and compliant vessels.

LRIT CENTER VISITS- OVERVIEW

WORLD MARITIME UNIVERSITY STUDENTS VISITES

The delegates set out on a comprehensive tour of India's advanced maritime monitoring and coordination infrastructure, with a special focus on the Long-Range Identification and Tracking (LRIT) Centre. This visit offered an in-depth exploration of how India leverages technology and international collaboration to ensure maritime safety, security, and regulatory compliance. From real-time vessel tracking systems to robust data exchange protocols, the tour provided a firsthand view of the operational backbone that supports maritime domain awareness far beyond national waters.

A key highlight of the visit was the Indian LRIT National Data Centre (NDC), which acts as the country's central repository and control point for all LRIT data related to Indian-flagged vessels. The delegates gained insight into how the NDC processes incoming data, ensures its accuracy, and facilitates secure communication with international LRIT data centres under the framework established by the International Maritime Organization (IMO). The infrastructure supports India's obligations as a flag state, contributing actively to the global maritime safety architecture.

The visit to the LRIT Centre offered more than just a technical overview; it highlighted the depth of India's commitment to maritime safety, its alignment with international conventions, and its forward-looking approach to maritime surveillance. Through cutting-edge systems, dedicated personnel, and a culture of collaboration, the Centre stands as a testament to India's growing role in ensuring safe and secure seas across the region and beyond.

FRIENDLY FOREIGN COUNTRIES VISIT - SEARCH & RESCUE WORKSHOP

The Indian Long-Range Identification and Tracking (LRIT) Centre continues to play a vital role in strengthening maritime safety and situational awareness, particularly in the domain of Search and Rescue (SAR). On 20th January 2024, a high-level delegation comprising representatives from Sri Lanka, Maldives, Bangladesh, Mauritius, and other friendly maritime nations visited the LRIT Centre as part of a dedicated SAR workshop aimed at enhancing regional preparedness and coordination. The visit offered delegates a first-hand understanding of how India leverages LRIT technology to support effective SAR operations across its maritime zones and beyond.

> ***The visit included a detailed walkthrough of the National Data Centre, showcasing real-time vessel tracking and global data exchange mechanisms.***

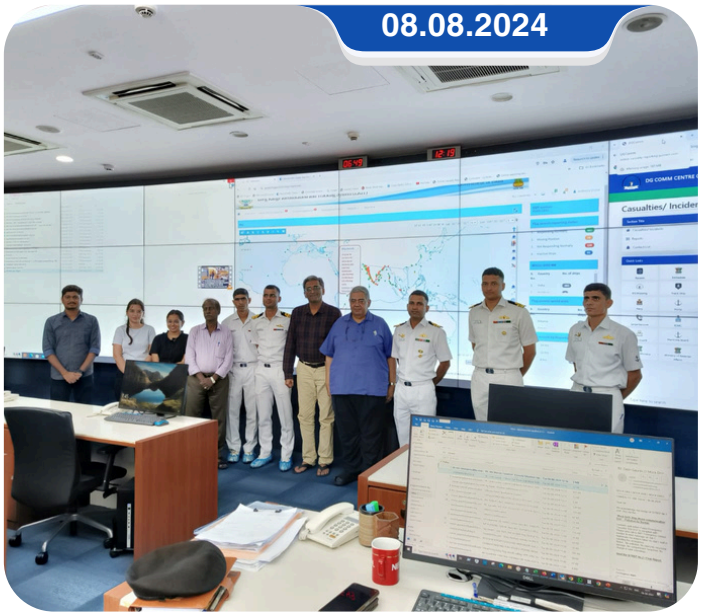
The delegation was taken through a structured programme that included focused briefings, live demonstrations, and walkthroughs of key operational procedures at the LRIT National Data Centre. Special emphasis was placed on how LRIT supports real-time vessel tracking, detection of anomalies, and timely data exchange with international LRIT data centres—all of which are critical components in initiating and managing SAR responses. The sessions highlighted India's alignment with International Maritime Organization (IMO) standards and its ability to quickly mobilize maritime resources in support of life-saving efforts at sea.

