



Coastal State Workshop Goa

Directorate General of Shipping
&
Captain of Ports Department,
Government of Goa

2nd March, 2026



Pillar 1

Maritime Safety and Emergency Response

Response of Casualty Branch during Incidents

Directorate General Communication Centre

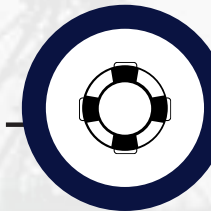
- Operates the DG Communication Centre as a single-point contact for reporting casualties and emergencies.
- Coordinates with relevant authorities during **maritime incidents and during cyclone events**.
- Coordinate the response actions being conducted, and undertake operations where deemed necessary
- Response based on the severity, location and jurisdiction of the casualty.



24/7 Situational Awareness: Constant oversight of vessel activity for safety & security.



Distress Call Command: Immediate reception Ship Security Alert System (SSAS).



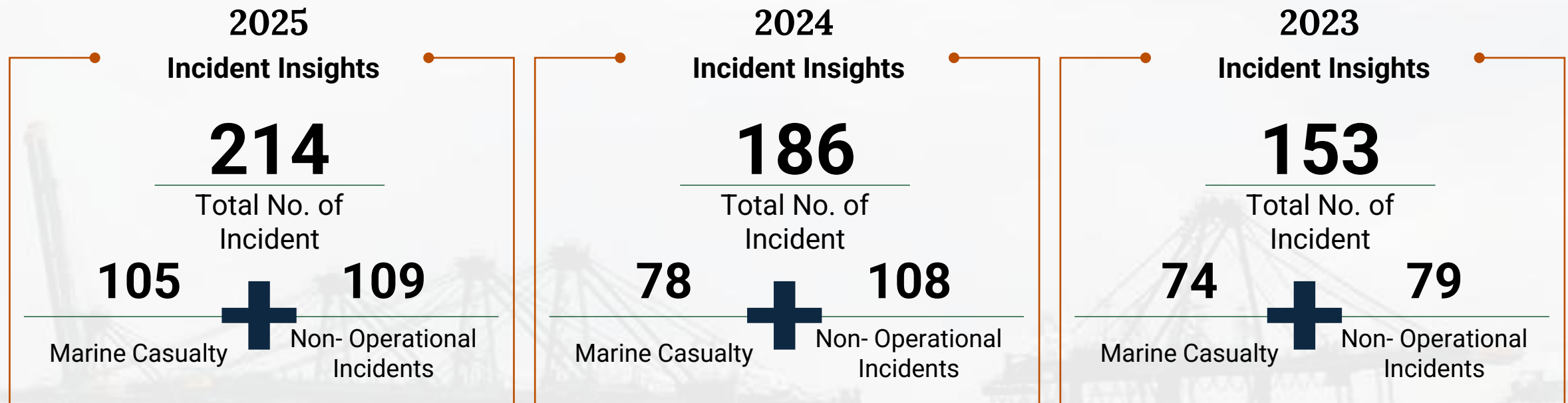
Search And Rescue Coordination with Indian Coast Guard and other stakeholders



Centralizes communication and orchestrates responses to all marine incidents.

Overview of Casualties from 2023-2025

Total reported incidents increased by nearly 40% from 153 in 2023 to 214 in 2025, with the 2025 surge driven by a **34.6% rise in marine casualties** (78 to 105), reflecting both heightened operational risk exposure and improved awareness and reporting mechanisms.



Where,

Marine Casualty includes as per the Casualty Investigation Code- the death of, or serious injury to, a person, the loss of a person from a ship, the loss, presumed loss or abandonment of a ship, material damage to a ship, the stranding or disabling of a ship, or its involvement in a collision, material damage to marine infrastructure or the environment.

Non-Operational Incidents / Other Casualties are incidents affecting Indian seafarers, onboard or ashore, that do not arise from navigational or operational failures. These events, in addition to marine casualties defined under the International Maritime Organization (IMO) Casualty Investigation Code, require reporting under Directorate General of Shipping protocols.

MAERSK FRANKFURT Fire (19 July 2024, Off Goa)



1. Incident Overview

Notable Marine Incident

- On 19 July 2024 at 1410 IST, a major fire broke out aboard the Panama-flagged container vessel *MAERSK FRANKFURT* (IMO 9969065), approximately **33 nautical miles off the coast of Goa** (14°05'N, 072°56'E).
- The vessel had a **crew complement of 21 seafarers** of mixed nationalities, and tragically, one Filipino Able-Bodied Seaman succumbed to injuries sustained in the fire.



2. Response and Salvage Operations

- Indian Coast Guard deployed multiple vessels and aerial assets
- DGS dispatched ETV Water Lily
- Fire in bays 14–22; DCP aerial drops & boundary cooling
- 19-member salvage team airlifted
- Gas monitoring (H₂S, cyanide), dewatering & ventilation undertaken



3. Environmental & Coordination Measures

- Continuous pollution monitoring; no marine pollution reported
- Port of Refuge planning initiated for safe discharge
- Coordinated response: DGS, ICG, salvors, port & ship manager
- Investigation ongoing; Flag State (Panama) report awaited



MSC ELSA 3 Sinking (24–25 May 2025, Off Kerala Coast)



1. Incident Overview

Notable Marine Incident

- Container vessel **MSC ELSA 3**, Panama-flagged
- Listed on 24 May 2025 and sank on 25 May 2025, **13 NM off Kerala coast**
- Crew: 24; all safely evacuated, no casualties
- Cargo: **643 containers**, including **13 IMDG containers (Class 4.3 & 9)**
- Onboard fuel: **367 tonnes Heavy Fuel Oil (HFO) & 64 tonnes Diesel Oil**



2. Environmental & Navigational Risks

- Multiple containers lost overboard, creating navigational hazards
- Significant release of **plastic nurdles (pellets)** causing shoreline contamination
- Approx. **720 metric tonnes of nurdles recovered** and stored at Kollam Port
- Continuous risk of oil spill due to bunker fuel onboard



3. Response & Salvage Operations

- Directorate General of Shipping (DGS) activated SOP and chaired daily coordination meetings
- Indian Coast Guard deployed surface vessels and aerial surveillance (Do-228)
- Spill containment, dispersant spraying, and oil seepage sealing undertaken
- Salvors mobilised tugs and diving support vessels; oil removal operations concluded by September 2025
- Three-pronged salvage plan: oil recovery, drifting containers, containers ashore



MSC ELSA 3 Sinking (24–25 May 2025, Off Kerala Coast)

Notable Marine Incident



4. Socio Economic & Environmental Impact

- Impact beyond Kerala coast with plastic nurdles washing ashore the Tamil Nadu Coast
- Tamil Nadu assessment of claims of approx. ₹1,000 crore including aspects of Environmental damage | Livelihood loss | Habitat rehabilitation | Ecosystem restoration

5. Immediate Relief and Livelihood Support by Kerala

- Interim assistance to fishermen & allied workers
- Free ration (up to 6 kg rice per family)
- Funded under State Disaster Response Fund

6. Recovery, Claims & Accountability Track

- Kerala Admiralty Suit No. 12/2025: claim ₹9,531 crore against owners
- Preliminary Inquiry by **MMD Kochi** → Interim Report submitted
- Formal Investigation ordered under **Sections 360–361, Merchant Shipping Act, 1958**
- Filed before **JFCM, Fort Kochi** (CrI. M.P. No. 168/2025)

Overall Impact

- Multi-state fisheries & coastal livelihood impacted (Kerala–Tamil Nadu)
- Shoreline contamination & long-term ecosystem restoration liability
- Substantial financial exposure (₹1,041.805 cr TN claim; ₹9,531 cr Admiralty claim)
- Large-scale operational response & bunker fuel risk management

WAN HAI 503 – Fire & Underdeck Explosion (09 June 2025, Off Kerala Coast)



1. Incident Overview

- Container vessel **WAN HAI 503**, Singapore-flagged
- Explosion reported on **09 June 2025 at 0950 hrs, 44 NM off Azhikkal, Kerala Coast**
- Crew: Total 22| 4 missing| 6 injured | 18 rescued by INS Surat
- Cargo: **1754 containers**, including **143 IMDG containers (Class 3, 4.1, 4.2, 4.3, 6.1, 8, 9)**
- Onboard fuel: **2000 tonnes Heavy Fuel Oil (HFO) & 240 tonnes Diesel Oil**



2. Environmental & Navigational Risks

- Active underdeck fire (initially ~40% controlled)
- Heat transfer risk to bunker tanks & High-risk IMDG cargo (flammable, toxic, corrosive)
- ~50 containers adrift southeast
- Significant pollution threat due to large bunker quantities



3. Response & Salvage Operations

- DGS activated SOP (2021) and chaired daily coordination meetings
- ICG deployed firefighting/SAR vessels, Do-228 Dornier aerial surveillance, and helicopter insertion of salvage experts
- Salvors (T&T Salvage) mobilised tugs; ETV Water Lily established first towline
- Vessel maintained under dual tow (Offshore Warrior – stern / Advantis Virgo – bow) outside Indian EEZ No visible oil leakage; ~2,400 t fuel estimated onboard
- Port of Refuge secured: Jebel Ali (UAE)



Outcomes of Prompt and Coordinated Response by Directorate General of Shipping (DGS)



1. Effective Containment of Marine Pollution Risk

Prevented any oil sheen or slick from reaching the coastline

2. Limited Shoreline Impact

Ensured that no hazardous cargo washed ashore

3. Preservation of Marine Environmental Quality

No water pollution was observed within territorial waters or coastal zones

4. Advancement of Safety Standards

To be informed to IMO for improvement in regulatory standards and enhance global maritime safety protocols

Key Takeaways

Unified Response Framework:

Maritime Administration and Coastal States must act in full alignment.

Fast-Track Customs & Immigration Clearances:

No delays for salvage teams, experts, or equipment.

Pre-Approved Hazardous Waste Agencies:

Ports must identify certified disposal partners in advance.

Designated Ports of Refuge:

Structured framework for safe handling; strengthens resilience and local economy.

Build Local Response Capacity:

Train coastal workforce in firefighting, pollution control, and IMDG handling.

Stronger Port State Control:

Tighten IMDG compliance, stowage checks, and fire safety oversight.

Strengthen National Salvage Capability:

Ensure rapid mobilisation and reduced external dependency.

Institutionalized Multi-Agency Drills:

Regular joint exercises to test readiness and coordination.



DGS Initiatives for Salvage Hub



Pursuant to the chartered roadmap to strengthen maritime safety and casualty response in India, the Directorate General of Shipping has undertaken the following targeted salvage initiatives.



Coastal State Advisory Framework

Overview of Marine Incident Response, Liability, and Compensation Frameworks for coastal States, roles of Maritime Boards, and coordination aspects between State–Centre during salvage and casualty cases.

Mandatory Tie-up with Salvors & MPROs

Ensures ships calling Indian ports have pre-arranged support for salvage and oil-spill response. This enables faster, more reliable emergency action



MS Notice for Mandatory deployment of Tugs by Ports

Requires ports to keep tugs ready for immediate emergency use. It strengthens response capability along the coastline.

Development of Maritime Compensation Fund

A focused funding setup to strengthen national salvage capacity to ensures sustainability of maintaining resource around the Indian coast for emergency support.



Cooperation with State Governments & Workshops

Collaboration with States through workshops, joint training, and shared mechanisms to strengthen regional salvage response.

SCR Procurement Status

Appointing a Special Casualty Representative (SCR) to develop the national salvage framework, including capability assessment, salvor empanelment criteria, Salvage Hub design, and response SOPs aligned with the Merchant Shipping Act, 2025.



Port of Refuge

Concept, Guidelines & Strategic Actions



A Place of Refuge is a **designated sheltered location** (port, anchorage, or coastal area) where a ship in need of assistance may be **taken to stabilize its condition, enable preventive measures** (e.g., lightering, repairs), reduce environmental risk, protect navigation and human life, and prevent further deterioration or pollution.

IMO Guidelines on Places of Refuge

IMO Guidelines (Resolutions A.949(23) and A.1184(33)) provide a **transparent international framework** for coastal States to assess and decide on refuge requests.

While **no obligation is imposed** on a coastal State to grant refuge, decision-making should be **balanced, objective, and risk-based**.

The Guidelines:

- Clarify **risk analysis factors**
- Define **roles of competent authorities**
- Outline procedures for **request, assessment, and decision**
- Support **international/regional coordination** when more than one State is involved

Strategic Actions by DGS

Under India's evolving maritime safety framework:

- **Consultations initiated** for a **National Port of Refuge Framework**, aligned with the IMO Guidelines.
- Designated **locations for refuge will be identified** with risk-based criteria to ensure port suitability and environmental safeguards.
- Emphasis on **strategic placement of Sea-going Tugs and Emergency Towing Vessels (ETVs)** along high-traffic corridors to support distressed vessels.
- **Coast Guard operational role and legal obligations** enhanced with alignment to international norms, now embodied in the **Merchant Shipping Act, 2025**.

Alpha Tugs and Emergency Towing Vessels (ETVs)

Availability and strategic positioning



Enhance maritime casualty response through mandatory emergency tug deployment at major ports and strategic use of Alpha Tugs across the coastline.

Current Status

- **2 ETVs** hired by Mumbai and Chennai Port Authorities; costs reimbursed by **MoPSW through DGS**.
- These serve as the current emergency response assets.

MS Notice 11 of 2025 for Deployment of Tugs having Sea-going capabilities for Emergency Response at Indian Port

- **All Indian ports (Major/Non-major; Public/Private) handling ≥ 10 MMT/year and/or operating ≥ 3 tugs with bollard pull $> 45T$ must designate at least one sea-going tug**
- Tug to be:
 - **Multi-purpose equipped | Maintained in operational readiness | Crew-augmentable within 6 hours**
- Ports to submit:
 - **Technical specifications | Crew certifications | Emergency Tug Deployment Plan (ETDP)**
(within 90 days)



Alpha Tugs and Emergency Towing Vessels (ETVs)

Availability and strategic positioning



Enhance maritime casualty response through mandatory emergency tug deployment at major ports and strategic use of Alpha Tugs across the coastline.

Alpha Tug Initiative

- **High Bollard Pull tugs** to be upgraded as **First Responder ETVs**:
 - Outfitted with **towage gear & salvage equipment**.
 - Crews provided with **emergency towing training**.
- **Decentralised deployment** along both coasts enables rapid mobilisation, particularly during **monsoon season**.

Benefits

- Faster first-response towage and Fi-Fi support, especially during monsoon incidents
- Reduces coastal/environmental risk while professional salvors are mobilised
- Strengthens port-level disaster preparedness and inter-agency response capability
- Improves national resilience and alignment with international coastal State obligations
- Enables more predictable Port of Refuge and response planning through assured local capability



Overview of Fishing Vessel Collisions from 2023-2025

Total Number of Collision

27

Annual Distribution of Collisions

10

Collisions in
2025

9

Collisions in
2024

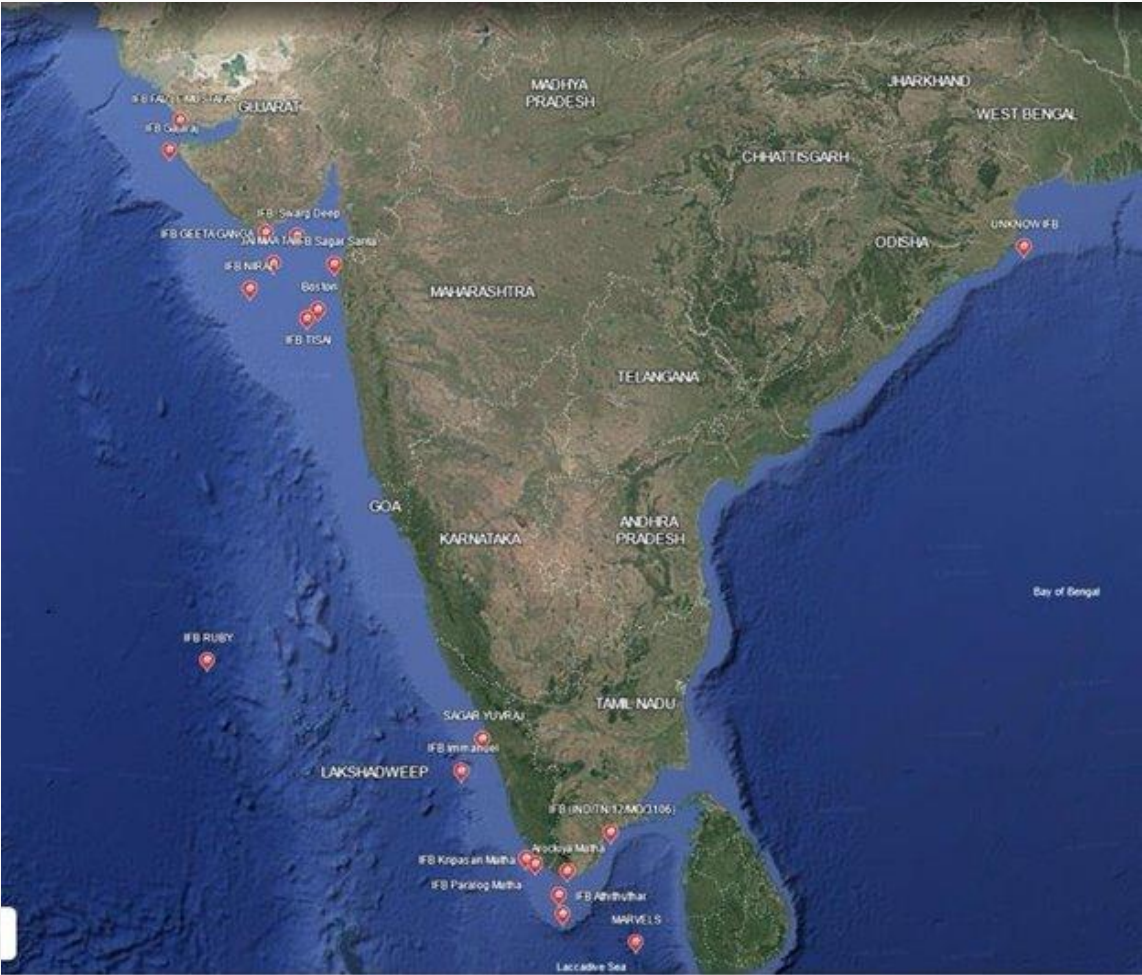
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Collisions in
2023

Resulted in

2025		2024		2023	
Fatality	5	Fatality	2	Fatality	2
Injury	0	Injury	2	Injury	6

Location of Collision



Fishing Vessel Collisions & Safety Awareness

Gaps and Issues Identified



1

Delayed Reporting

Incident notifications delayed up to **196 hours**, impeding rescue and investigation

2

Low Detectability

Many vessels lack **radar reflectors, AIS, and navigation lights**, reducing visibility to merchant traffic

3

Weak Communication Framework

No **centralised reporting or distress channel** between fishing boats and merchant ships

4

Incomplete Data Collection

High incident frequency under specific MMD jurisdictions (Kandla, Kochi, Chennai) indicates need for localised strategies

5

Mixed-Flag Involvement

Collisions involve both Indian and foreign-flag vessels, requiring better flag-state and port coordination.

6

Inadequate Insurance cover and oversight & Inadequate inspection and certification regime of fishing vessels by the Fisheries department

Fishing Vessel Collisions & Safety Awareness

Fishing Vessel Collisions – Recommended Actions



Unified Reporting Protocol:

Establish a **single-window system via MRCC** for reporting collisions and near-miss incidents

Mandatory Navigational Equipment:

Enforce fitting of radar reflectors, VHF sets, and navigation lights on all mechanised and motorised fishing vessels

Capacity Building for Fishermen:

Conduct regular safety workshops through Fisheries Departments and Port Authorities on navigation, communication, and emergency response

Integrate Vessel Database:

Link fishing vessel registries with DG Shipping's central database for traceability and real-time coordination with MMDs and ICG

Zone-Based Monitoring:

Deploy coastal radar and AIS tracking in high-traffic areas, especially the Visakhapatnam–Kakinada corridor, for enhanced surveillance

Foreign-Flag Coordination:

Strengthen enforcement of COLREGs and establish joint investigation mechanisms for foreign vessel incidents

Coastal State Advisory on Marine Incident Response, Liability & Compensation Frameworks

To be issued by Directorate General of Shipping



- Establishes a **single, framework** for coastal states to manage marine incidents with the Central Government protecting sovereignty, environment, and communities.
- Anchored to **Maritime Reforms 2025** (Indian Ports Act, Coastal Shipping Act, COGS Bill, Merchant Shipping Act) to ensure **faster and accountable response**.
- Addresses gaps observed in recent casualties: **unclear roles, legal sequencing, and compensation pathways** leading to confusion and premature litigation.
- Standardises **incident reporting & communication**: triggers, templates, and real-time channels across all coastal states.
- Clarifies **liability & compensation regimes**: P&I cover, liability limits, claims process, and documentation requirements.
- Strengthens **multi-agency enforcement & cross-jurisdiction coordination** (Ports, MRCCs, SDMAAs, MoEFCC, allied bodies).



Coastal State Advisory on Marine Incident Response, Liability, and Compensation Frameworks

Directorate General of Shipping, Ministry of Ports,
Shipping and Waterways

2026

Liability and Compensation Framework

Financial Security and Enforcement Mechanism



The Framework mandates:



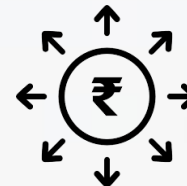
Compulsory insurance certification



Financial security for pollution and wreck removal liabilities



Tonnage-based limitation of liability (LLMC 1976)



Direct action against insurers (Bunker Convention 2001)



Formation of limitation funds where applicable

International Liability and Compensation Conventions

Scope and Operational Relevance (1/2)



The liability regime applicable is structured as follows

No.	Convention	Primary Subject Matter	Applicability and Operational Relevance
1	Convention on Limitation of Liability for Maritime Claims, 1976 (LLMC 1976)	Limitation of shipowner and salvor liability	Applies to claims including personal injury, property damage, wreck removal and delay. Liability capped based on vessel tonnage. Incorporated under Part IX of the Merchant Shipping Act, 2025.
2	International Convention on Civil Liability for Oil Pollution Damage, 1992 (CLC 1992)	Civil liability for tanker oil pollution	Establishes strict liability of tanker owners for pollution damage caused by persistent oil carried as cargo . Requires compulsory insurance. Applies to spills in Indian waters.
3	International Convention on Civil Liability for Bunker Oil Pollution Damage, 2001 (Bunker Convention 2001)	Pollution damage from bunker fuel	Applies to pollution damage from bunker oil of all seagoing vessels (other than cargo oil tankers under CLC) . Mandates compulsory insurance and permits direct action against insurers. Reflected in the Merchant Shipping Act, 2025.
4	International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, 1992 (Fund Convention 1992)	Supplementary tanker oil pollution compensation	Provides access to the International Oil Pollution Compensation Fund where compensation under CLC 1992 is insufficient or unavailable . Applicable within Indian jurisdiction.