This engagement reaffirmed India's strong commitment to regional cooperation in maritime safety and its proactive approach to SAR readiness. The LRIT Centre served not only as a showcase of technological capability but also as a platform for knowledge-sharing and collaborative planning. Through technical dialogue and scenario-based interactions, the workshop strengthened mutual understanding among neighbouring nations, helping to align their SAR frameworks with India's vision for swift, coordinated, and transparent maritime emergency response. The visit on 20th January 2024 stood out as a key moment in enhancing collective SAR capability in the region.

NAVY PERSONNEL VISITS

In 2024, the Long-Range Identification and Tracking (LRIT) Centre hosted multiple visits by Indian Naval personnel, providing them with an operational understanding of the LRIT system and its role in maritime surveillance and vessel monitoring. These visits took place on 08 August, 09 September, and 13 September, and were aimed at familiarizing naval officers and chief officers—particularly those preparing for deployment—with the system's real-time tracking capabilities and data flow mechanisms. The sessions included comprehensive briefings and live demonstrations of how positional data from Indian-flagged vessels is received, processed, and monitored through the Indian LRIT National Data Centre (NDC), which facilitates secure information exchange with global LRIT networks in alignment with International Maritime Organization (IMO) regulations.

08.08.2024



09.09.2024

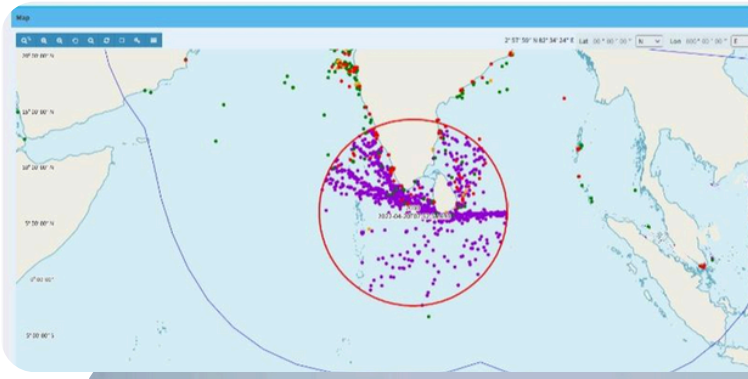
13.09.2024

Officers were shown how the system supports various operational needs, including compliance tracking, route deviation alerts, historical voyage analysis, and coordination during Search and Rescue (SAR) scenarios. The visit also highlighted the integration of LRIT data with broader maritime domain awareness tools and its relevance in defence and enforcement contexts. These engagements contributed to strengthening inter-agency alignment and operational preparedness, while reinforcing the importance of LRIT as a critical component of India's maritime safety and surveillance framework.

SEARCH AND RESCUE OPERATIONS

OVERVIEW

Search and Rescue (SAR) operations in India are led by the Indian Coast Guard, which acts as the national maritime SAR authority under the framework of the International Convention on Maritime Search and Rescue, 1979. India has made significant contributions to regional SAR efforts through its three Maritime Rescue Coordination Centres (MRCCs) in Mumbai, Chennai, and Port Blair, supported by a network of Maritime Rescue Sub-Centres (MRSCs). As part of its advanced SAR capabilities, India actively utilizes Long-Range Identification and Tracking (LRIT) to monitor vessel movements within and around its Search and Rescue Region (ISRR). LRIT data helps the Coast Guard in identifying ships near distress locations, even beyond the range of coastal radar systems, enabling timely coordination of assistance. India also serves as the NAVAREA VIII coordinator under the IMO's Worldwide Navigational Warning Service, broadcasting SAR alerts and maritime safety information across a wide expanse of the Indian Ocean. By integrating LRIT with systems like GMDSS and AIS, India ensures accurate and efficient SAR response. The combined use of LRIT and NAVAREA services has further strengthened India's role in cross-border maritime rescue efforts, reaffirming its commitment to the safety of life at sea in the region.



LRIT IN SAR AND MARITIME INCIDENT

The Long-Range Identification and Tracking (LRIT) system enables rescue coordinators to access a detailed list or graphical display of vessels—both domestic and foreign flags—present in the vicinity of a ship in distress. This visibility ensures that assistance can be dispatched swiftly and also places a clear responsibility on nearby vessels to respond, as captains must provide a valid justification for not assisting a vessel in need. In Search and Rescue (SAR) operations, a SAR SURPIC (Search and Rescue Surface Picture) generated using LRIT data offers a static view based on the most recent periodic position reports of vessels in the area.

Beyond SAR, LRIT aids in investigating maritime incidents like hit-and-run cases where small vessels are damaged or lives are lost. Authorities can use LRIT data to identify ships that were nearby at the time. Monitoring foreign vessels requires activating the Flag State's Standing Order. In urgent cases, a SAR SURPIC can be requested to locate nearby ships, followed by direct polling to get their latest positions. This helps establish vessel movement history and supports accountability. The timely use of LRIT data can significantly improve the chances of identifying those involved. It also reinforces maritime safety and regulatory enforcement efforts.

USE OF LRIT IN SAR

A Long-Range Identification and Tracking (LRIT) SAR SURPIC (Search and Rescue Situation Picture) is raised when a Search and Rescue (SAR) authority, in India it is the Indian Coast Guard, needs to locate vessels in a specific geographical area during an emergency. This is done by requesting the most recent LRIT data from all relevant LRIT Data Centers. The primary purpose of a LRIT SAR SURPIC is to assist SAR services in locating vessels that may be able to provide assistance in a search and rescue operation or to locate a vessel in distress.

1. Initiation

A LRIT SAR SURPIC is initiated by a SAR service like a Maritime Rescue Coordination Center (MRCC) through a SAR SURPIC request sent via the International LRIT Data Exchange.

2. Data Request:

This message requests the most recent LRIT data from all LRIT Data Centres, focusing on a specific geographical area defined by the SAR service, mostly a circular area with the incident as the centre with a selected radius or a rectangular area with offsets from its south-westerly point.

3. Information Provided

The SAR service receives the most recent LRIT data for vessels within the specified area, including their identity, position, and the time of that position.

4. SAR Response

Based on the received information, the SAR service (here it is the Indian Coast Guard) can identify potentially helpful vessels and give a SAR poll to them directly to determine their current position and suitability for assisting in the rescue.

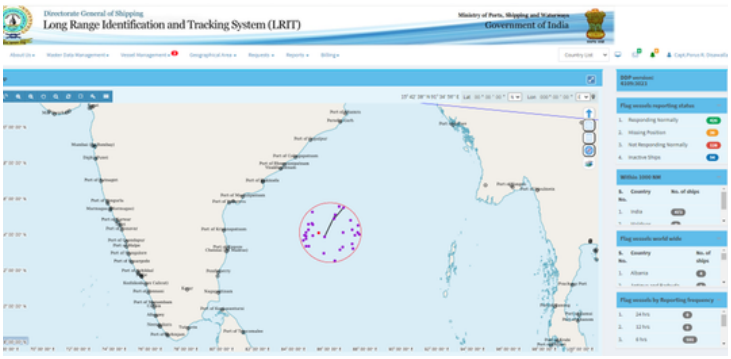
Frequency of LRIT Transmission

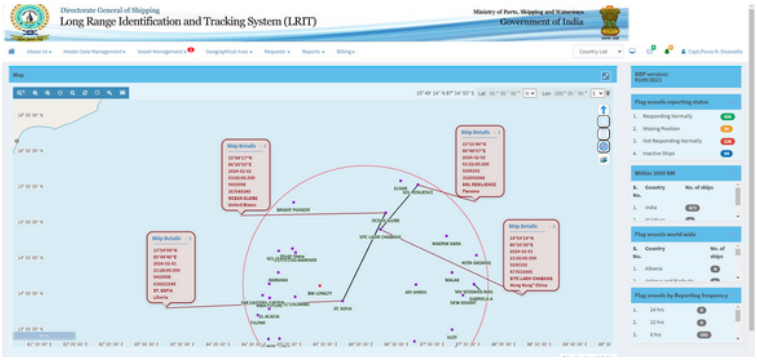
While LRIT data is normally transmitted every 6 hours, the frequency can be increased to every 15 minutes during emergency situations, including SAR operations. Positions for a SAR SURPIC can be requested from a minimum of one position to the last 4 positions. More than one position helps in helps in determining the approximate direction vector of the vessel.