International Liability and Compensation Conventions

Scope and Operational Relevance (2/2)



The liability regime applicable is structured as follows

No.	Convention	Primary Subject Matter	Applicability and Operational Relevance
5	Protocol of 2003 to the Fund Convention (Supplementary Fund) <i>Note: India is not a party to the Supplementary Fund, and therefore, the limits are not applicable</i>	Third-tier compensation mechanism	Provides an additional compensation tier for major tanker spills . India is not a party; therefore, these limits are not applicable.
6	Nairobi International Convention on the Removal of Wrecks, 2007	Wreck removal liability and cost recovery	Fixes responsibility on the registered shipowner to locate, mark, and remove hazardous wrecks . Requires compulsory insurance. Incorporated under Part XII of the Merchant Shipping Act, 2025.
7	International Convention on Salvage, 1989	Salvage operations and environmental protection	Governs rights, duties and remuneration of salvors. Recognizes environmental protection as a factor in reward determination . Reflected in Part XII of the Merchant Shipping Act, 2025.
8	International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea (HNS Convention) <i>Note: India is not a party to the Supplementary Fund, and therefore, the limits are not applicable</i>	Liability for hazardous and noxious substance spills	Establishes a two-tier compensation regime for chemical and liquefied natural gas spills . India is not a party; therefore, not applicable.

Claims Handling and Financial Protection of Coastal States



The liability regime functions through a structured claims and enforcement pathway designed to minimize financial exposure of coastal administrations.



Triggering of Liability

Applicable convention is triggered (e.g., CLC 1992, Bunker Convention 2001, LLMC 1976, Nairobi Wreck Removal Convention 2007)

Shipowner's Protection and Indemnity (P&I) insurer is notified

Compulsory insurance ensures immediate financial backing

Submission and Processing of Claims

- Affected parties **submit claims** through **designated authorities**
- Compensation is assessed in accordance **with convention limits**
- In tanker oil pollution cases, **access to the International Oil Pollution Compensation Fund is available where CLC limits are insufficient**



Financial Safeguards for Coastal States

Primary liability rests with the registered shipowner

Insurance-backed compensation reduces enforcement delays

Limitation fund mechanism aggregates claims

Wreck removal costs recoverable from owner

Liability and Compensation Framework

International and Domestic Integration



India's maritime liability regime is structured through the integration of international conventions and domestic legislation to ensure enforceable accountability, financial security, and environmental protection in the event of marine incidents.



These conventions define **liability limits**, **strict liability principles**, **compulsory insurance requirements**, and **structured compensation mechanisms**.



Merchant Shipping Act 2025

Legal Architecture to be followed by Coastal States



Key Parts Relevant to Coastal States

Part X

Marine Incidents and Emergency Response

Marine Incident (Clause 224a): Broad event endangering vessel, persons, or environment

Marine Casualty (Clause 231): Specific serious occurrence (collision, grounding, fire, loss of life)

Time-efficient emergency response to prevent escalation into wreck.

Clause 227 empowers Central Government to notify Marine Incident Response Plans.

Part XI

Investigation and Inquiries on Marine Casualties

Mandatory Reporting:

- Marine casualty must be reported within **24 hours**
- By owner, manager, operator, master, pilot, harbour master

Investigation Sequence:

- Notice to appointed officer
- Preliminary inquiry
- Report to Central Government
- Marine safety investigation body appointed (as per SOLAS)
- Final report & administrative action (if misconduct/incompetence found)

Part XII

Wreck and Salvage

Wreck Removal: Applies to Indian waters including coastal waters.

Key Provisions:

- Receiver of Wreck appointed &
- Mandatory reporting to DGS & MRCC (Sec. 236)
- Hazard determination based on 17 criteria
- Shipowner must locate, mark, and remove wreck
- Strict financial liability on registered owner
- Compulsory insurance required
- If owner fails → Receiver removes wreck → Costs recovered from owner.

Salvage Operations: Salvage operations in Indian territory & Indian-registered vessels globally. Excludes warships and non-commercial Government vessels.

Key Provisions:

- Right to salvage payment & Salvage of life takes priority
- Salvage contract mandatory (Sec. 251)
- Maritime lien available for unpaid claims & Government authorities entitled to reward
- Claims extinguished after 2 years
- Disputes: DG facilitation → Arbitration → High Court
- Environmental protection recognized in reward determination



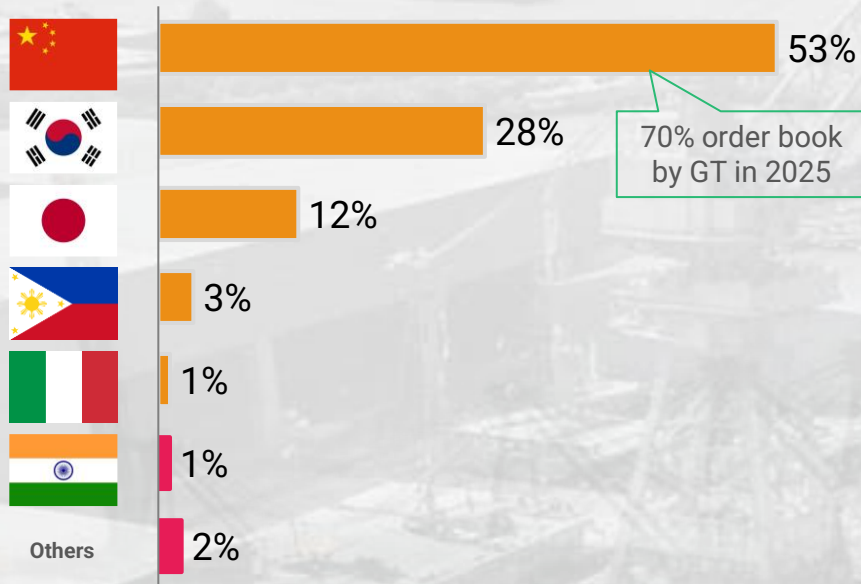
Pillar 2

Ship Building and Ship Recycling Opportunities

Commercial tonnage | 20+ shipyards in India contribute to about 1% of tonnage; India poised well to exploit the shipbuilding super cycle

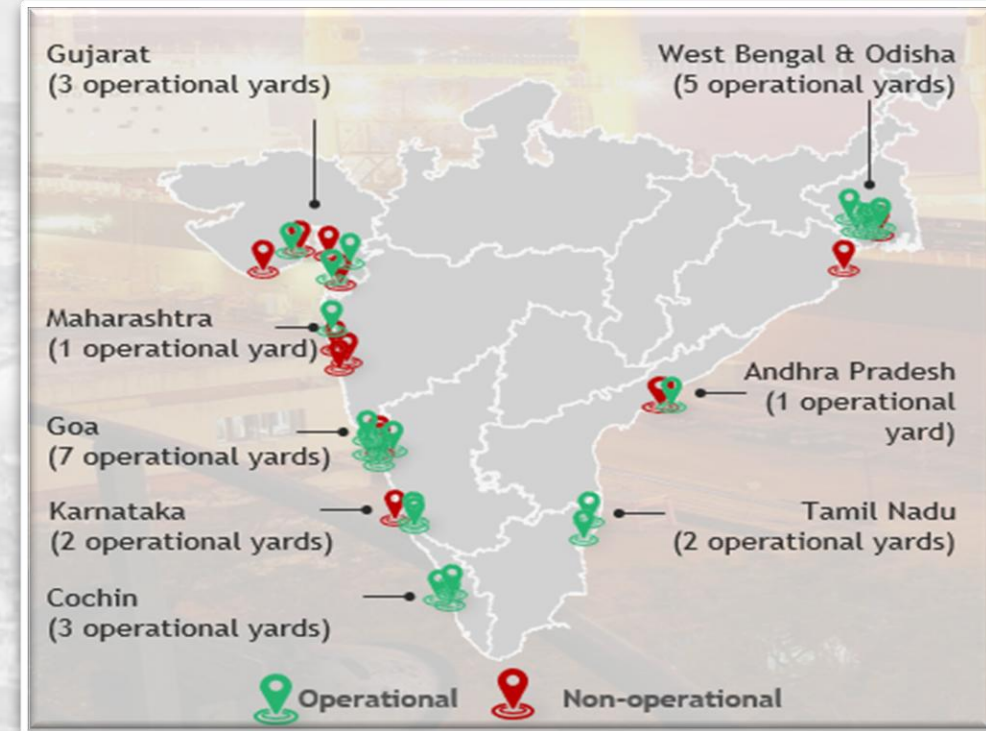
India secured Top10 spot in 2000s with 300k+ Tn throughput- strong skillsets exist

Commercial deliveries¹ by GT(2024)
dominated by China, Korea and Japan



Top-5 position requires throughput of **4+ Mn GT²** over next 2 decades vis a vis current approx, 50,000 GT

India does have the 'shipbuilding DNA' - demonstrated robust performance in 2000s and **Aatmanirbhar in Naval fleet**



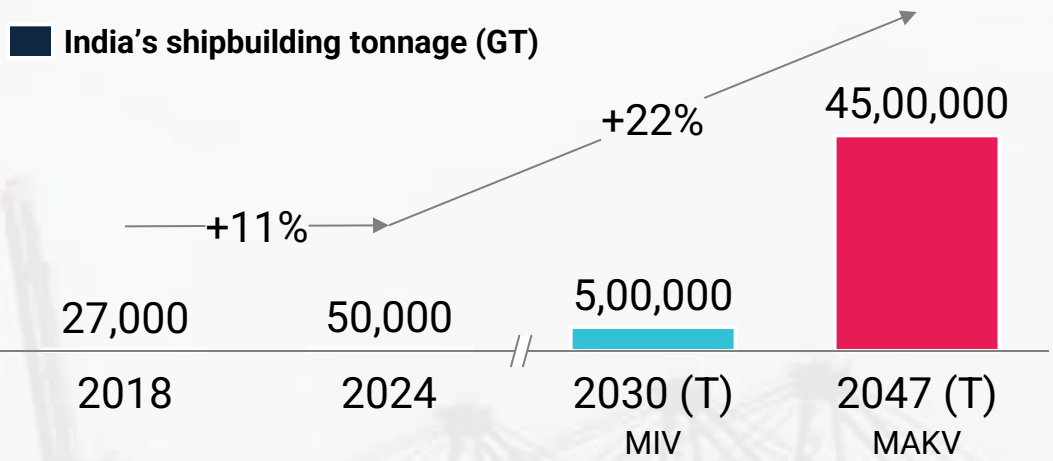
Major shipyards in India

1. Source: Clarkson's Database, Secondary research
2. Calculated tonnage basis projected SB market growth and current GT throughput of Top-5 nations

Indian shipbuilding sector needs to step-up to meet 2030/2047 targets

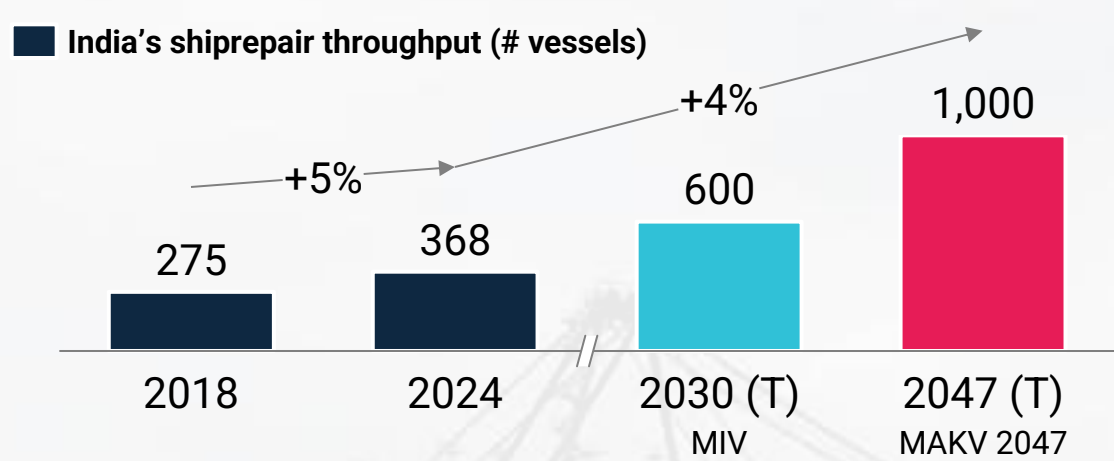
Critical to setup right clusters and attract investments leveraging the announced schemes

India's SB tonnage witnessed 10% CAGR in past 3 years, require 20% growth rate to achieve 2047 targets



5-10% of global market share to be targeted to be amongst Top-5 shipbuilding nations

India's SR tonnage require continued steady momentum of 4-5% CAGR to achieve 2047 targets



Critical to achieve significant exports and Atmanirbhar Bharat by setting up large clusters - **3-3.5 Mn GT to be produced from 3-4 greenfield clusters**, attracting investments and achieving global competitiveness

Why Shipbuilding is Critical?



Mother Industry for Heavy Engineering

Foundational to heavy engineering sector



Increasing Indian Tonnage in Energy Imports

Need for tanker ships to reduce import costs



Employment Generation

Creates numerous skilled and semi-skilled jobs



Increasing Indian Tonnage in Energy Imports

Need for tanker ships to reduce import costs



Creation of Strategic Assets

Support Naval Defence and Maritime Security

Challenges faced by Indian Shipbuilding Industry



Limited Availability of Specific Skilled Labor



Limited domestic supply chain and procurement lead time



Capability Gaps in Ship Design & Engineering



Working capital stretch due to tail ended payment milestones



Inadequate project mgmt capability



Production Efficiency Gaps



Landed cost of raw material & equipment

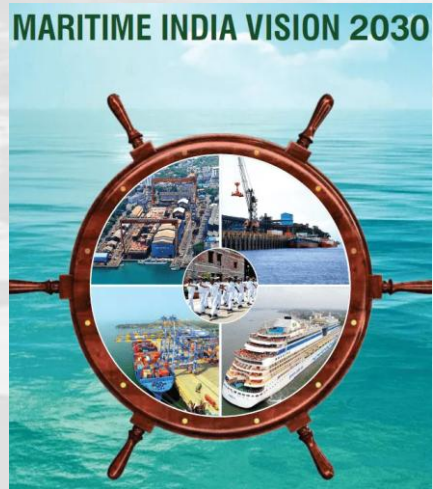


Limited adoption of modern shipbuilding techniques



Modest IRR for greenfield projects

National Vision for Shipbuilding



MIV 2030

TARGETS

MAKV 2047

Top 10



Global Ranking

Top 5

0.6 Mn GT



Annual Production

4.5 Mn GT

20+ Lakh jobs



Employment Generation

1.5 Crore jobs

₹3 Lakh - 3.5 Lakh Cr



Investment Required

₹75 Lakh - 80 Lakh Cr



Four pillar approach for Shipbuilding



Total Allocation

₹69,725 Cr.

01

Shipbuilding Financial Assistance scheme

Allocation: ₹24,736 crore

(Shipbreaking Credit Note – 4,001 Cr)

02

Maritime Development Fund

Allocation: ₹25,000 crore

(Maritime Investment Fund – ₹20,000 crore
Interest Incentivisation Fund – ₹5,000 crore)

03

Shipbuilding Development Scheme
Allocation: ₹ 19,989 crore
(Capacity & capability development and credit risk coverage)

04

Legal, Policy and Process Reforms

Pillar 1: Shipbuilding Financial Assistance



₹ 24,736 Cr.

01
Shipbuilding Financial Assistance scheme

01 ₹ 20,554 Cr.

Extension of Shipbuilding financial assistance scheme

02 ₹ 4,001 Cr.

Shipbreaking credit note

03 ₹ 181 Cr.

Establishment of National Shipbuilding Mission

Shipbreaking credit note

40% of ship's scrap value to be issued to the ship-owner when the vessel is scrapped in an Indian yard. Credit note would be reimbursable against cost of construction of new vessel at an Indian shipyard.

Assistance Rate Structure

Non-specialized – Small Vessel

- Up to ₹100 crore → 15% of actual value

Non-specialized – Large Vessel

- First ₹100 crore → 15%
- Value above ₹100 crore → 20%

Specialized Vessel

- First ₹100 crore → 15%
- Value above ₹100 crore → 25%

Domestic Content Requirement

< 30% Domestic Content

- No SBFAS support

30% to < 40% Domestic Content

- Pro-rata support

≥ 40% Domestic Content

- Full support



Pillar 2: Maritime Development Fund



Overview

Maritime Investment Fund (MIF)

₹ 20,000
Cr.

(₹ 70,000 Cr under
consideration)

- Long-term capital deployment for shipbuilding, port modernization & green shipping
- Blended-finance vehicle driving India's maritime transformation
- ₹ 1.5 lakh cr Investments to be mobilized by 2030 on PPP model

49.0% (Public)

51.0% (Private)

Interest Incentivization Fund (IIF)

₹ 5,000
Cr.

- Supports debt financing by reducing the cost of financing
- Incentive Structure:
 - Interest incentive of up to 3%
 - Offered to banks and financial institutions
 - Applicable on loans extended to Indian shipyards



Focus Areas

- ◆ Fleet expansion, shipbuilding, ports, inland waterways, and green shipping to enhance efficiency, capacity, and sustainability
- ◆ Infrastructure & technology backed modernization



Beneficiaries

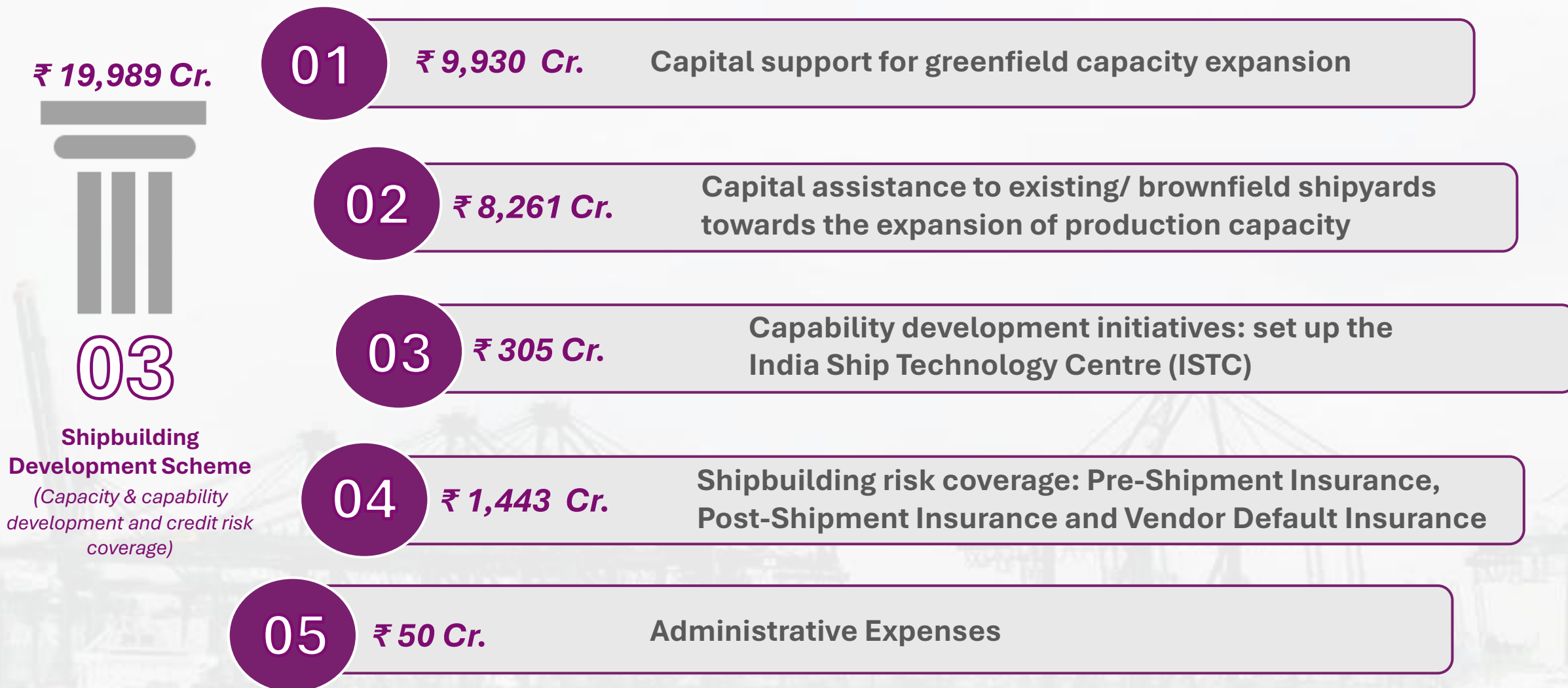
- ◆ Ports
- ◆ Shipyards and Shipowners
- ◆ Indian shipping companies
- ◆ Coastal communities and maritime MSMEs



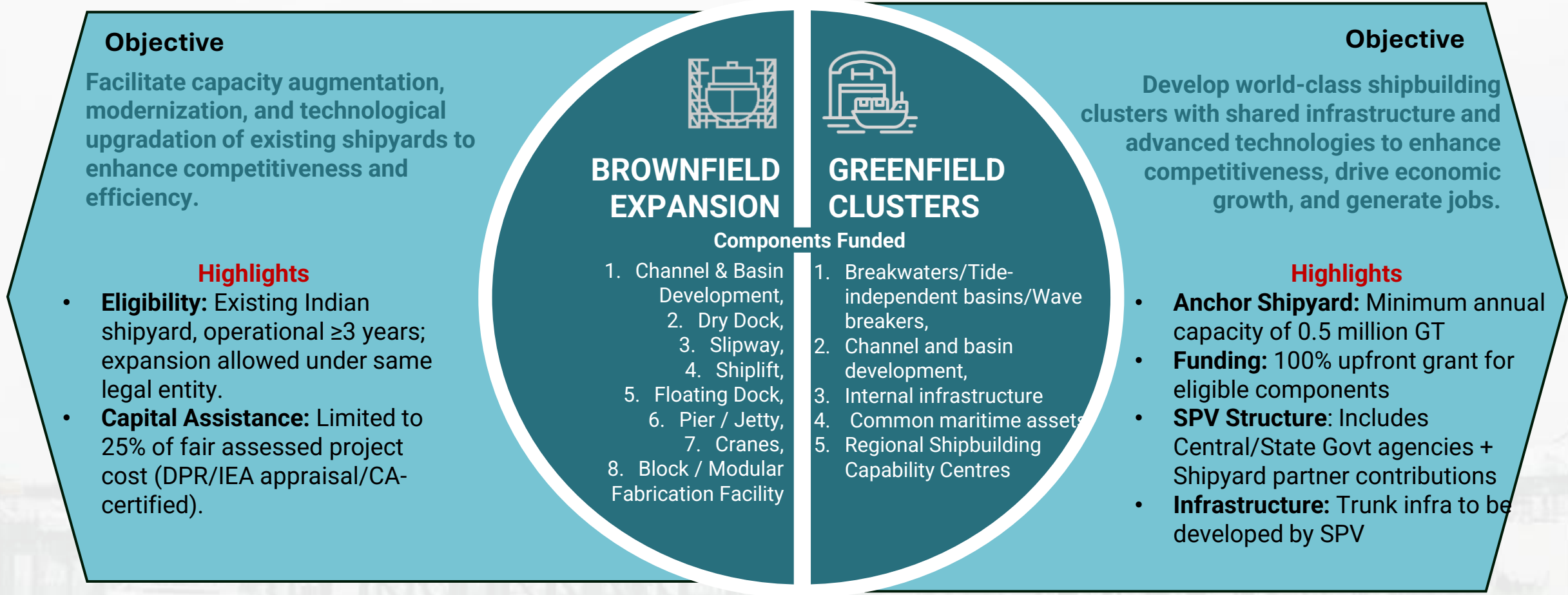
Policy Instruments

- ◆ Blended finance model combining equity, debt and VGF
- ◆ Interest subvention and credit-enhancement mechanisms offering concessional lending and partial guarantees

Pillar 3: Shipbuilding Development Scheme



Pillar 3: SbDS Highlights



Pillar 4: Legal, Policy and Process Reforms



Flag administration/ Taxation/ Legal reforms

- MS Act 2025 & CS Act 2025 etc.
- RoFR for Indian built
- Longterm charter for Indian built – GTTP, GCTP etc
- Taxation anomalies including IGST on import of vessels, IGST on MRO services, inverted duty structure etc
- Customs duty exemption on ancillary
- Local Content Order.