SARSURPIC REQUEST OVERVIEW-2024

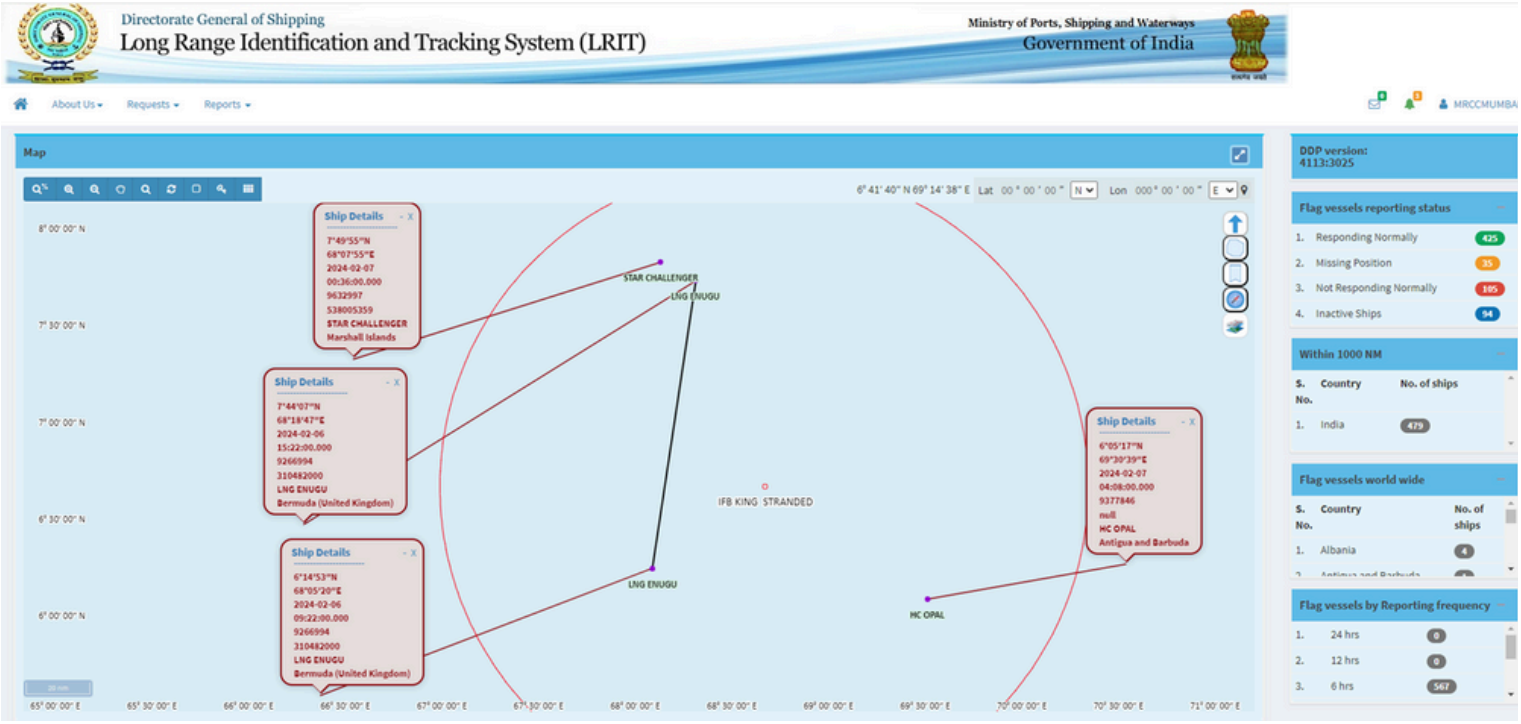
A SURPIC (Surface Picture) request is initiated through LRIT to support Search and Rescue (SAR) operations and enhance maritime situational awareness. These requests may be raised in response to suspicious activities, vessel casualties, missing vessels, ongoing search operations, or for system testing purposes. By providing a real-time snapshot of LRIT-registered vessels within a defined area, SURPIC enables authorities to assess the situation and coordinate an effective response. In 2024, four SURPIC requests were generated under various operational scenarios, demonstrating the system's continued utility in supporting maritime safety and security efforts.