Infrastructure Status to Large Ships, 2025

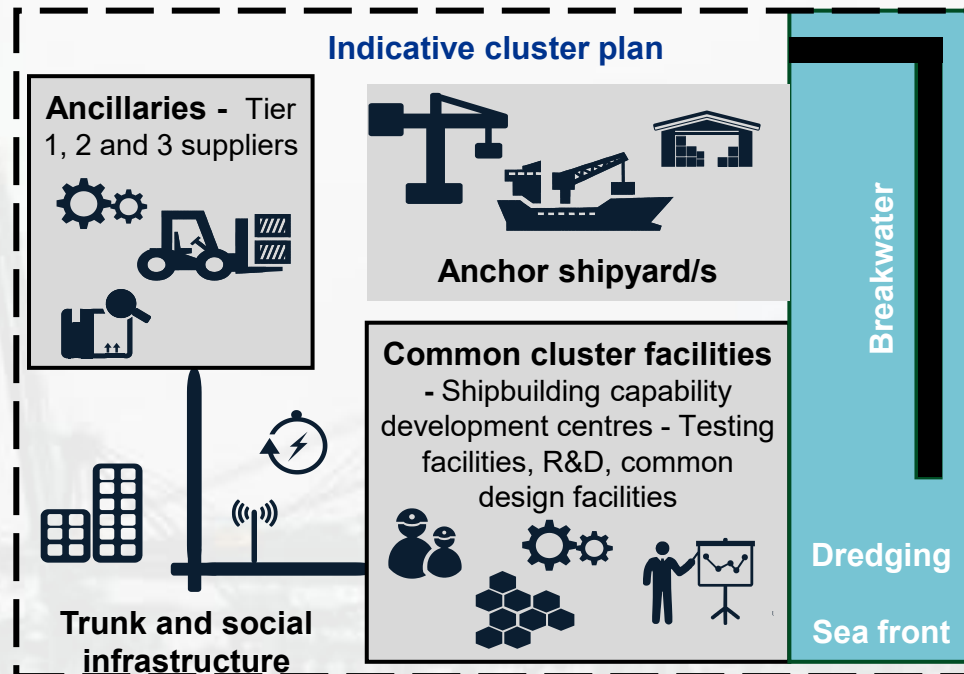
Union Budget 2025-26 announced grant of infrastructure status to large ships- expanding avenues of financing and access to long-term financing

GIFT City

Several tax benefits and administrative reforms at GIFT-IFSC provides a financial boost for shipping

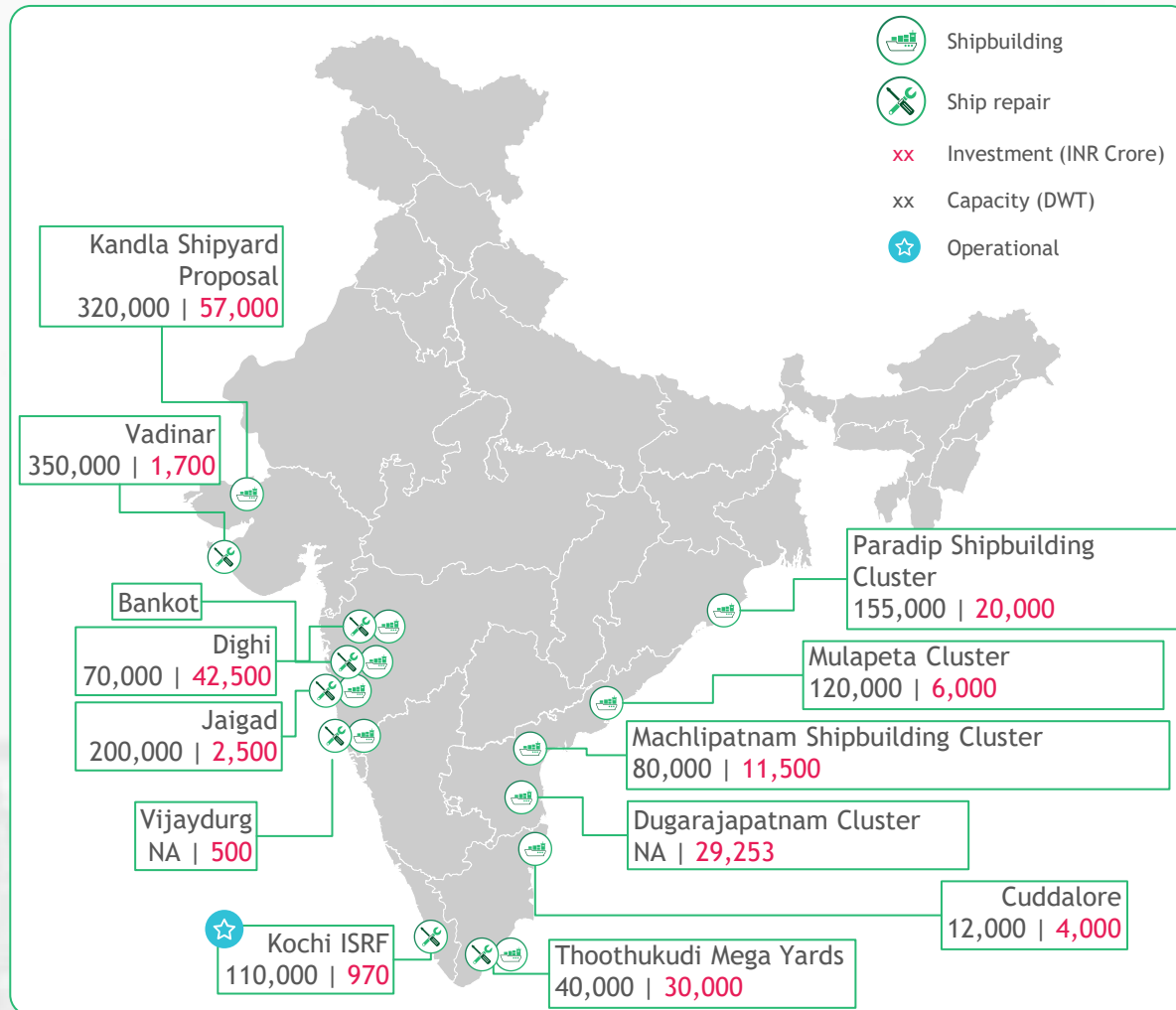
Cluster Based Approach for Greenfield Capacity and Capability Creation

A cluster-based approach makes an attractive proposition for both the shipyards as well as the ancillaries as it will allow for efficient utilization of common assets and connectivity infrastructure



Ulsan Shipbuilding cluster in South Korea

Maritime clusters | INR 205,000 crore+ planned across 13 shipbuilding and ship repair clusters



Plan to expand **India's shipbuilding capacity to 4.5 Mn GT in short term and 8.2 Mn GT eventually**



INR 205,000 crores of cumulative investments across 13 shipbuilding and ship repair clusters



Collaborative impetus with central bodies (**MOPSW, DGS**) closely working with **state govt. and maritime boards (TN, AP, MH, GJ)**

Konkan Maritime Cluster



Konkan Maritime Cluster is the 1st Maritime Cluster of India set up by a corporation of Goan companies in Goa, a Company having its registered office at Vasco, Goa and duty registered under Ministry of Company Affairs, Government of India.

Key Highlights



- To strengthen India's maritime manufacturing ecosystem through clustering of MSMEs
- To enhance global competitiveness of small and medium shipyards
- To support Atmanirbhar Bharat by reducing dependence on imported marine equipment
- Established at Verna Industrial Estate, Goa
- Land area: 14,380 sq. m
- Supported by:
 - Government of Goa
 - MoPSW(through DGS)
 - Ministry of MSME
- Anchored in Goa's legacy of MSME-led shipbuilding and marine manufacturing

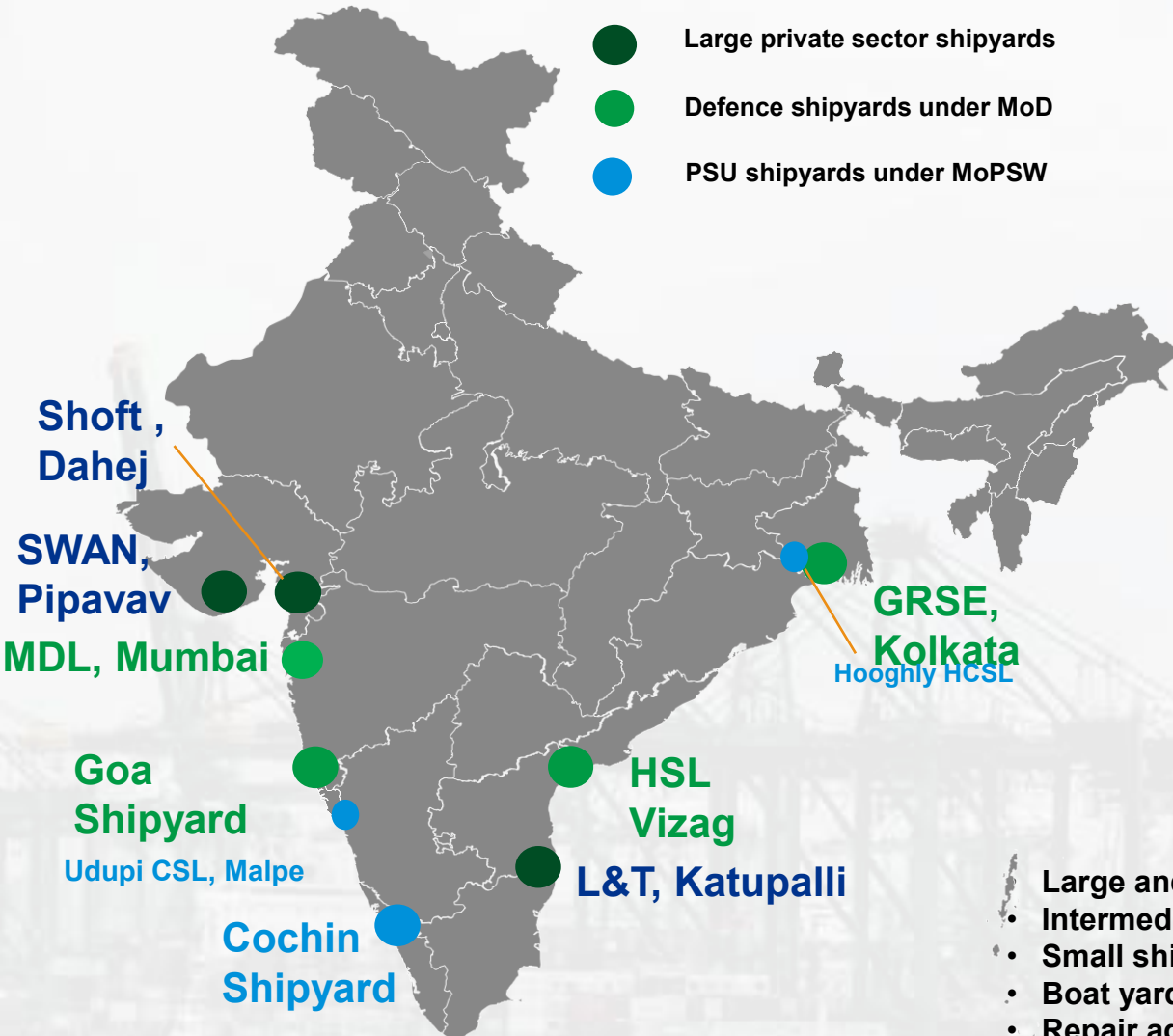
Common Facility Centre (CFC)

The **Common Facility Centre (CFC) at the Konkan Maritime Cluster** is a shared industrial infrastructure created **to support MSMEs and start-ups engaged in shipbuilding**, marine equipment manufacturing, and allied maritime activities. It provides access to advanced fabrication, testing, and processing facilities that individual enterprises may not be able to establish independently due to high capital costs. By enabling **shared use of modern machinery and services at affordable rates**, the CFC helps improve product quality, ensure compliance with national and international standards, reduce project timelines, and enhance the overall competitiveness of maritime MSMEs within the cluster.

Shipyards in India



Key shipyards in India



State wise list of shipyards

S No	State	Large & very large	Intermediate	small	Boat yards	Small repair agencies
1	A&N	0	0	1	0	1
2	Andhra Pradesh	1	0	1	0	1
3	Goa	1	3	11	1	2
4	Gujarat	2	0	2	1	0
5	Karnataka	0	2	1	0	0
6	Kerala	1	0	3	3	0
7	Maharashtra	1	0	6	1	4
8	Tamil Nadu	1	0	0	0	1
9	West Bengal	1	1	3	0	3
Total		8	7	28	6	12

- Large and very large shipyards > 20,000 DWT capacity
- Intermediate shipyards, 10,000 – 20,000 DWT capacity
- Small shipyards, 1000 – 10,000 DWT capacity
- Boat yards < 1000 DWT capacity/
- Repair agencies - no full-time capacity

***Total number of shipyards is 61; as of April 2025**

Shipbuilding Capacity in Goa



S No	Shipyard	Shipbuilding Capacity (DWT)
1	Vijai Marine Services	12,000
2	Mandovi Drydocks	12,000
3	Chowgule And Company Pvt. Ltd.	7,000
4	Dempo Shipbuilding and Engineering Pvt. Ltd.	18,000
5	Waterways Shipyard Pvt. Ltd.	10,000
6	Synergy Shipbuilders	10,000
7	Zuari Shipyard Pvt. Ltd.	9,000
8	Victoria Shipbuilding And Engineering LLP	8,000
9	Atreya Shipyard Pvt. Ltd.	6,000
10	West Coast Shipyard Ltd.	5,000
11	Aquarius Shipyard Pvt. Ltd.	2,000
12	Praka Engineering Shipyard	20,000
13	Timblo Drydocks Pvt. Ltd.	5,000
14	Essfour Engineering Pvt. Ltd.	3,000
15	Majestic Dockyard Pvt. Ltd.	3,000



Growth Drivers for Shipbuilding Industry in India



Government Policy Support and Incentives

Introduction of the shipbuilding Financial Assistance Policy (SBFAP).

Financial and procedural support under the Sagarmala Programme.

Expanding Maritime Trade

Growing EXIM trade volumes and rising port capacity.

Ship Repair and Retrofit Market Growth

Increasing need for retrofit and repair services.

Strategic location advantaged like Tuticorin near international trade routes.

Emergence of Green and Sustainable

Opportunity for India to become a manufacturing hub for green ships, hybrid vessels, and alternative.

Export Potential and Competitive Labour

Indian shipyards benefit from lower manpower and engineering costs.

Standardization of Technology for Adoption

Government released standard log designs and digitalization in ship design and production processes.



10 key considerations for setting up a successful cluster (I/II)



Non - exhaustive



Location

1. **Quality of waterfront and contiguous land parcel**
 - Outer v/s inner harbors impact investments and dredging costs
 - Size and contiguity of land parcel to accommodate suppliers, commercial and housing districts
2. **Accessibility of location**
 - Multi-modal access incl. rail, air and waterways to connect with global supply chain
3. **Social infrastructure and quality of life**
 - Key amenities such as schools, hospitals, etc
 - Expat centric social facilities



Infrastructure

4. **Cluster as free zone; cluster-owner develops trunk infra and tenant invest in unit capex**
 - Capex invested by SB companies on land leased for ~25 years in greenfield cluster
 - SB facilities run by experienced players; Cluster owner operates & charges for common-use facilities (berthage, pilotage etc.)



Maritime Ecosystem

5. **Manpower capabilities :**
 - Availability of manpower training facilities, CoE for new technologies, attractive perks for right talent
6. **Integrated Maritime community with right ecosystem**
 - Core and ancillary facilities housed together
 - Key suppliers made integral part of anchor investments (e.g., engines, steel, etc)
 - Bunkering, other maritime services and commercial districts in proximity, at competitive prices

10 key considerations for setting up a successful cluster (I/II)



Non - exhaustive



Partnerships

7. Industry Partnerships to offer holistic value proposition

- Strategic partnerships - e.g., with Ship Designers to provide services to clusters

8. Policies encouraging partnerships with foreign players to enhance capabilities & demand

- Potential to partner with foreign shipyard operators, vessel owners, maritime conglomerates, etc.



IRR driven Govt Support

9. Strong government support to drive threshold 'IRR'

- Realistic IRR model and VGF support critical- private sector looks for 15%+ returns, especially in the long gestation period projects
- Policies by central/state admin., and commerce & trade departments incl. 100% exemption from personal/ corporate tax, 100% FDI inflow, no customs duty, expedited licenses/ clearances, etc.



Governance

10. Inter-agency coordination

- Cross functional coordination hubs with Pvt. representatives (policy, port ops., finance, and trade agencies)
- Investment Tracking & policy impact measured via regular 'investor feedback'

Ship Recycling

- Process of dismantling end-of-life ships to recover **steel and other valuable materials**.
- India is a **global leader**, with Alang–Sosiya in Gujarat being the **world's largest ship recycling cluster**.
- Governed internationally by the **Hong Kong Convention (HKC)**, which came into force on **26 June 2025**.
- Integral to the **circular economy**, reducing the demand for virgin raw materials. 97-98% Materials recoverable

India's Role & Importance

- Handles **30% - 35% of global ship recycling tonnage** annually. (~800 vessels annually)
- Provides **20 - 25% of India's ferrous scrap requirement**, reducing dependence on imports.
- India is the **only country with 100+ HKC Compliant Recycling Yards**. Supplies input material for the **Green Steel ecosystem**, boosting India's low-carbon transition.
- Generates **direct employment for 15000+ workers** and **indirect livelihood opportunities** for thousands more in logistics, scrap processing, and allied services.
- Strengthens India's position in **global maritime sustainability**.