1.Surpic Raised on 02.01.2024



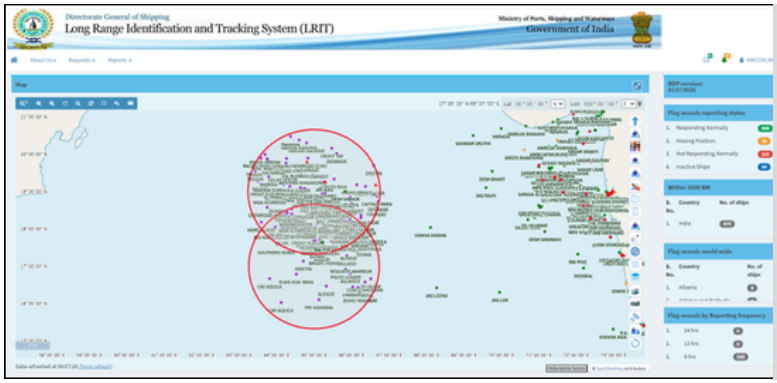


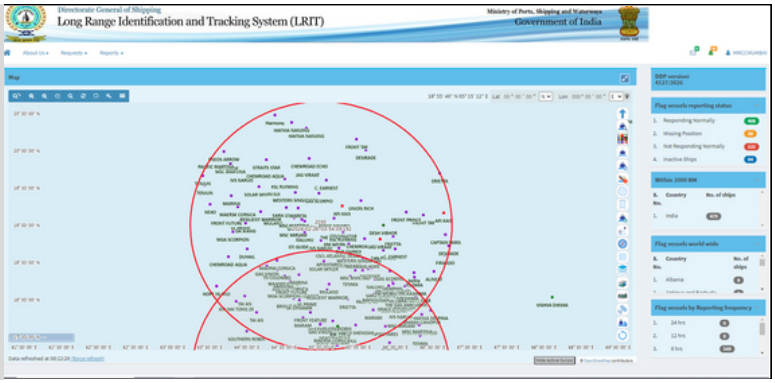
2.Surpic Raised on 07.02.2024



3.SARSURPIC RAISED ON 25th & 26thFEB 2024 for missing fishing boat

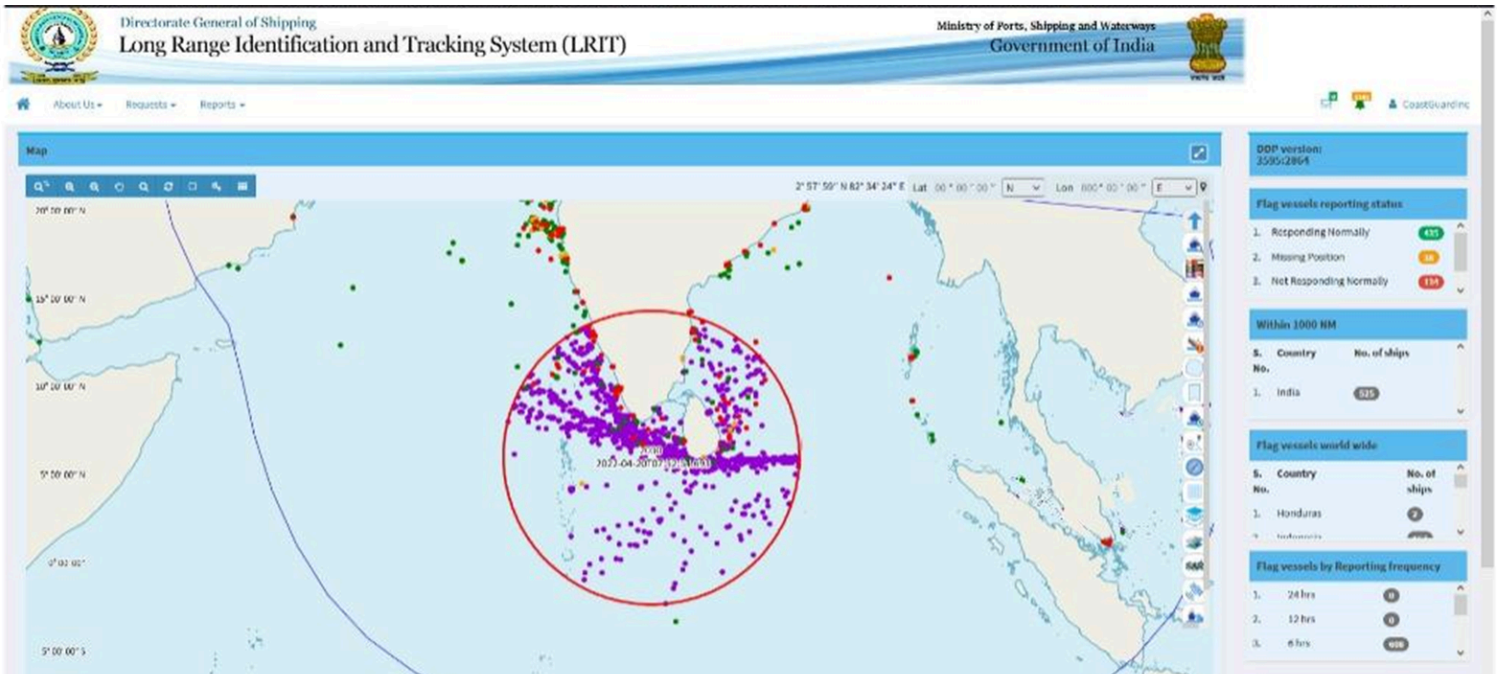
The LRIT SURPIC request was raised on the 25th and 26th of February 2024 for a missing fishing boat. LRIT coordinated and cooperated with the Coast Guard to track nearby LRIT-registered vessels in the suspected area. This helped provide a clear view of vessel movement to support the search operation. Both circular and rectangular SURPIC formats may have been used to cover a wider area. The information assisted the authorities in guiding available resources for the search and rescue efforts.





2.Surpic Raised on 20.04.2024

***LRIT SAR SURPIC circular raised 20-04-2022, 07:52:34UTC, centre 06N 078E, last 4 LRIT positions requested**



CONTRIBUTION OF THE DG COMM CENTRE IN 2024

The DGCOMM Centre, through its LRIT operations, continues to play a pivotal role in strengthening maritime safety, security, and coordination mechanisms. Its activities span across critical areas such as casualty monitoring, ship security alert verification, incident analysis, and proactive response to adverse weather conditions. These accomplishments reflect