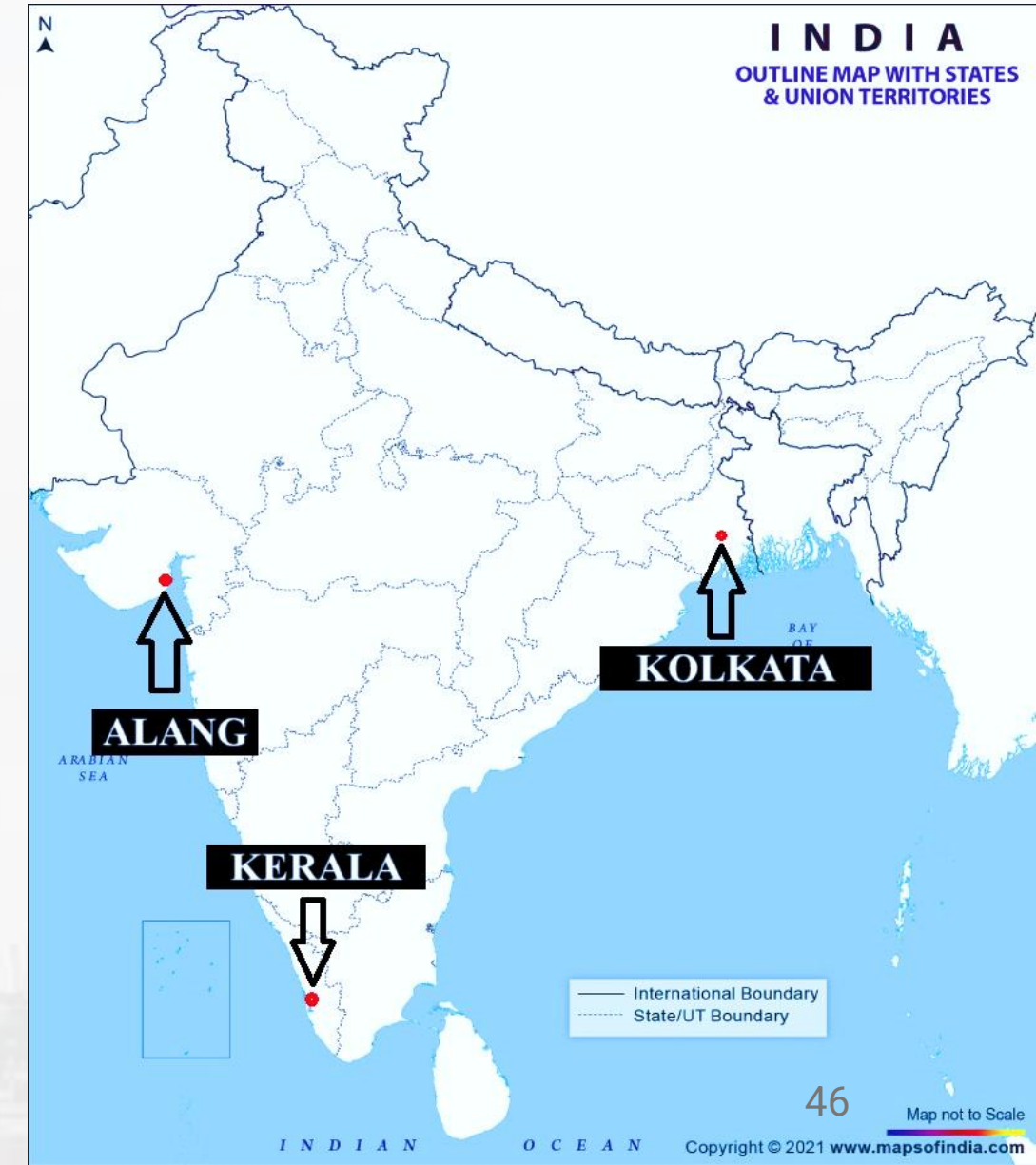


**INDIA is a Global Leader
with 115 HKC Compliant
Ship Recycling Yards**

Ship Recycling Yards in India



Yard	Total Number of Plots	Operational Plots	HKC Compliant yards
Alang, Bhavnagar (Gujarat)	150	128	115
Steel Industries Limited (Kerala)	1	1	0
Amar Iron Udyog, Kolkata (West Bengal)	1	1	0



Regulatory Framework for Ship Recycling in India



1

Ship Breaking Code, 2013

Consolidated guidelines for hazardous waste disposal, worker safety, and environmental protection. (Superseded by Ship Recycling Act)

2

Recycling of Ships Act, 2019

Mandates facility certification and prohibits hazardous materials in line with HKC standards.

3

Ship Recycling Rules, 2021

Provides a comprehensive legal framework for governing ship recycling activities.

4

Ship Recycling Regulation, 2026

Ensures both Indian and foreign ships comply with international standards.

Ship recycling operations are aligned with **International Labour Organization (ILO)** labour code & standards to safeguard worker safety, health and dignity in hazardous dismantling environments.



Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships



Inventory of Hazardous Materials

All **in-service ships to comply** with:

- Flying the flag of a state party to the Convention, or
- Calling at a port in a country that is a party to the Convention.

When?

- **New builds:** From **26 June 2025**.
- **Existing ships:** By 26 June 2030, however, we strongly recommend the **next harmonised survey** after 26 June 2025.

What is required?

- A **valid Inventory of Hazardous Materials (IHM)**.
- An **International IHM Certificate**, valid for **5 years**, issued by the **RO** or **flag State**.



Final Survey

All **in service ships going for recycling** to comply if:

- flying the flag of a state party to the Convention, or
- being recycled in a country party to the convention.

When?

- Any **ship going for recycling** on or after **26 June 2025**

What is required?

- **IHM part I** and valid **certification**
- IHM **parts II & III**
- a **ship specific recycling plan** from an authorised recycling facility
- An **international ready for recycling certificate**. Valid for **3 months**. Issued by **RO** or **flag State**.



Ship Recycling Facility Certification

All **recycling facilities** operating in countries party to the convention.

When?

SRF certification need certification from **26 June 2025**.

What is required?

- **Ship Recycling Facility Plan**
- Produce **ship specific recycling plans**
- Access to appropriate **medical and waste treatment facilities**.
- Be **authorised** by their competent authority
- Hold a valid **Document of Authorisation for Ship Recycling (DASR)**.

Entry into Force of HKC



- Hong Kong Convention (HKC) entered into force on 26 June 2025.
- Sets legally binding global standards for environmentally sound and safe ship recycling.
- India plays a central role as home to the world's largest ship recycling cluster at Alang (150 yards ; 115 HKC Compliant)
- A one-day workshop marking the enforcement was held at Bhavnagar on 30 June 2025.



Adoption by IMO,
2009

Notification of
National Authority
December 2020

Notification of Ship
Recycling Regulations, July
2025

Entry in force of HKC
26th June, 2025

Accession by India,
2019

Framing of Ship
Recycling rules, 2021

Enactment of Ship
Recycling Act,
February 2021

Infrastructure and Compliance Standards



HKC & ISO-Aligned Facility Standards

- Impermeable aprons and zero-discharge drainage
- Oil–water separators and hazardous-waste sheds
- Ship-lift/drydock containment systems
- Real-time environmental monitoring
- Emergency-response & worker welfare systems

Technology Components for HKC-Compliant Yards :



**Quality Management
Systems**



**Environmental Management
Systems**



**Ship Recycling
Management Systems**



**Occupational Health & Safety
Management Systems**

Component	Function	HKC Requirement
Ship-Lift/Drydock	Safe containment & handling	Prevents leakage & contamination
Digital Material Tracking	Waste traceability	Ensures transparency (MEPC 210(63))
Plasma Cutting & Robotics	Safer dismantling	Improves worker safety
VR-Based Training	Worker drills	Meets HKC Annex 1 standards

Ship Recycling Concentration and Limitations



- India leads globally in ship recycling with HKC entering into force, but **98% capacity is concentrated in Gujarat**.
- This geographic imbalance introduces several structural constraints.

Key Challenges:

- 1. Geographic & Operational Gap**
 - Decommissioned vessels often require **long-distance towing** to Gujarat or prolonged lay-up.
 - Higher costs, navigational risk and port-side congestion.
- 2. Absence of Local Authorised Facilities**
 - No HKC-aligned or authorised **end-of-life vessel management facilities** in the State.
 - Limited options for safe disposal of barges, tugs and inland craft.
- 3. Environmental & Regulatory Risk**
 - Risk of **informal or ad-hoc dismantling** in sensitive CRZ and riverine zones.
 - Increased compliance and enforcement burden on state authorities.
- 4. Prolonged Vessel Lay-up**
 - Decommissioned or obsolete vessels remain laid-up for extended periods within ports and waterways.
 - Occupies valuable berthing space and creates navigational constraints.

Regional Diversification Benefits:

- 1. Governance & Compliance Support**
Enables **regulated, in-state end-of-life vessel management** for domestic vessels.
- 2. Environmentally Compatible Models**
Supports **non-beaching, berth / drydock-based dismantling** suited to Goa's ecological context.
- 3. Maritime Safety & Administration**
Facilitates timely removal of obsolete vessels, improving **navigational safety**.
- 4. Lifecycle Integration**
Complements Goa's existing **operate → repair → retire** maritime ecosystem without large industrial expansion.

Environmental & Economic Opportunities

India's Maritime Gateway to the East



Parameter	Current (National)	Goa Perspective (End-of-Life Vessel Management)
Annual Recycling Capacity	6.2 million GT	Limited, controlled capacity focused on small and medium domestic vessels
CO ₂ Emissions Avoided	20 million tonnes/year	Indirect contribution through compliant recycling and avoidance of informal dismantling
Steel Scrap Supplied	4–5 million tonnes/year	Marginal volumes , compliance-driven material recovery
Jobs (Direct + Indirect)	1.7 lakh	Localized skilled and semi-skilled employment in dismantling, safety and waste handling
GDP Contribution	₹30,000 crore/year	Governance, environmental protection and maritime safety value , not scale-driven

Why Goa is a Strategic Candidate



Parameter	Details
Coastline	193.95 km coastline with extensive riverine and estuarine navigation
Ports & Waterways	Network of minor ports, jetties and inland waterways supporting coastal and riverine operations
Maritime Administration	Captain of Ports, Government of Goa as the nodal maritime authority
Vessel Profile	High concentration of small and medium coastal vessels , barges, tugs and fishing craft
Existing Ecosystem	Established ship repair yards and marine service providers
Environmental Context	Strong emphasis on CRZ compliance, coastal protection and sustainable maritime activities
Human Capital	Availability of skilled and semi-skilled maritime workforce supported by ITIs and technical institutions

Strategic Suitability for End-of-Life Vessel Management

Focus Area	Goa Perspective
Governance Readiness	Clear institutional framework enabling regulated and monitored operations
Environmental Compatibility	Suitable for non-beaching, berth / drydock-based dismantling models
Lifecycle Integration	Complements operate → repair → retire vessel lifecycle within the State
Maritime Safety	Supports timely removal of obsolete vessels, improving navigational safety
Scalability Approach	Controlled and limited scale , focused on compliance rather than volume

Infrastructure and Compliance Model for Goa



Design Philosophy

- **Compliance-first and environmentally sensitive** approach
- **Non-beaching, controlled dismantling** aligned with CRZ and riverine conditions
- Focus on **small and medium domestic vessels**, not large industrial throughput

Compliance & Monitoring

- Alignment with **HKC** and relevant **ISO standards**
- **Real-time environmental monitoring** (effluents, emissions, waste streams)
- **Digital material tracking** linked to IHM and waste-chain documentation
- Periodic audits by **Recognised Organisations** under DGS oversight

Infrastructure Elements

- **Berth / drydock-based dismantling** with full containment
- **Impermeable work surfaces** and zero-discharge drainage systems
- Designated **hazardous-waste handling and storage areas**
- On-site **emergency response, firefighting and medical facilities**

Operational Safeguards

- Strict **worker safety protocols and PPE compliance**
- Controlled cutting methods suitable for confined and riverine settings
- Clear demarcation from tourism, fishing and recreational zones

Skill Development & Capacity Building

In alignment with the **National Skill Development Policy** and **Hong Kong Convention (HKC)** provisions, **targeted training and capacity-building programmes** may be undertaken to support regulated end-of-life vessel management in Goa, in partnership with:

- **Indian Maritime University**
- **Classification Societies / Recognized Organizations**
- **Industrial Training Institutes (ITIs)**

Integration & Outcomes:

- Alignment with **Skill India** and **NSQF accreditation**
- Creation of a **locally skilled, HKC-aware workforce**
- Strengthening Goa's **maritime safety, compliance and governance capacity**

Focus Training Areas:

- Safe dismantling techniques for **small and medium vessels**
- Hazardous-waste handling and **occupational health & safety**
- Emergency response and rescue preparedness
- Supervisor-level **HKC compliance and documentation**
- Digital traceability and incident-reporting systems

Ferrous Scrap Development Fund



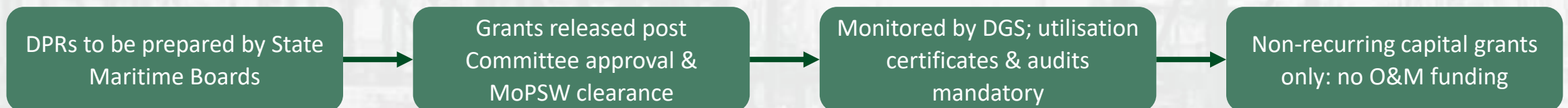
A central fund managed by the **Ship Breaking Scrap Committee** under the Ministry of Shipping, aimed at driving **safe, sustainable, and welfare-linked ship recycling**.

It supports both Central and State-level interventions, primarily focused on yard infrastructure, worker welfare, environmental safety, and skilling.

Purpose of the Fund

- Channel ship recycling-linked revenue into **visible welfare outcomes**
- Supplement State Maritime Boards efforts in developing Ship Recycling cluster
- Improve overall **eco-system quality** around ship recycling operations

How it Works:



Focus Areas:

Yard Infrastructure Upgradation
(capital expenditure only)

Welfare Projects

Worker housing, sanitation, trauma & medical response units, fire safety

Skill Development
Structured training, certification, and capacity building

Environmental Infrastructure

ETPs, incinerators, hazardous waste yards

Community & Social Facilities
Crèches, canteens, rest zones, gender-focused spaces

Secondary Steel Sector Support
(as approved)

Research & Consultancy
Safety protocols, green practices, ESG studies

Other activities
(as approved by the Committee)

Ship Recycling Credit Note



- Introduced under **Ship Building Financial Assistance Scheme 2.0 (SBFA 2.0)**
- Incentivizes ship owners to **recycle in India** and **build new ships in Indian shipyards**

Allocation of : ₹ 4,001 crore
(under SBFA)

How It Works

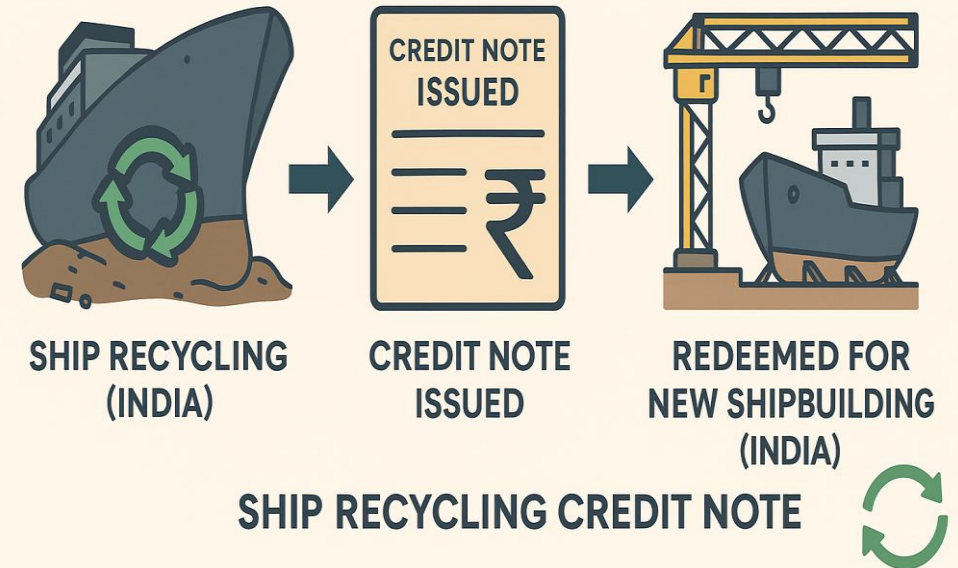
- When a vessel is recycled in a certified Indian yard, the ship owner receives a **Credit Note for 40% of scrap value.**
- The Credit Note remains valid until the owner builds a new vessel/ ship in an Indian shipyard
- Redeemed as **financial assistance/ subsidy** under SBFA 2.0

Expected Benefits

- Encourages **safe and HKC compliant ship recycling** in India
- Provides direct **business boost for Indian shipyards**
- Attracts **new players** to India's ship recycling and shipbuilding ecosystem
- Strengthens India's **circular economy** : recycling feeds into new shipbuilding
- Positions India as a leader in **Green and Sustainable Maritime Growth**

SHIP RECYCLING CREDIT NOTE

Linking Recycling with Shipbuilding



Suggestive Implementation Roadmap



Phase	Tentative Timeline	Indicative Activities	Supporting / Advisory Agencies
I – Baseline Assessment and Scoping	0–6 months	Identification of end-of-life vessel categories; assessment of existing shipyards, berths or drydock facilities; CRZ and environmental screening; stakeholder consultations	Captain of Ports (Lead), GSPCB, DGS
II – Regulatory and Operational Framework	6–12 months	Development of approval pathways; preparation of compliance templates; alignment with HKC requirements for small and medium vessels; identification of authorised waste-handling chains	Captain of Ports (Lead), DGS, GSPCB
III – Facility Readiness and Pilot Operations	12–24 months	Upgradation of selected facilities for controlled dismantling; implementation of safety, containment and monitoring systems; initiation of pilot dismantling operations	Facility Operators under State oversight
IV – Authorisation and Compliance Stabilisation	24–36 months	HKC-aligned authorisation processes; third-party audits; operational fine-tuning; documentation and reporting systems	DGS, Recognised Organisations
V – Review and Optimisation	36+ months	Review of environmental performance; refinement of procedures; consideration of replication or scaling within defined limits	Captain of Ports, DGS, GSPCB

Way Ahead

Towards Responsible End-of-Life Vessel Management in Goa

The Government of Goa, through the Captain of Ports and allied maritime authorities, is well positioned to strengthen regulated end-of-life vessel management as part of the State's maritime governance and coastal sustainability agenda, with a focus on appropriately scaled, HKC-aligned, non-beaching dismantling models integrated with existing ship repair and port operations while safeguarding environmental and social sensitivities.

Indicative Strategic Next Steps :

- **Baseline Assessment & Screening:** Identify end-of-life vessel categories and assess suitable berths, shipyards or drydocks, including CRZ and environmental considerations.
- **Regulatory Integration:** Embed end-of-life vessel management within Goa's maritime and port framework, aligned with HKC and national regulations.
- **Stakeholder Engagement:** Consult shipyards, port users, waste handlers and enforcement agencies to develop compliant operating models.
- **Capacity Building:** Partner with IMU, ITIs and Recognised Organisations to create a certified, safety-focused workforce.
- **National Coordination:** Maintain alignment with DGS and MoPSW on compliance templates, authorisation and reporting.





Pillar 3

Maritime Training, Skilling and Zero Corruption in Maritime

Role of DGS in Maritime Training

Administration of all MTI's

Approval, regulation, and oversight of MTI's, ensuring seafarer training meets STCW and international standards through policies, accreditation, inspections, and compliance monitoring.

MTI Module

Online system for managing courses, records, and certifications, ensuring compliance with DG Shipping and STCW standards. New Module is being developed, as the old module built on an outdated stack, struggles with data volumes, usability, integration, and scalability.

CIP Improvement

Detailed evaluation by RO or MMD under a three-year cycle with Initial, Annual, and Renewal inspections as per QMS standards.

STCW Compliance Board

A strategic advisory body to DGS that strengthens governance in maritime training, reviews MTI compliance with STCW standards, and meets bi-weekly for evaluations.

MTI Exit examination + Ratings Exit Examination

Initiatives like Learning Management System (LMS), Web based simulator, Centralized Attendance System (CAS), Faculty Development Program (FDP) are initiated to ensure efficient learning and examination process.

Rationale for the Coastal State Workshop

Seafarers - 12% to 20%



India aims to raise its **12%** share of global seafarers to **20% by 2030**, with Goa playing a key role through youth engagement and maritime career awareness in coastal areas.

Trade and Coastal Strength



With its **long coastline and ports**, Goa plays a vital role in India's maritime sector and can strongly support the national maritime growth and skill-development vision..

Strategic State Advantage



Goa, with **ports, shipyards, and maritime training institutions**, can **strengthen its maritime policy** to attract **investment in shipbuilding, port-led skilling, & coastal logistics**.

Skilling Potential



The state offers strong potential to expand **maritime skilling and training aligned with DGS quality standards**, integrating state skill departments and ITIs with DGS-approved courses to build a unified maritime ecosystem.

Collaborative Governance



The workshop strengthens **DGS-CPD Goa** coordination, with Govt. of Goa supporting through a joint group to enhance monitoring, transparency, and digital compliance in training.

National Vision Alignment:



By aligning with DGS and Maritime India Vision 2030, **Goa can lead in developing a skilled, ethical, and globally employable seafaring workforce.**

Maritime Training in Goa



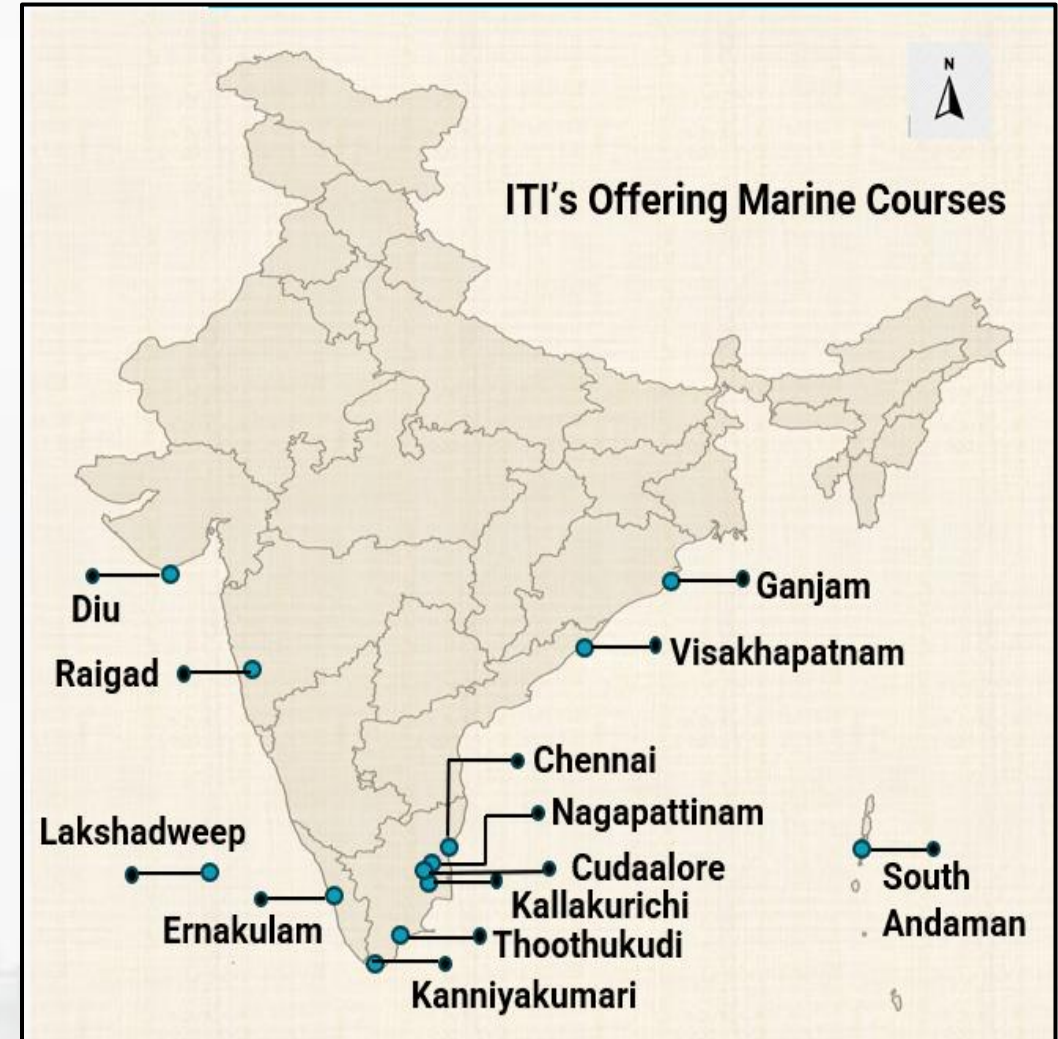
MTI's in Goa

Sr. No	MTI Name	Type	District
1	SEA SCAN MARITIME FOUNDATION	PRESEA	South Goa
2	NUSI Maritime Academy	POSTSEA	SOUTH GOA
3	Institute of Maritime Studies	PRESEA	SOUTH GOA
4	SEASCAN MARINE FOUNDATION	POST SEA	SOUTH GOA
5	Kamaxi Maritime Academy	POST SEA	Salcette
6	The Institute of Marine Engineers (India), Goa	POST SEA	Goa

- 1. Introducing Maritime Modules in ITIs:** Explore the inclusion of maritime focused skill modules such as basic seamanship, marine safety, welding, and electrical maintenance within Industrial Training Institutes (ITIs) across Goa.
- 2. Creating Career Pathways:** Develop structured linkages between ITI vocational programs and DGS-approved maritime courses, allowing students to transition from general trades to seafaring and port-related careers.
- 3. Faculty Development & Standardization:** Organize faculty orientation and capacity-building programs to align teaching practices, course content, and assessment methods with DGS quality and competency standards.
- 4. State–Central Coordination:** Encourage coordination between the Captain of Ports Department (CPD) and DGS for curriculum design, certification alignment, and recognition of maritime vocational skills.
- 5. Outcome & Impact:** Enable coastal youth to access maritime careers through locally available skill infrastructure, ensuring industry relevance, employability, and contribution to India's global seafarer pool.

Integration of ITI Ecosystem with Maritime Training

- **Directorate General of Shipping is integrating maritime courses into local ITIs** in collaboration with Maritime Training Institutes (MTIs).
- MTIs are conducting Merchant Navy awareness and training programmes, guiding ITI students on seafaring and allied maritime career opportunities.
- The initiative introduces maritime-focused modules in ITIs, creates clear career pathways, and aligns training standards with DGS guidelines.
- So far, under **6 MMDs**, **41 MTIs** have covered **136 ITIs** across India, reaching over **16,000** students with maritime career awareness.
- Through coordination between DGS and CPD Govt. of Goa the initiative enhances faculty capacity, ensures curriculum alignment, and enables coastal youth to access industry-relevant maritime careers.



Skill Development and Training for Safe Operations

“While compliance with standards is essential for serving on board ships, the skills and competence of seafarers can only be adequately underpinned, updated and maintained through effective **Maritime Education, Training , Assessment and reliable Certification of their Competency**”.

- **Arsenio Dominguez** (IMO Secretary-General)

Who is a Competent Seafarer?



Continuous Skill Upgradation

Regular **refresher & revalidation courses** as per STCW and DGS norms.

Includes **Advanced Fire Fighting, PSC&RB, Tanker Familiarization**, etc.

Focus on **competency-based and simulation training** for real-time learning.

Encourages adaptability to **emerging technologies and alternate fuels**.

Proposed Commercial Deep Sea Diving Course in Goa

Addressing The Critical Skill Gap In India's Offshore And Maritime Sectors Through World-class, Indigenous Training

Landscape and Challenges



Severe Shortage: High reliance on foreign commercial divers for critical deep-water and offshore tasks.



Infrastructure Gap: Absolute lack of localized, approved advanced underwater training facilities.

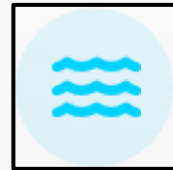


Global Standards: Urgent need for stringent safety and IMCA-aligned standards in domestic training.



Strategic Imperative: Building robust indigenous capability for underwater ship repair and energy sector support.

Tackling Challenges Through Structured Training -Courses Proposed by Ganpat University



Surface Supplied Air

Intensive 50m commercial diving module tailored for harbour, inshore, and coastal civil engineering operations, fully aligned with Global safety mandates.



Underwater Welding

Advanced non-destructive testing (NDT) and wet welding certification specifically designed for ship hull maintenance and underwater pipeline repairs.



Saturation Diving

Deep-sea mixed gas diving theoretical frameworks and practical simulator familiarization, targeting the rapidly expanding offshore energy sector.

Transparency and Zero Tolerance for Fraud

Raising issue over the
Call/SMS/WhatsApp

Helpline between 09:00
AM – 06.00 PM

Escalation mechanism
for resolving query

Follow-up
Support and right
guidance

Analysis
& Correction
and recurrence

Efforts to provide awareness through Social Media



Expected Outcomes of the Workshop

Roadmap for Maritime Skilling in Goa

- Define a state-level maritime skilling strategy aligned with Maritime India Vision 2030 and Maritime Amrit Kaal Vision 2047.
- Identify priority skill areas in port operations, shipbuilding, and seafaring.
- Integrate ITIs and state skilling institutions with DGS-approved maritime training.

Transparent & Corruption-Free Training Ecosystem

- Reinforce zero tolerance for fraud in training, certification, and placement.
- Develop a DGS-CPD coordination framework for institute monitoring and digital oversight.
- Use helplines and awareness campaigns to promote transparency and accountability.

Improved Compliance and Employability

- Strengthen institute compliance with DGS regulations and quality standards.
- Enhance industry linkages for practical training and global employability.
- Build a competent and ethical seafaring workforce from Goa.

Outcomes Will Be Achieved Through The Effective Cooperation Of The Goa Police And The Goa Civil Administration



Pillar 4

Maritime Crewing and Employment Opportunities

Ports in Goa

Goa, with a coastline of ~**105 km**, is a strategically located maritime state on India’s west coast, anchored by the **Mormugao Port Authority**, a key gateway for iron ore, coal, and container traffic. The port supports coastal shipping, cruise tourism, offshore services, and maritime trade, contributing significantly to logistics and blue economy activities. With growing focus on cruise tourism, coastal connectivity, and sustainable maritime development, Goa is strengthening its role in regional trade and marine-based economic growth.

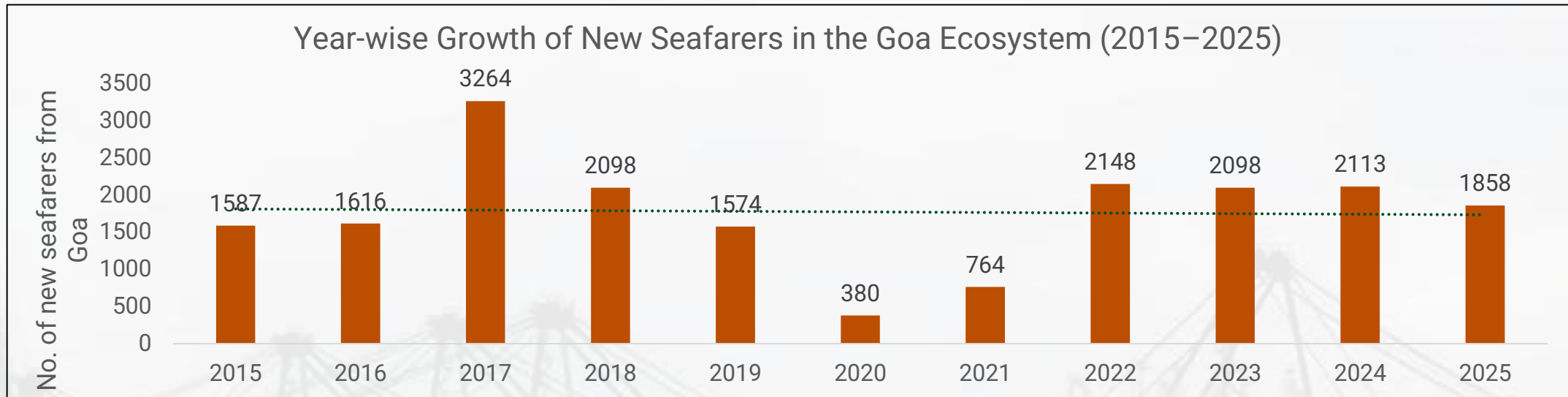
Category	Key Ports	Description
Major Port	Mormugao Port Authority (MPA)	- One of India’s 12 major ports - Handles bulk cargo such as iron ore, coal, fertilizers, containers, and cruise vessels - Located in South Goa
Non-Major Private Ports	Panaji Chapora Betul Talpona Tiracol	Goa has several minor ports administered by the Goa Ports Department, mainly supporting fishing, coastal shipping, barges, and tourism



Goa's Seafarer Workforce Growth and Strategic Way Forward



As on date, Goa ranks seventh among Indian states in seafarer supply, contributing around **5.8%** of India's total seafaring workforce. During 2015–2025, the state has recorded an average annual addition of **1,773** seafarers, reflecting steady decadal growth and taking the cumulative strength to **42,974** seafarers.

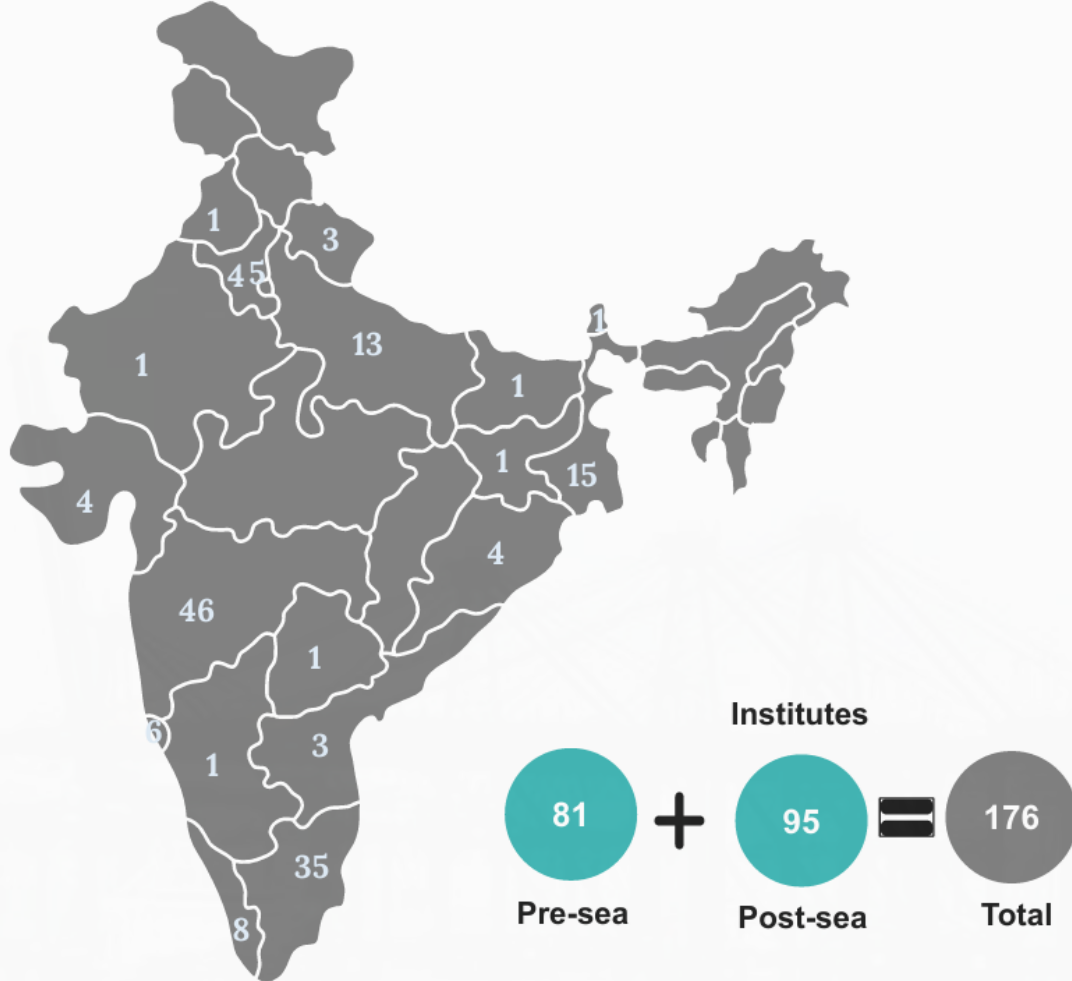


- To sustain and consolidate this upward trend, focused efforts are required for the holistic development of the maritime ecosystem. **MTIs** should strengthen structured training and updated regulatory modules, including gender sensitization. **MMDs** must ensure efficient certification and compliance support, while **RPSLs** should promote transparent recruitment, career counselling, and outreach.
- Greater awareness through schools, colleges, community engagement, digital platforms, and stakeholder collaboration will be key to attracting quality candidates and ensuring inclusive, sustainable growth of Goa's seafaring workforce.

Growing number of seafarers require a better training and placement ecosystem



MTIs in India



MTIs in Goa

- There are **06 DG** Shipping-approved MTIs in Goa, with **04** post-sea training MTIs and **02** pre-sea course
1. Institute of Maritime Studies
 2. Kamaxi Maritime Academy
 3. NUSI Maritime Academy
 4. Sea Scan Maritime Foundation, Verna
 5. Seascan Maritime Foundation, Vasco
 6. The Institute of Marine Engineers

With rising seafarer numbers, the **demand for Maritime Training Institutes (MTIs)** is expected to increase.

The existing and new MTIs shall also prioritize on-

- Equipped with **modern simulators and digital training tools**
- Supported by **qualified and industry-experienced faculty**
- Focused on producing **competent, future-ready seafarers** aligned with emerging technologies and global standards

Maritime Landscape in Goa– Mercantile Marine Department (MMD)



MMD Goa

About

MMD Goa is a subordinate office to the **Mercantile Marine Department (MMD), Mumbai**, with its office located at Headland Sada, Goa under the Directorate General of Shipping (DGS), Ministry of Ports, Shipping & Waterways, Government of India.

MMD Goa is headed by the Surveyor-in-Charge and supported by other staff.

- **Jurisdiction:** Over the state of Goa
- **Survey and certification of ships** ensuring vessels meet statutory safety requirements
- **Inspection of maritime equipment and installations** including lifesaving, firefighting, and navigational systems
- **Ensuring compliance with Merchant Shipping laws and international conventions** adopted by India (SOLAS, MARPOL, etc.)
- Acts as **local representative of MMD Mumbai** for technical and regulatory maritime tasks within its jurisdiction
- Examination related work is not carried in this office

Functions

An efficient and forward-looking MMD ensures timely certification, digital efficiency, and proactive stakeholder engagement strengthening maritime safety and regulatory compliance to support the sustainable growth of State's shipping sector.

Career prospects in the Merchant Navy in Goa



Goa contributes **nearly 5.8% of India's total seafarers** and has a strong port-led growth and employment potential. The limited presence of active RPSL operators indicates a **need for greater compliance support and capacity building** in the state.

Valid RPSL Companies in Goa ✓	Invalid RPSL companies in Goa ✗
Joncia Marine Services, Goa	METI Shipping Mgmt
Crest Maritime Services	Anchorjobs Goa Private Limited
M/S.Seafarers	M/S. Sasas Manpower Services Private Limited
QShip Maritime Management Pvt. Ltd.	M/S. New Era Shipping Private Limited
Marinetech Ship Managers And Surveyors	M/S. Siyaram Marine Services Private Limited
Kamaxi Overseas Consultants	Regal International Private Limited
M/S Shipteck Marine Solutions Pvt. Ltd.	Shirodkar Ocean Empire Private Limited
M/S. Aark Shipping & Manning Pvt. Ltd.	
Ouvert Marine Solutions Private Limited	
Kamaxi Overseas Consultants LLP	

- *While Goa provides a promising career in the Merchant Navy, yet the limited presence of RPSL companies suggest a need for strong regulations.*
- *DG Shipping is proactively managing the maritime ecosystem to provide fruitful Merchant Navy careers.*

Awareness and monitoring initiatives

- ✓ Prevent **fraudulent recruitment** and exploitation of aspiring seafarers
- ✓ Promote **ethical and transparent recruitment practices**
- ✓ Ensure engagement **only with licensed and verified RPSL operators**

Multiple steps are being taken to improve the lives of Goan seafarers – Home Department, Government of Goa



Case Study: Goa Welfare / Pension Scheme for Seafarers, 2023

- A state government initiative by the Home Department, Government of Goa, designed to provide financial security to retired seamen.
- **Eligible Beneficiaries:**
 - Must be an Indian citizen and a bona fide resident of Goa (by birth or parentage).
 - Retired or medically invalidated seafarer, aged 60 years or above.
 - Minimum 10 years (120 months) of sea service; up to 6-month break allowed.
 - Widows of deceased seafarers eligible if Goan residents for 15+ years and annual income below ₹1.2 lakh.
- **Financial Assistance:** A monthly gross pension of ₹2,500/- directly through Direct Benefit Transfer (DBT)
- **Aim:** To help retired seafarers and, on compassionate grounds, the widows of deceased seamen, maintain a decent standard of living during their retirement.

Seafaring as a lucrative career for youth in Goa



With a growing talent pool that ranks seventh nationally, contributing approximately **42,974** seafarers as on date, Goa possesses immense human capital potential

Strategies to realise the full potential of the human capital of the state

- Addressing governance challenges, particularly the prevalence of fraudulent recruitment, unregistered crewing agents, and exploitation of aspiring seafarers
- Aggressively expand its ethical recruitment network
- Explore employment opportunities in the cruise tourism sector in Goa
- Strengthening regulatory oversight through the existing MMD Goa
- Strengthening of state-specific welfare and insurance scheme (Comprehensive Goa Welfare/Pension Scheme)
- Build a conducive environment for on-shore employment opportunities post retirement of the seafarers
- Harnessing social media platforms to spread awareness on authorized recruitment channels, regulatory safeguards, and seafarer welfare schemes to curb fraud and exploitation.

Towards Stronger Welfare & Social Security for Seafarers



Seafarer Welfare Fund Society (SWFS)

Welfare & Immediate Support

- The **SWFS** welfare schemes are designed to support seafarers and their families through initiatives focused on health, education, welfare infrastructure, and various financial assistance measures.
- **Welfare Schemes:** A total of **12** schemes covering active seafarers, retired personnel, women seafarers, families of deceased seafarers, and children of seafarers
- **Infrastructure Projects under welfare initiatives:** SWBAT – ₹ 35 Cr/-
- **Insurance Coverage** for seafarers by supporting insurance premium payments through a structured and equitable system.

Seamen's Provident Fund Organisation

Long-Term Financial Security

- **SPFO** manages provident fund contributions made by both seafarers and employers, which are accumulated and paid out as benefits upon retirement, completion of service, or in cases of disability or death.
- Improves the **quality of life of seafarers** by providing financial security, social protection, and long-term stability throughout their working life and after retirement.
- **Vision:** To Provide for an institution of a Provident Fund to the Seamen as an old age retirement benefit to them and to their family members in the event of death.

Steps are being taken by the DG Shipping, Government of India for the welfare of seafarers



The **Seafarers' Welfare Fund Society (SWFS)** is an autonomous body under the administrative control of the MoPSW, dedicated to the welfare of Indian seafarers and their families. It administers welfare schemes, financial assistance, and gratuity funds to provide social security and support to active and retired seafarers.

Schemes for Active Seafarers; Schemes for Specific Category of Seafarers; Schemes for Family of Seafarers; Schemes for Deceased Seafarer; Medical Assistance/Insurance

Survivors' Benefit Scheme (SBS): Financial assistance to the family of a deceased Indian seafarer	₹ 6,00,000 (w.e.f. 01.01.2026)	Death on Board Benefit Scheme (DBBS): Support in cases of death or presumed death occurring on board	₹ 2,00,000 (w.e.f. 01.01.2026)	3 new schemes: ->	Medical & Term Insurance Premium: Assistance - Reimbursement of 50% premium for Indian CDC holders meeting sea-service criteria	Up To ₹ 5,000
Invalidity Benefit Scheme (IBS): Support for Indian seafarers declared permanently unfit for the sea	₹ 6,00,000 (w.e.f. 01.01.2026)	Old Age Benefit Scheme (OABS): Assistance for seafarers who attain the age of 65 years on/after 01.01.2019 and age 75 on/after 01.01.2026	₹ 50,000 (Age 65) ₹ 1,00,000 (Age 75)		Medical Support (Critical / Terminal Illness): One-time support; govt/recognised hospital certification	₹ 2,00,000
Maternity Benefits Scheme (MBS): Financial assistance for Indian women seafarers during maternity (Max: 2 deliveries)	₹ 50,000 <i>Per delivery</i> (w.e.f. 01.01.2026)	Ex-Gratia Support Benefit Scheme (ESBS): Additional financial aid for specific cases of abandoned / stranded seafarers.	₹ 20,000/m (Max: 12 months) (w.e.f. 01.01.2026)		CoC Career Progression (Rating → Officer): One-time assistance after successful issue of Indian CoC by DG Shipping.	₹ 2,00,000
Family Benefit Welfare Scheme (FBWS): Provides support to dependent families of Indian Seafarers	₹ 1,00,000 (Pre-Sea Training Completion) ₹ 50,000 (Postgraduate Degree Completion)	Award to Meritorious Child of Seafarers (AMCS): Educational incentives for children of Indian Seafarers	₹ 25,000 (w.e.f. 01.01.2026)	DG Shipping has taken multiple steps for the welfare of seafarers, including provisioning of welfare schemes, development of seafarers welfare infrastructure, and other welfare initiatives.		

Seafarer Welfare Schemes: Reach, Impact, and Disbursement Overview



Welfare Schemes are Effective When We Engage

No.	Welfare Schemes	No. of Benef.	Amt. (01.04.2024 - 16.02.2026)
1	Survivor's Benefit Scheme (SBS)	76	₹ 2,92,00,000
2	Invalidity Benefit Scheme (IBS)	2	₹ 8,00,000
3	Maternity Benefit Scheme (MBS)	1	₹ 25,000
4	Family Benefit Scheme (FBS)	20	₹ 9,00,000
5	Old Age Benefit Scheme (OABS)	236	₹ 1,18,00,000
6	Death on Board Benefit Scheme (DBBS)	49	₹ 98,00,000
7	Azadi ka Amrut Kal Scheme	259	₹ 64,75,000
8	MEMA One time Lumpsum Closure Assistance	76	₹ 9,50,000
9	Missing On Board Scheme	1	₹ 2,00,000
	Total	720	₹ 6,01,50,000



Be Informed. Be Empowered.