the Centre's commitment to ensuring operational readiness, inter-agency coordination, and support to national and regional maritime frameworks. The LRIT platform remains an integral part of India's broader maritime surveillance and emergency response ecosystem.

Marine Casualty Handling

Handled a total of 186 marine casualties through the online reporting system, ensuring timely coordination with concerned stakeholders.

SSAS Testing Operations

Successfully conducted 816 SSAS (Ship Security Alert System) tests to verify alert transmission and maintain security compliance.

Hit & Run Incident Analysis

Analyzed and coordinated 11 hit-and-run cases involving merchant vessels and Indian fishing boats to support enforcement actions.

CYCLONE & SEVERE WEATHER EVENT MONITORING

Cyclone Name	Dates	Peak Intensity
Remal	May 24 – May 28, 2024	Severe Cyclonic Storm (110 km/h), BOB
Asna	Aug 25 – Sep 2, 2024	Tropical Cyclonic Storm, Arabian Sea
Dana	Oct 24 – Oct 25, 2024	Severe Cyclonic Storm, Bay of Bengal
Fengal	Nov 25 – Nov 27, 2024	Deep Depression, Bay of Bengal

IMSO AUDIT REPORT 2024

- The IMO audit document is attached along with this report.
- It can be accessed through the link provided below.

➤ **CLICK HERE TO VIEW THE DOCUMENT**

IMSO
INTERNATIONAL MOBILE SATELLITE ORGANIZATION

END OF REPORT