- ◇ Seafarers are encouraged to actively explore the welfare schemes available to them through Seafarers Welfare Fund Society (SWFS).
- ◇ Greater awareness and participation will ensure that more eligible beneficiaries avail the support they deserve.

Seafarer Welfare Infrastructure- SWBAT



The DG Shipping, along with port authorities and funding from the SWFS, is focusing on building or revamping seafarers' welfare facilities across India.

- **Promoter:** Mormugao Port Authority (MPA)
- **Concept:** Premium-category Seafarers' Club near port and city, serving diverse vessel mix (cruise, cargo, tankers) and high sign-on/sign-off and layover demand.
- **Strategic Need:** No existing dedicated seafarers' welfare facility in immediate vicinity; strong case under MLC 2006 Reg. 4.4 and DGS Crew Circular No. 10 of 2024.
- **Location advantages:** Approx. 1 km from berths, ~50 m from port office, ~4 km from airport (high accessibility for crew transfers).
- **Project Profile:** Recreation, communication, accommodation, food & beverage, counselling and basic medical support consistent with Circular 10 guidelines.

Proposal tabled before CoM for in-principle funding support under SWFS–SWBAT framework.

CoM noted:

1. *Strong feasibility and clear welfare gap.*
2. *However, waiting for concrete inputs from MPA on implementation methodology, phasing, or funding structure (Port share vs. SWFS share).*

Seafarers' Club, Mormugao Port, Goa



Existing Structure



Proposed Structure

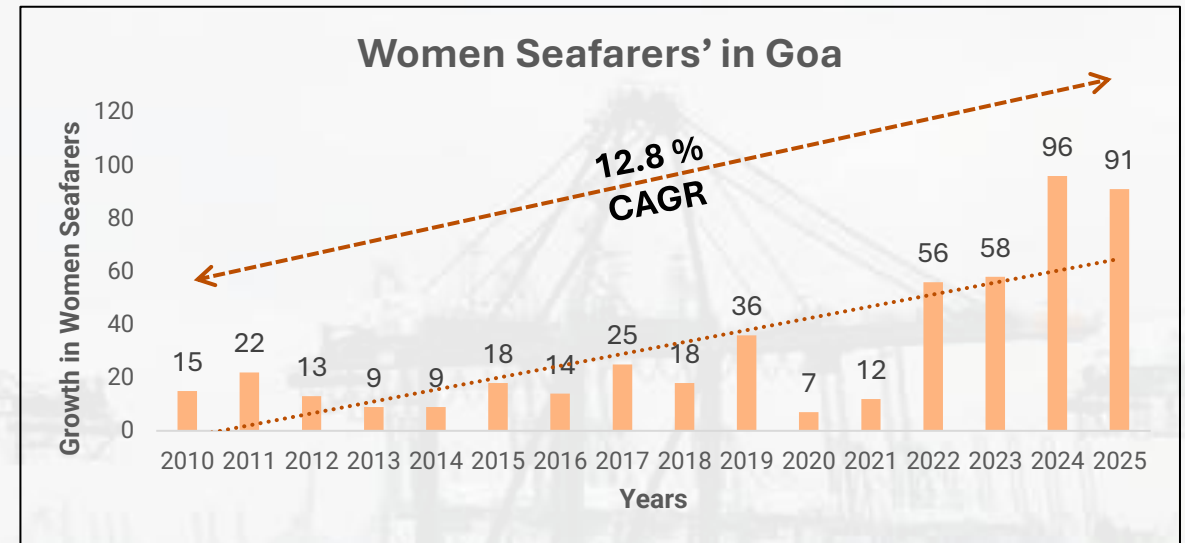
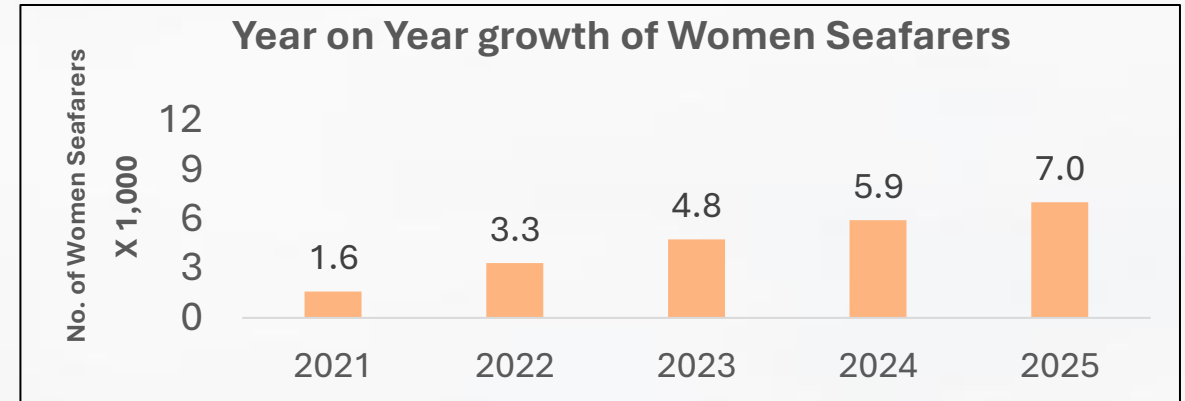
Advancing Gender Inclusivity in India's Maritime Sector



Gender Inclusivity

Sagar Mein Samman

- Introduced under **DGS Order 18 of 2024** to promote gender-inclusive maritime workforce.
- Establishes **policy-backed norms** for women's safety, equal opportunity, and career advancement.
- Strengthens governance through industry-wide compliance standards and workplace reforms aligned with **MIV 2030 Deliverable 10.15** and **UN SDG-5** and **SDG-8**.
- Implemented in collaboration with MUI, supporting a joint framework to empower and protect women seafarers.
- National average:** < 0.5% women seafarers in India
- Goa:** ~ 1.3% women participation nearly 3x the national average
- Growth Trend:** 12.8% CAGR over 15 years
- Maritime India Vision 2030:** 2–3% women participation by 2030.



Sagar Mein Samman enhance India's maritime regulatory framework by setting structured standards for inclusivity, and safety across the crewing ecosystem

Institutionalizing Seafarer Wellness Across the Maritime Ecosystem



Wellness

Sagar Mein Yog

- Introduced under DGS Order 19 of 2024, focusing on mental, physical, and emotional well-being of seafarers.
- Standardizes wellness practices across training institutes via MoU with NUSI.
- Helps reduce stress, fatigue, and medical emergencies enhancing safety compliance.
- Integrates structured wellness modules into Pre-Sea, At-Sea, and Post-Sea stages
- A pilot 3 day ToT Programme was conducted in December with participations of ~50 trainers



[LMS Link](#)



Sagar Mein Yog enhances India's maritime regulatory framework by setting structured standards for wellness across the crewing ecosystem

Pranaam – Seafarers Assistance & Facilitation Counter



Aim: On-ground assistance at the **Pranaam helpdesk** to support seafarers with documentation and immigration, reducing fraud, legal issues, and emergency cases while ensuring smooth airport entry.

Problem Statement

- UK visa-free entry for Indian seafarers is reportedly being misused by asylum seekers posing as crew.

Potential Solution

- It was agreed that DGMA-trained teams at Pranaam helpdesk would vet seafarers and alert airlines to prevent misuse.

Other Benefits

- The process prevents undocumented seafarers from UK entry, avoiding arrests and distress to families.

The inauguration of the PRANAAM Seafarers Assistance Counter successfully conducted on **21st January 2026** at Chhatrapati Shivaji Maharaj International Airport, Terminal 1, Mumbai.

PRANAAM Seafarers Assistance Counter at Mumbai Airport to Strengthen Welfare and Facilitation Support



Zero Tolerance for Crewing



- DG Shipping follows a Zero Tolerance policy against fraud, cheating, and illegal recruitment of seafarers.
- A nationwide digital awareness campaign was launched through DG Shipping's social media platforms, publishing multiple videos on:
 - Fraudulent agents and fake job offers
 - Illegal payments to RPSL companies
 - Seafarers' rights
 - 24x7 Grievance redressal
- To strengthen outreach, DG Shipping conducted symposiums on seafarer recruitment and welfare.
 - Successfully held: Mumbai, Delhi
 - Planned next: Chennai, Kolkata
- The campaign combines digital engagement and on-ground awareness to protect seafarers and prevent exploitation.



DG Shipping Reaffirms Zero Tolerance Towards Fraud and...



Seafarers' Rights—Know and Protect Yourself | Capt. Nitin...



Empowering Seafarers: Inside DG Shipping's Crew Branch & Its Vital...



झूटी भारतीय समुद्रकर्म नौकरियों से सावधान रहें। नौवहन महानिदेशालय...

Challenges of life at sea lead to a large number of death cases (including natural death) as well as missing cases



Death Cases

	2012 - 17	2018	2019	2020	2021	2022	2023	2024	2025	2026	TOTAL
Closed	0	0	0	0	3	4	3	3	0	0	13
Pending	7	1	3	5	7	6	2	5	35	9	80
Settled	0	5	6	38	58	47	58	49	46	0	307
TOTAL	7	6	9	43	68	57	63	57	81	9	400

Missing Cases

	2015 - 17	2018	2019	2020	2021	2022	2023	2024	2025	2026	TOTAL
Closed	0	0	0	0	1	0	0	3	0	0	4
Desertion	0	2	7	2	4	2	2	23	5	0	47
Pending	0	6	0	6	4	12	13	10	5	2	56
Settled	19	6	11	6	10	14	8	12	13	0	99
TOTAL	19	14	18	14	19	28	23	48	23	0	206

Closed:	Closed from ship-owners / P&I without compensations
Pending	Under progress and pending
Settled	Case settled by ship-owners / P&I with compensations

Abandonment Scenario in Indian Seafaring



SUMMARY AS ON DATE		Vessels (Nos.)	Seafarers (Nos.)
19.02.2026			
Cases Resolved (Seafarers Repatriate d)	01.01.25 to 31.12.25	108	988
	01.01.26 to till date	7	67

Key Challenges

- Large number of fraudulent and illegal agents are operating, and this leads to illicit extraction of money from seafarers, illegal deployment on vessels, fake CDC endorsement etc.
- Many agents often disappear after receiving the money
- Many seafarers are often left abandoned. India tops the nations with the highest number of seafarer abandonments.

Active Cases Details	Vessels (Nos.)	Seafarers (Nos.)	Stage 1		Stage 2		Stage 3		Stage 4		Stage 5		Stage 6	
			VIs	Seafarer	VIs	Seafarer	VIs	Seafarer	VIs	Seafarer	VIs	Seafarer	VIs	Seafarer
Cat. 1: P&I Valid	17	128	0	0	0	0	3	12	0	0	12	102	2	14
Cat. 2: P&I Expired	10	88	0	0	0	0	2	19	0	0	5	55	3	14
Cat. 3: Disputed	27	234	0	0	0	0	1	12	0	0	26	222	0	0
Cat. 4: Arrest/Jail/Detention	21	106	0	0	0	0	0	0	4	13	17	93	0	0
TOTAL	75	556	0	0	0	0	6	43	4	13	60	472	5	28

Abandonment Scenario in Indian Seafaring



DG Shipping is on a mission mode to address the issue of large number of abandonment of seafarers.

As on 19th February 2026, there are **75** Vessels with **556** seafarers abandoned/ arrested.

Repatriation Summary (Jan–Dec 2025) **988** Seafarers Repatriated | **108** Vessels

Root Causes of Abandonment

Inexperienced New Shipowners

Delayed Reporting by Seafarers

Invalid or Expired P&I Insurance Cover

Fraudulent RPS Agencies

Flags of Convenience (FoC) and Weak Oversight

Form 1 Shows Vessel Mismatch

Course Corrective Measures Taken by DG Shipping

Regulatory Strengthening

- Strengthened RPSL compliance (MS Notices 11/2024, 10/2025; DGS Circular 43 & Order 09/2025)
- Statutory powers introduced under Merchant Shipping Act (2025) for abandonment cases

Continuous Coordination with MEA & Indian Missions

- Structured coordination for repatriation, welfare access, and time-bound case resolution

Enforcement & Deterrence

- Immediate blocking of RPSLs on abandonment reports
- 51 fraudulent RPSLs withdrawn (since Apr 2025)
- Proposal to blacklist repeat-offender vessels, flags & insurers

Awareness & Capacity Building

- Anti-fraud advisories and revised Form-1 (Circulars 55 & 56/2025)
- Online training and upgraded learning modules

Monitoring & Oversight

- Regular audits, surprise inspections, and enhanced field monitoring

Operational Controls & Verification

- Vessel verification in seafarer profiles
- Public RPSL status visibility
- Crew engagement capped to lifesaving appliance capacity (Circular 57/2025)

Financial Safeguards

- Proposal to enhance RPSL Bank Guarantees (₹10L–40L → ₹25L–₹1 Cr)
- Faster repatriation and stronger RPSL accountability

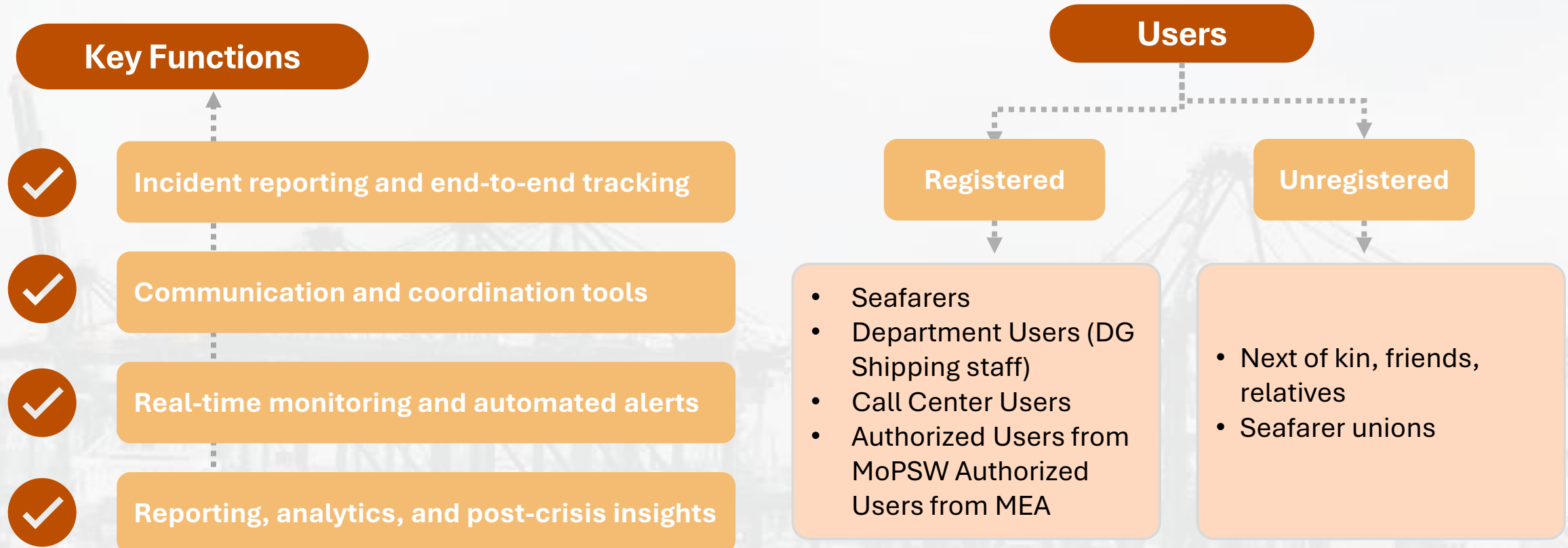
Strengthening Crewing Compliance Digitally (1/3)



Crisis Module

A centralized system to effectively manage, monitor, and coordinate maritime crisis responses in real time.

- Enable rapid and effective response
- Ensure seamless coordination
- Track and manage incidents end-to-end
- Provide real-time updates and analytical reports



Strengthening Crewing Compliance Digitally (2/3)

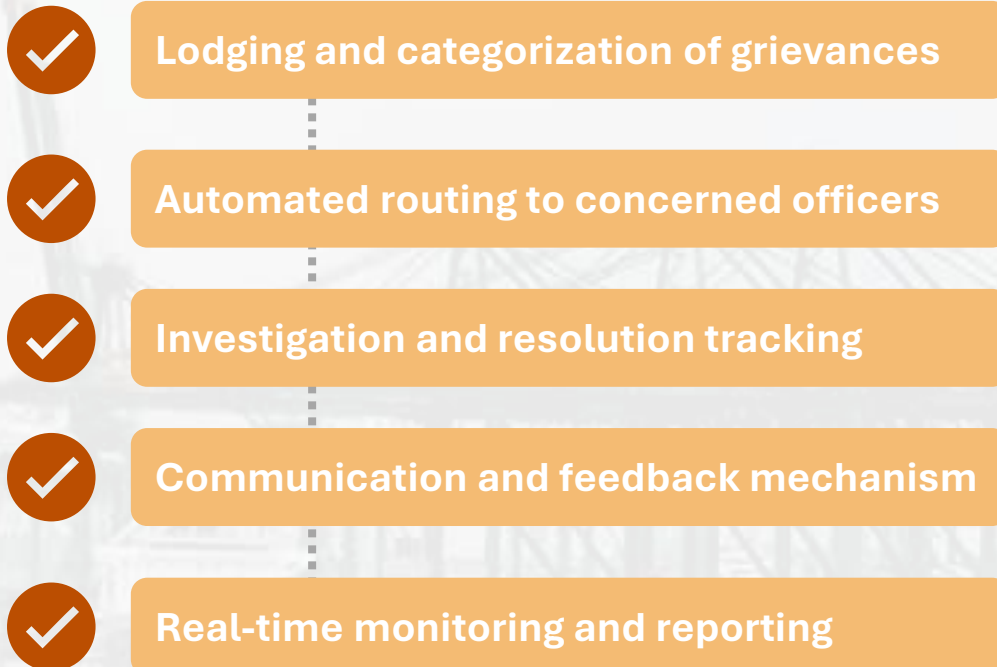


Grievance Redressal Module

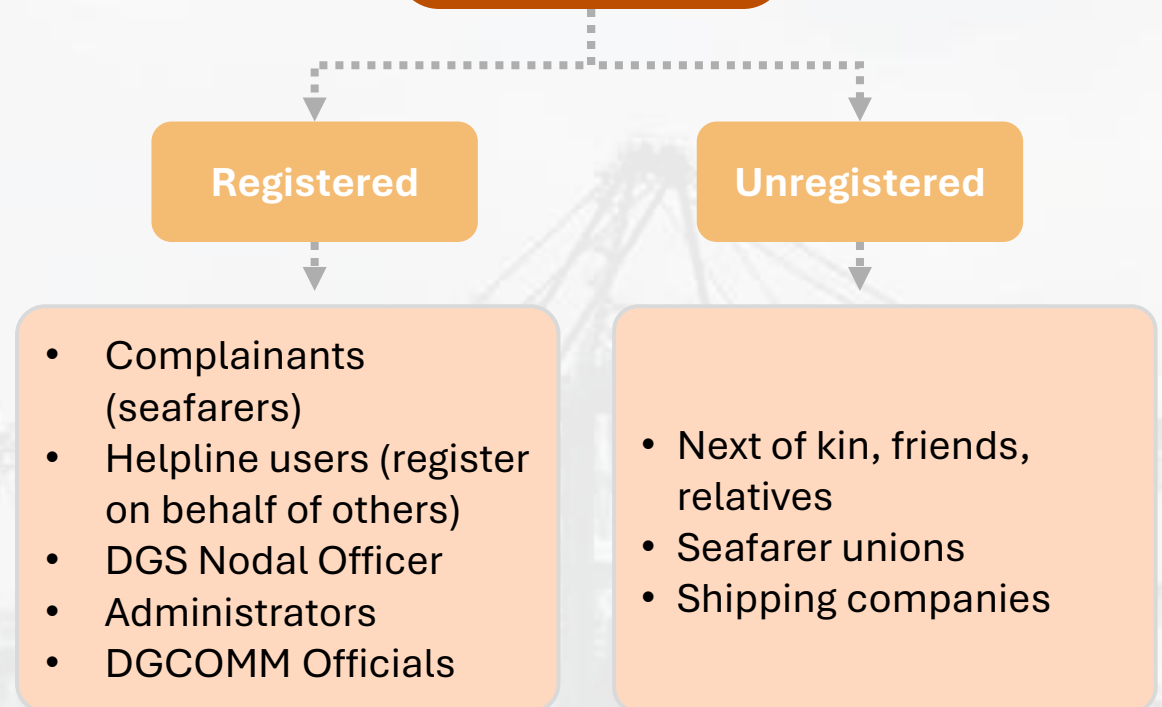
Aims to provide a single digital platform for **24x7** effective lodging, tracking, and resolution of seafarer grievances.

- Streamlined and transparent grievance management
- Enhanced accountability and efficiency
- Timely redressal of issues
- Centralized database for analytics and improvement

Key Functions



Users



Strengthening Crewing Compliance Digitally (3/3)



RPSL Module

A module designed to streamline the application, renewal, and compliance management of Recruitment and Placement Services Licenses for DG Shipping.

- License Application & Renewal Management
- Compliance & Regulatory Monitoring
- Seafarer Data Management
- Digital Tracking & Communication

Key Functions

- ✓ Application for new RPS licenses
- ✓ Renewal of existing RPS licenses
- ✓ Management of RPS licenses
- ✓ Compliance monitoring and reporting

Leverage economy of Goa to build alternate career pathways post Merchant Navy careers



Goa may build a conducive environment for seafarers who have completed their on-sea careers and help them reintegrate with on-shore careers post retirement.

Port-led development

- Marmugao Port Authority is being targeted for targeted investments in modernisation, mechanisation, and hinterland connectivity to expand its role in regional trade, cruise, coastal shipping etc.

Ship repair and maintenance

- Goa has considerable presence of shipyards and technical institutions
- Potential to develop ship repair, dry docking, and ancillary marine services

Cruise Tourism

- Strong and competitive advantage for cruise tourism in Goa
- Strong competitive advantage with presence of high number of domestic and international tourists

Marine Surveying and Classification

- Roles in ship survey, marine inspection, and statutory certification processes, leveraging their hands-on operational expertise

Logistics, Supply Chain, and Port-based Industries

- Leadership roles in coastal shipping, logistics parks, and multimodal transport hubs

Maritime Entrepreneurship

- Entrepreneurship through incubation and financial support for startups in ship repair, marine equipment services, green shipping technologies, and coastal tourism



Pillar 5

Decarbonization, Sustainability and Environment Protection

Pillar 5 Importance for Goa

Environmental Sustainability as a Foundation of the Blue Economy



Why Pillar 5 is Critical

- **Ports and shipping as Blue Economy enablers**, but with a direct environmental footprint
- **High relevance for Goa** due to:
 - Tourism-led coastal and riverine economy
 - Passenger ferries, inland vessels and fishing activity
- **Environmental performance directly affects:**
 - Clean seas and beaches
 - Fisheries and river health
 - Coastal livelihoods and tourism perception
- Pillar 5 enables **clean growth without compromising ecology**

National Policy & Regulatory Backbone

- Harit Sagar – Green Port Guidelines (2023)
- National Green Shipping Policy (forthcoming)
- Maritime Amrit Kaal Vision 2047 (MAKV 2047)
- Alignment with IMO Net-Zero 2050 MARPOL compliance, emissions reduction and global environmental credibility

Present State in Goa – Environmental Sustainability



Environmentally Sensitive Maritime State with Strong Governance Framework

- **Port Reception Facilities (PRFs):**
PRF arrangements operational across Mormugao Port, government and private jetties and inland-waterway facilities, aligned with MARPOL and Swachh Sagar requirements.
- **MARPOL Compliance Framework:**
Environmental compliance enforced through coordinated oversight by the **Captain of Ports Department** and the **Goa State Pollution Control Board (GSPCB)**, covering ports, jetties and inland vessels.
- **Clean Fuels & Low-Emission Initiatives:**
Early adoption and feasibility initiatives for **electric, CNG/LNG and hybrid vessels**, particularly for inland waterways, ferries and tourism crafts.
- **Environmental Monitoring & Reporting:**
Environmental monitoring implemented under state and national frameworks, with progressive integration into **Swachh Sagar** and emerging **Green Port Index (GPI)** systems.

Existing Environmental and Sustainability Strengths – Mormugao Port



Renewable Energy and Energy Efficiency

- **3 MW Solar Power Plant commissioned at Mormugao Port (May 2025)**
- Port has achieved **100% solar-powered port status** for its electricity requirements
- Transition to **energy-efficient LED lighting and HVAC systems across port facilities**
- **Phased electrification of port equipment** to reduce fossil-fuel dependence and operational emissions

Green Port Operations and Environmental Incentives

- Implementation of **Green Ship Incentive Scheme (Harit Shrey)**
- Incentives linked to **Environmental Ship Index (ESI) scores**, encouraging cleaner vessels
- Supports adoption of **low-emission ships and environmentally responsible maritime operations**
- Alignment with **Harit Sagar – Green Port Guidelines and national decarbonisation objectives**

Waste Management, Water Sustainability and Spill Preparedness

- **Operational Port Reception Facilities (PRFs)** for reception and disposal of ship-generated waste
- **Sewage water recycling and reuse programme**, targeting **20% reduction in freshwater consumption per tonne of cargo by 2030**
- Established **Oil Spill Contingency Plan and dedicated spill-response equipment**
- Systems in place to support **MARPOL compliance and environmental risk mitigation**

Existing Environmental and Compliance Strengths – Panaji Port



Operational Port Reception Facilities and Waste Management

- **Port Reception Facility (PRF) arrangements in place at Panaji Port and notified jetties**
- **Waste reception covering oily waste, garbage and sewage from inland and coastal vessels**
- **Availability of authorised waste-handling vendors for collection, transport and disposal**
- **Supports compliance with MARPOL Annex I, IV and V requirements**

Strong Regulatory Oversight and Environmental Governance

- **Maritime operations regulated by Captain of Ports Department, Government of Goa**
- **Environmental monitoring and compliance oversight by Goa State Pollution Control Board (GSPCB)**
- **Established inspection and reporting systems for vessel operations, waste handling and pollution control**
- **Coordination with Directorate General of Shipping (DGS) for national regulatory alignment**

Clean Maritime Operations in Tourism and Inland Waterways

- **Goa's maritime ecosystem dominated by passenger ferries, tourism vessels, barges and harbour crafts**
- **Environmental controls critical for protecting tourism-sensitive rivers, estuaries and coastal areas**
- **Existing waste reception and compliance systems support clean inland-waterway and tourism operations**
- **Provides strong foundation for future expansion of PRFs, OPS and clean-energy adoption**

Air Quality Monitoring- Parameters and Locations

Tracking of Baseline Air Quality Parameters:

- NO_x
- SO_x
- PM 2.5
- PM 10

Suggested Monitoring Locations

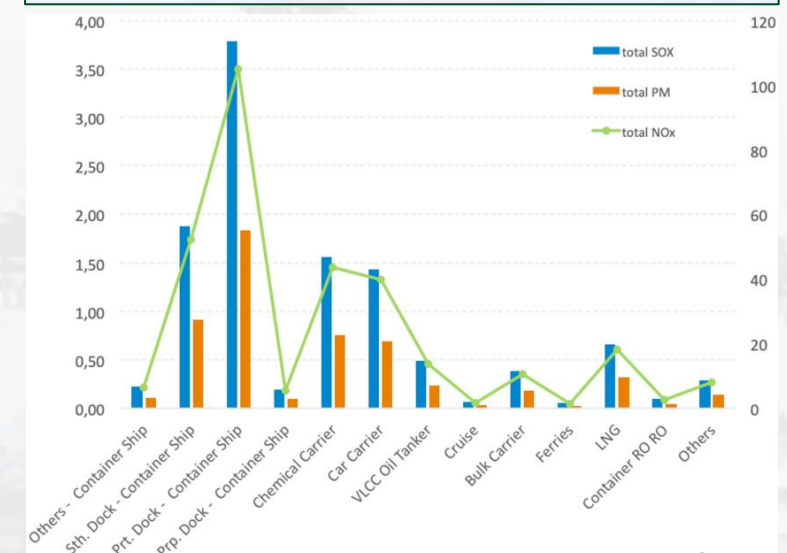
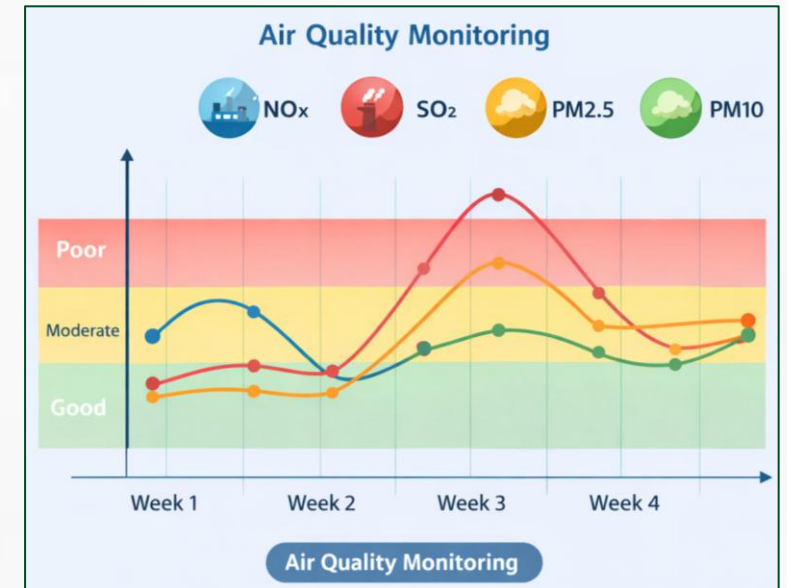
- Mormugao Port cargo berths
- Panaji ferry terminals
- Riverine jetty clusters (Mandovi & Zuari)
- Tourism-heavy waterfront zones

Data Collection – Possible Methods:

- Continuous Ambient Monitoring Stations (CAMS) at major locations
- Compact sensors at ferry terminals & riverine jetties
- Mobile monitoring during peak tourism / special events

Frequency:

- Hourly data capture
- Daily dashboard updates
- Monthly and Quarterly trend analysis



Water Quality Monitoring- Parameters and Locations

Tracking of Baseline Water Quality Parameters:

- Total Suspended Solids (TSS)
- Dissolved Oxygen (DO)
- pH
- BOD
- Fecal Coliform

Suggested Monitoring Locations

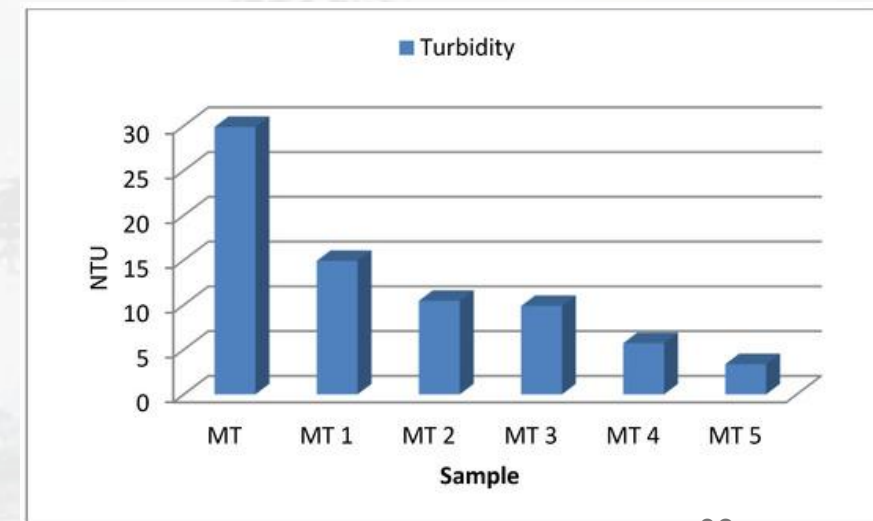
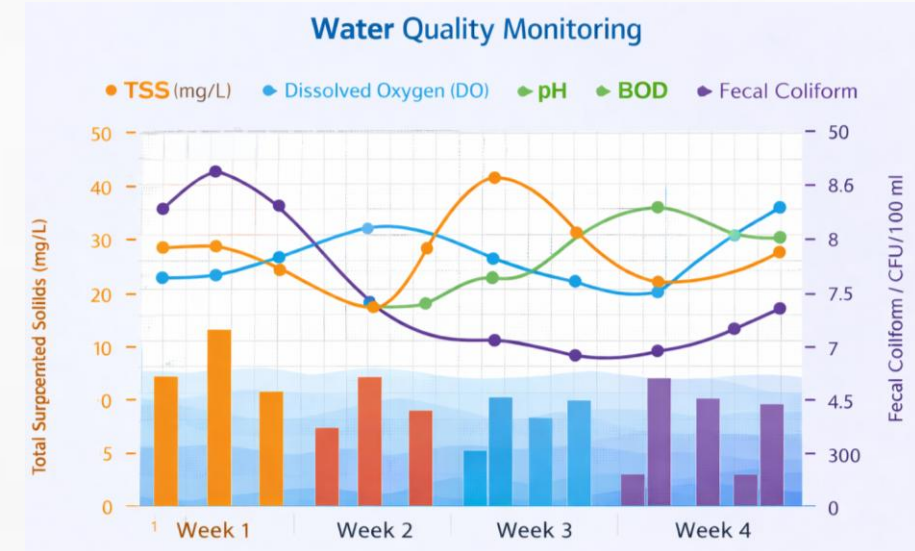
- Near cargo berths and bunkering areas
- Adjacent to PRF discharge/collection points
- At ferry terminals with sewage risk
- Near tourism-sensitive waterfront stretches

Data Collection – Possible Methods:

- Periodic grab sampling
- Automatic water quality sensors
- Oil spill surveillance monitoring

Frequency:

- Monthly Sampling
- Pre and Post Monsoon comparison
- Quarterly reporting



India's Marine Plastic Pollution & Waste Discharge



- **India Among Top Global Contributors** to marine plastic leakage due to mismanaged coastal waste (~ **3.5 million tonnes of plastic waste**)
- Fishing nets, single-use plastics and microplastics persist in ocean ecosystems for decades

Maritime Impact

- **Navigational hazard** due to floating debris in shipping channels
- **Plastic ingestion and entanglement** harming marine species
- **Increased maintenance & dredging cost** at ports due to litter accumulation

IMO Global Action – RegLitter & Marine Plastic Initiatives

- Recognises ship-based & fishing-related waste
- **IMO RegLitter** initiative to regulate discharge of plastic and waste from ships (Asia Region Specific)
- Focus on fishing gear marking, port reception facilities & marine litter reporting

DGS as RegLitter National Focal Point

- DGS designated as **National Focal Point** to Participation in IMO working groups on **marine plastic regulation & garbage discharge (MARPOL Annex V)**
- Need for national maritime strategy on plastic waste under NGSP & Blue Economy policy

Way Forward for India

- Mandatory **Port Reception Facilities** for plastic & ghost nets
- Integration with **fisheries departments & coastal states**
- National monitoring protocol for **sea-based litter discharge**

Current Status of PRF – Operational Data Overview



PRF Coverage & Infrastructure

Mormugao Port Authority (Major Port) - MARPOL-compliant PRF system operational

Panaji Port and Inland Waterway Terminals - PRF operational

Minor Ports and Jetties – Vendor-linked waste collection system

Mormugao PRF facility : 10 service-provider

Panaji PRF facility : 4 service-provider

Goa PRF Vendors : 18 vendors listed, of which 10 are active

MARPOL Annex	Waste Type	PRF Coverage Status	Total Quantity (as reported)
Annex I	Oily waste, sludge, bilge water	Operational at Mormugao and Panaji	46,069.39
Annex IV	Sewage	Collection and disposal arrangements available	5,563.24
Annex V	Garbage, plastics, domestic waste	Major waste stream handled	1,525.61
Annex VI	Air emission compliance (indirect – reporting)	Regulatory monitoring framework active	82.05

MARPOL Annex I - related (Oily Waste) - Dirty Ballast Water is not received in Port Reception

Mormugao Port Authority (Major Port) – PRF Receipts (01 Jan–31 Dec 2025)



ANF records covered: 573

Annex coverage seen in portal data: Annex I, IV,

V, VI (Annex II = 0 reported;

Annex III = not applicable for PRF quantity reporting)

MARPOL Annex	Total quantity (portal)
Annex V	3,131,389.6
Annex I	85,878
Annex VI	24,780
Annex IV	1,766
Annex II	0

As per Swachh Sagar Data

	Annex	Waste type (Swachh Sagar)	Total quantity (portal)
1	Annex V	Food Waste	2,597,120
2	Annex V	Domestic Waste	276,986.7
3	Annex V	Cargo Associated Waste	249,553.8
4	Annex V	Operational Wastes	3,989.1
5	Annex I	Oily Bilge Water	80,524
6	Annex I	Oily Sludge	5,339
7	Annex VI	EGCS Residues	24,780
8	Annex IV	Sewage	1,766

Gaps and Limitations in Current PRF System

Infrastructure and Coverage

- PRF operations largely vendor-based with limited fixed reception facilities at smaller ports and jetties
- Dispersed riverine operations across Mandovi, Zuari, Chapora and Sal increase collection complexity
- Limited decentralised waste-collection points at ferry terminals and inland vessel locations

Waste Handling and MARPOL Coverage (Based on PRF Data)

- Majority of waste received under MARPOL Annex I (oily waste, sludge, bilge water)
- Lower volumes under Annex IV, V and VI indicate scope for strengthening full MARPOL readiness
- Increasing ferry and tourism traffic expected to increase sewage and garbage volumes

Vendor Capacity and Operational Readiness

- Limited number of authorised PRF vendors relative to dispersed vessel activity
- Dependence on mobile collection models rather than continuous reception systems
- Capacity constraints may arise during peak cargo and tourism seasons

Monitoring and Environmental Risk

- Progressive integration with Swachh Sagar Portal; full coverage of minor ports and jetties required
- Fragmented reporting across major port and inland waterways
- Strengthening PRFs critical to support clean seas and tourism-dependent maritime ecosystem

Suggestive Opportunities for Goa under Pillar 5

Environmental Sustainability in Ports & Maritime Operations



Clean Seas for a Tourism-Led Maritime Economy

Safeguarding coastal waters, rivers and beaches as critical economic and ecological assets

High-Standard MARPOL Compliance across Dispersed Operations

Uniform application of MARPOL Annexes across ports, jetties, ferries, fishing and inland vessels

Low-Emission Inland and Tourism-Oriented Maritime Operations

Decarbonization of ferries, tourism crafts and harbour vessels through OPS and clean fuels

Onboarding of PRF Vendor for MARPOL Annex I – Oily Waste Dirty Ballast Water

Biodiversity-Sensitive Maritime Development

Port and jetty operations aligned with mangroves, estuaries, fish breeding grounds and turtle habitats

Opportunities in Waste Management & Circular Economy



- **Riverine-Centric Waste Profile**

Dispersed waste generation from ferries, tourism vessels, fishing craft and inland navigation across the Mandovi, Zuari, Chapora and Sal river systems

- **Tourism, Public Health & Clean-Seas Imperative**

Effective maritime waste management directly supports Goa's tourism image, coastal water quality and public health outcomes

- **Cluster-Based PRF Opportunity**

Shared PRFs serving multiple jetties and harbours enable cost-efficient compliance and uniform service coverage

- **Circular Economy Potential**

Recovery of oils, plastics and scrap for authorised recycling reduces landfill burden and creates green local value chains

Cluster-Based PRFs and PRF Vendor Expansion in Goa



Cluster-Based PRF Model

- **Riverine clusters** along Mandovi, Zuari, Chapora and Sal
- **Shared facilities** serving multiple jetties, fishing harbours and inland terminals
- Covers diverse vessel types: ferries, tourism crafts, fishing and harbour vessels
- **Cost-efficient and scalable** alternative to stand-alone PRFs at every location

Expanding the PRF Vendor Ecosystem

- **Increase in authorised PRF service providers** across ports and jetties
- **Reduced service bottlenecks** during peak tourism and fishing seasons
- Improved **geographic coverage** for dispersed inland-waterway operations
- Competitive vendor ecosystem enabling **timely, compliant waste collection**

Together, cluster-based infrastructure and a broader vendor base ensure reliable, compliant and tourism-aligned waste management across Goa's maritime network.

Swachh Sagar Portal



A national digital system enabling end-to-end traceability of maritime waste, fuels and environmental compliance under MARPOL and green-port frameworks.



Port Reception Facility



Fuel Consumption Reporting



Single Use Plastic



Bunker Supplier Information System



Ballast Water Management

Port Reception Facility

- Module for vessel waste declaration, vendor linkages and disposal coordination

Fuel Consumption Reporting

- Enables MARPOL Annex VI fuel consumption reporting for vessels.

Single Use Plastics

- Enables ships to report plastic usage and disposal via SEP plans, ensuring compliance with National sustainability mandates

E- BDN & Bunker Suppliers

- Central database of approved bunker suppliers with electronic BDN records for transparency and fuel quality assurance

Ballast Water Reporting

- Real time Ballast Water data submission by all ships and compliance oversight

Strengthening MARPOL Compliance & Governance in Goa



Context

- Dispersed maritime activity across ports, jetties and inland waterways
- High interaction with tourism zones, rivers and coastal communities
 - Necessitates coordinated, state-level compliance mechanisms

Why it matters for Goa

- Direct linkage between MARPOL compliance and clean seas
- Visibility of pollution impacts in riverine and near-shore environments
 - Reputational importance for a tourism-led coastal state

State MARPOL Facilitation & Capacity Framework for Goa



State MARPOL Facilitation Cell (Concept)

- Coordinated mechanism involving:
 - Directorate General of Shipping (DGS)
 - Captain of Ports, Government of Goa
 - Goa State Pollution Control Board (GSPCB)
- Unified oversight covering **all MARPOL Annexes (I–VI)**
- Consolidated inspections, data sharing and digital reporting

Inspection & Training Capacity (Goa-specific)

- Focus on:
 - Passenger ferries and tourism vessels
 - Inland and riverine crafts
 - Fishing and harbour support vessels
- Priority compliance areas:
 - Sewage, garbage and plastics management
 - Air emissions and fuel quality
 - Riverine spill-prevention and response readiness
- Periodic training and refresher programmes for officers and operators

Shipbuilding, Repair & Dockyards – Environmental Opportunity for Goa



Environmental Management of Shipyards & Dockyards

- Presence of **boat-building, repair and dry-dock clusters** supporting tourism vessels, fishing crafts and inland fleets
- Opportunity to strengthen **waste, emissions and surface-runoff controls** from hull cleaning, painting and repair activities
- **Integration of shipyards and dockyards with PRF systems** for oily waste, sludge, paint residues and solid waste disposal
- Expansion of **authorised waste vendors** to cover non-operational maritime activities
- Extending **Clean Seas objectives beyond vessel operations** to the full maritime value chain

Positions Goa as a state addressing environmental performance across the entire maritime ecosystem, not only ports and vessels.

Shore to Ship



What is Shore Power?

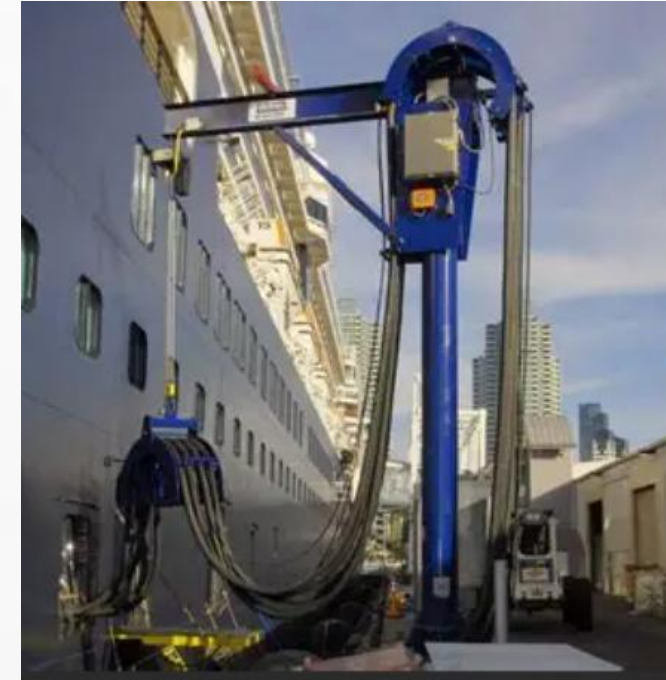
Electricity supplied from the shore to berthed ships, allowing engines to be switched off and eliminating fuel combustion while docked.

Why It Matters

- Cuts **CO₂, NO_x, SO_x and Particulate Matter** emissions in port zones
- Improves **Air Quality and ESG scores** for Indian ports
- Supports compliance with **IMO CII, GHG & Green Port Index**

Implementation Status in Indian Ports

- **Kamarajar Port** - 500 kW, 400V, 50-60 Hz in Coal Berth 1 & 2
- **VO Chidambaranar Port** - 305 kW, 400V 60Hz in VOC Berth 2 & 3
- **Jawaharlal Nehru Port Authority** - SPS used for Tugs. SPS for all terminals planned (45MVA; INR 600 crore expected)



Possible Financing options

Blended finance → govt + MDBs + private capital.

Green/blue bonds → specifically earmarked for OPS infra.

PPP models → private players co-invest in OPS roll-out.

Shore Power (OPS) for Inland Waterways & Tourism Operations in Goa



Why OPS Matters for Goa

- Maritime operations occur **close to urban centres, heritage zones and tourist areas**
- **Emissions and noise from berthed vessels** directly affect air quality and visitor experience
- High relevance for **passenger ferries, patrol boats and harbour crafts** with frequent port calls

OPS as a Practical Early Win

- **Ideal for Phase I implementation** under Harit Sagar – Green Port Guidelines (2023)
- Enables **immediate reduction in air emissions and noise** at jetties and ferry terminals
- Improves **passenger comfort and safety**, supporting Goa's clean-tourism narrative
- Complements electrification and clean-fuel initiatives for inland and near-shore vessels

Alternative Fuels for Maritime

LNG

- **Current Use:** Operational for select Indian coastal and LNG carriers; IGF Code compliant
- **Infrastructure:** LNG terminals at Dahej, Hazira, Kochi; feasibility for bunkering at JNPA
- **Maritime Role:** Transition fuel till 2035 under IMO GHG transition
- **Limitation:** Methane slip & future carbon costs reduce long term advantage

Biofuel

- **Marine Trials:** Successfully tested on marine engines
- **Supply Base:** Drop in Blends. Domestic production. **Blending with FAME, HVO**
- **Distribution:** Can use existing bunkering infrastructure without port redesign
- **Advantage:** Short-term compliance option for Indian fleet under CII/GHG without retrofits

Ammonia

- **Export Positioning:** **Kandla to produce green ammonia** (L&T + Itochu JV) for Singapore bunkering
- **Maritime Use:** Target fuel for deep-sea vessels (tankers, bulk carriers) post-2035
- **Challenges:** High Toxicity, safety standards, crew training, IMO safety code under development
- **Strategic Role:** India positioning as **future fuel exporter**, not just consumer

Methanol

- **Marine Use:** Dual-fuel methanol engines already ordered by global majors
- **Breakthrough:** India's **first Green Methanol Bunkering Hub** under construction at **VOC Port (Tuticorin)** – 750 m³ terminal (SOPAN Group)
- **Production Shift:** India transitioning from coal-based brown methanol to green methanol (hydrogen + CO₂ capture)
- **Maritime Suitability:** Engine-ready (Maersk, MAN ES technology) – early adopter fuel under IMO

Hydrogen

- **Port Pilot:** VOC Port **launched India's first Green Hydrogen Pilot Plant** (5 Sep 2025)
- **Use in Maritime:** Not direct – used to produce ammonia/ methanol as bunkering fuels
- **Infrastructure Need:** Electrolysers, liquefaction, port pipelines
- **Long-Term Role:** Backbone fuel for synthetic maritime fuels, export market focus



Green Fuels & Clean Propulsion for Inland and Near-Shore Operations in Goa



Goa's Operational Reality

- Inland waterways and near-shore operations dominate vessel traffic
- Short routes, fixed schedules and frequent turnaround
- Strong linkage with tourism, passenger comfort and urban environments

Transition Pathways Transitional Fuels (Immediate)

- Biofuels and CNG/LNG
- Suitable for ferries, patrol boats and harbour crafts
- Minimal retrofit and faster adoption

Zero-Emission Options (Progressive)

- Battery-electric ferries for short routes
- Hydrogen pilots for higher power or extended duty cycles

Integrated Outcomes

- Cleaner air and reduced noise at jetties and urban stretches
- Improved passenger and tourism experience
- Alignment with OPS, renewable power and national decarbonisation goals

Green Ports

Driving Sustainable Maritime Growth



Concept of Green Ports

- Ports designed & operated with minimal environmental impact.
- Integration of clean energy, efficiency, and circular economy practices.

Key Initiatives in India

- Harit Sagar Guidelines (2023): National framework for green port development.
- Proposed National Port Sustainability Code (NPSC): Metrics for emissions, energy, waste, and community impact.
- Onshore Power Supply (OPS): Cut ship emissions at berth by connecting to shore electricity.
- Waste & Plastics Management: Port reception facilities for MARPOL Annex V compliance.

Benefits

- Reduces GHG emissions & pollution.
- Improves air quality in port cities.
- Promotes India's Blue Economy & Green Economy transition.
- Aligns with IMO decarbonization goals & India's Viksit Bharat 2047 vision.



Sustainable Indicators for Indian Ports



Green Port Index (GPI)

Evaluates ports on carbon footprint, alternative fuels adoption, energy efficiency, sustainable logistics, and waste management practices.



Port Readiness Level (PRL)

Assesses ports' preparedness for energy transition, digitalization, and compliance with global environmental regulations.



Shore Power Readiness Indicator

Measures infrastructure for cold ironing and renewable energy integration to reduce emissions from berthed ships.



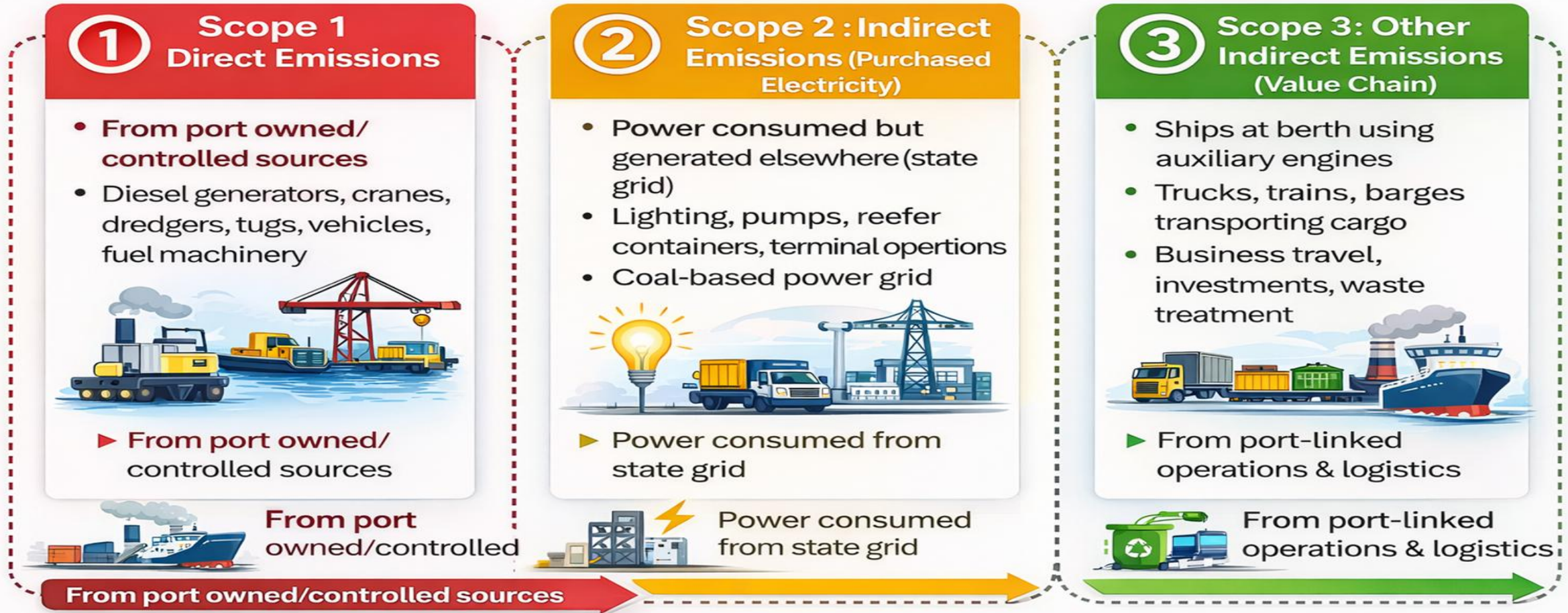
Environmental Ship Index (ESI)

Incentivizes ship operators to reduce emissions through a rating system that evaluates NO_x, SO_x, and CO₂ emissions.



These indicators create a robust framework to measure and enhance the environmental performance of Indian ports, By institutionalizing them, India positions itself as a global frontrunner in green maritime logistics & unlocks access to international green shipping corridors and drive long-term net-zero ambitions.

GHG Emission Scope at Ports



Green Tug Transition Program



To replace/retrofit conventional diesel-powered tugs with *green tugs* powered by **alternative fuels** (like LNG, methanol, hydrogen, or hybrid-electric systems).

- At least **50% of all tugs in major ports to be green tugs by 2030.**
- 100% transition by 2047

Current Status

~ 400 + tugs are operating in Indian Waters (Coastal & Offshore Tugs)
~ 45% of tugs are 20 + years
~ 20% of tugs are 30 + years

Problem

Older tugs generate higher emissions and operate with lower efficiency compared to modern green tugs.

Opportunity and Way Forward

- Replacing / retrofitting old fleet
- Deployment of hybrid & green-fuel powered tugs
- Incentivize adoption of LNG, Methanol, Hydrogen & Electric tugs

Strategic Alpha Tug Deployment



An Alpha Tug is a high-capacity, sea-going tug equipped with **strong bollard pull** (typically 70–100+ tonnes) designed for escorting large vessels, emergency response, and complex harbour operations.

- Capable of **firefighting, oil-spill response** support, and manoeuvring assistance in adverse weather
- Configured with **hybrid or alternative fuel** systems

Why Goa Needs it?

1. Mixed maritime traffic: cargo, ferries, tourism and coastal shipping in confined waters
2. Ecologically sensitive rivers and coastline requiring rapid emergency response
3. Immediate oil-spill containment and firefighting capability
4. Safer manoeuvring during extreme weather and high-traffic conditions
5. Strategic support for LNG, cruise and future green-fuel operations
6. Strengthens safety, resilience and environmental credibility



Ecology, Biodiversity & Sustainable Maritime Planning in Goa



Ecological Sensitivity of Goa's Coast and Rivers

- **Mangrove ecosystems and estuaries** supporting fisheries and shoreline stability
- **Fish breeding and nursery grounds** in riverine and near-shore waters
- **Turtle nesting beaches and wetlands supporting bird habitats**
- High overlap between ecological zones and navigation, tourism and fishing activity

Planning for Balance and Resilience

- Adoption of **Ecosystem-Based Management (EBM)** to balance:
 - Port and jetty operations
 - Inland navigation and fisheries
 - Biodiversity conservation
- **Marine Spatial Planning (MSP)** to guide:
 - Jetty siting and expansion
 - Dredging schedules and navigation routes
- Application of **"Working with Nature" principles** in dredging, sediment management and shoreline works

Enablers for Sustainable Maritime Operations in Goa

Energy, Capacity and Capital as Cross-Cutting Enablers



Renewable Energy & Energy Efficiency

- Rooftop and shade-top solar at ports, ferry terminals and jetties
- Floating solar at suitable water bodies, subject to environmental safeguards
- Battery Energy Storage Systems (BESS) and jetty-level microgrids for resilience
- Direct linkage of **OPS with renewable power** to ensure zero-emission berthing

Training & Capacity Building

- **Maritime Sustainability Training Framework (Goa)** for port, jetty and inland-waterway personnel
- Focus areas:
 - MARPOL Annex I–VI compliance
 - PRFs and waste-management operations
 - Shore Power (OPS), clean fuels and electric vessels
- Community and youth engagement on clean seas, marine litter and biodiversity

Financing & Partnerships

- Green Port Fund, FSDF and carbon-finance mechanisms for PRFs, OPS and clean energy
- PPP and performance-linked models for waste, OPS and renewable assets
- Partnerships with **IMO GreenVoyage 2050, GIZ, World Bank and bilateral agencies** for pilots, grants and technical support

Way Forward for Goa – Opportunities Under Pillar 5

Clean Seas & Environmental Sustainability



Topic / Agenda	Opportunity Focus for Goa
Clean Seas & Tourism Alignment	Treat clean rivers, beaches and coastal waters as a core economic asset for Goa's tourism-led maritime economy; strengthen linkage between port/jetty operations, riverine traffic and coastal water quality; prioritise visible clean-seas outcomes in high-footfall tourism zones.
Waste Management & Circular Economy	Implement cluster-based waste management for riverine and dispersed operations (Mandovi–Zuari–Chapora–Sal); integrate ports, jetties and inland vessels fully with Swachh Sagar ; link recovered oils, plastics and scrap to authorised recyclers; strengthen marine litter and LADFG recovery with port–municipal–fisheries coordination.
Port Reception Facilities (PRFs)	Expand authorised PRF vendor ecosystem across ports, jetties and inland waterways to avoid service bottlenecks during peak tourism seasons; deploy cluster-based PRFs serving multiple jetties and vessel types; standardise digital reporting and audits through Swachh Sagar.
Strengthening MARPOL Compliance (Annex I–VI)	Establish a State MARPOL Facilitation mechanism involving DGS, Captain of Ports and GSPCB; ensure coverage of all MARPOL Annexes (I–VI) across ferries, tourism vessels, fishing crafts and inland vessels; focus on sewage, garbage, plastics and air-emission compliance in riverine environments.

Way Forward for Goa – Opportunities Under Pillar 5



Clean Seas & Environmental Sustainability

Topic / Agenda	Opportunity Focus for Goa
Shore Power (OPS)	Implement OPS at ferry terminals and high-footfall jetties as early wins under Harit Sagar Phase I; reduce emissions and noise in urban, heritage and tourism-sensitive locations; align OPS with clean electricity supply to support low-emission passenger operations.
Green Fuels & Clean Propulsion	Promote biofuels and CNG/LNG as transitional fuels for ferries, patrol boats and harbour crafts; deploy electric ferries on short, fixed routes; explore future hydrogen pilots for higher-power applications; align clean propulsion with tourism, clean-mobility and OPS initiatives.
Shipbuilding, Repair & Dockyards	Bring boat-building, repair yards and dockyards within the clean-seas framework; integrate these clusters with PRFs and authorised waste vendors; strengthen controls on waste, emissions and surface runoff from repair and maintenance activities.
Marine Ecology & Biodiversity Protection	Protect mangroves, estuaries, fish nurseries, turtle nesting beaches and wetlands ; integrate ecological sensitivity into jetty siting, dredging and navigation planning; adopt “Working with Nature” principles and community-based conservation initiatives.
Environmental Monitoring & Digital Governance	Strengthen digital monitoring of air, water, effluent and waste systems; integrate GSPCB datasets with Swachh Sagar and GPI dashboards; enable transparent, data-driven oversight of environmental performance across maritime operations.

Way Forward for Goa



Suggestive Priority Action Areas

Institutional Alignment

- DGS–Captain of Ports–GSPCB coordination
- Pillar 5 embedded across ports, jetties and inland waterways

Infrastructure Interventions

- Cluster-based PRFs and OPS at ferry terminals
- Focus on tourism and passenger-intensive locations

Clean Seas & Biodiversity

- Marine litter and LADFG recovery
- Ecological sensitivity in jetty works and dredging

Digital Monitoring

- Swachh Sagar and GPI coverage
- Data-driven oversight of waste and emissions

Conclusion

- Goa demonstrates how **clean seas, green ports and sustainable tourism** can progress together
- Pillar 5 offers a **practical, scalable framework** linking governance, infrastructure and ecology
- With coordinated implementation, Goa can emerge as a **lighthouse coastal state** for sustainable maritime operations under the National Green Shipping and Green Port framework

National Green Shipping Policy

Maritime Vision for a Green Future



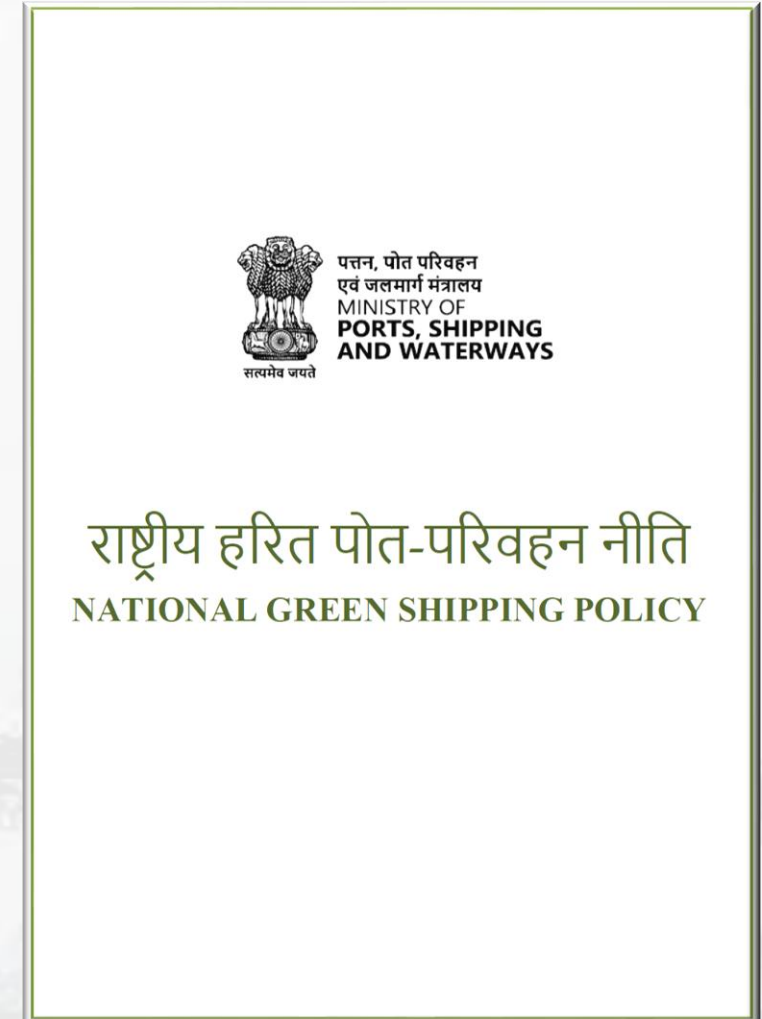
The NGSP is India's strategic response to the global decarbonisation mandate, a policy blueprint designed to secure maritime growth while transitioning towards clean energy, sustainable ships and climate-resilient ports.

Key Transition Pillars:

- Green Ships
- Green Ports
- Green Fuels
- Green Technology
- Green Recycling
- Green Financing
- Green Skill Development & Capacity Building

The NGSP consultative document was developed by Lloyd's Register and launched at the Green Shipping Conclave 2025, following which the draft policy was prepared by TERI NCoEGPS and is currently under inter-ministerial and industry consultations, with green fuels as a core pillar.

**Maritime INDIA @ Net Zero – Multi Stakeholder
Workshop convened on 14 -15 January 2026 at India
Habitat Centre, New Delhi**



National Green Shipping Policy – The 7 Pillars



Maritime INDIA @ Net Zero

14 – 15 January 2026, India Habitat Centre (Hybrid)



Maritime INDIA @ Net Zero was jointly organised by the Directorate General of Shipping (DGS) and NCoEGPS at TERI as a **high-level multi-ministerial action plan and governance workshop** to translate the National Green Shipping Policy (NGSP) vision into **phased, implementation-ready national pathways** aligned with India's climate commitments.

Way Forward

- **Conduct focused stakeholder webinars** to validate priority actions and implementation sequencing
- **Undertake inter-ministerial consultations** to finalise roles, timelines and coordination mechanism
- **Final submission of consolidated roadmap and action matrix to NITI Aayog** for strategic guidance and national rollout





Pillar 6

Coastal Shipping & Opportunities in Inland Navigation

Goa's Alignment with National Maritime Priorities (2026-27)

Strengthening coastal shipping, inland waterways, and blue economy in sync with Union reforms



Total Allocation (India)

- **INR 5,164 Cr (↑48%)** for coastal shipping & inland waterways



Capacity Building

Training centres along key waterways | Ship repair hubs at Varanasi & Patna | Integrated digital customs platform | ₹10,000 Cr Container Manufacturing Scheme (1M TEU target) | New Coastal Cargo Promotion Scheme | TCS reduced to 2% for coal & select minerals.



Policy & Regulatory Measures

Tonnage tax regime aligned with Inland Vessels Act, 2021 and Port-led infrastructure reforms to boost private investment



Impact

Lower logistics cost | Stronger coastal cargo share | Maritime job creation | Blue Economy growth



Infrastructure & Logistics

- Infrastructure Risk Guarantee Fund for PPP projects
- Capacity expansion at major & minor ports (green logistics focus)
- 20 new National Waterways (5-year plan); NW-5 coal corridor priority
- Dedicated Freight Corridors to ease rail congestion

Total Allocation (Goa)

- Ports Administration: **INR 49.41 Cr**
- River Navigation Department: **INR 85.80 Cr**

1

Institutional & Strategic Reforms

Establishment of **Goa Maritime Board** for integrated port-led development

Preparation of **State Maritime Waterways Master Plan**

Feasibility study by **IWAI** for optimal **Inland Waterways** utilization

Proposal to introduce **Water Metro** system

Impact Focus

Strengthening **coastal shipping & last-mile connectivity**

Promoting **inland water transport & tourism**

Enhancing **maritime trade ecosystem in Goa**

Supporting **blue economy growth**

2

Overall Alignment

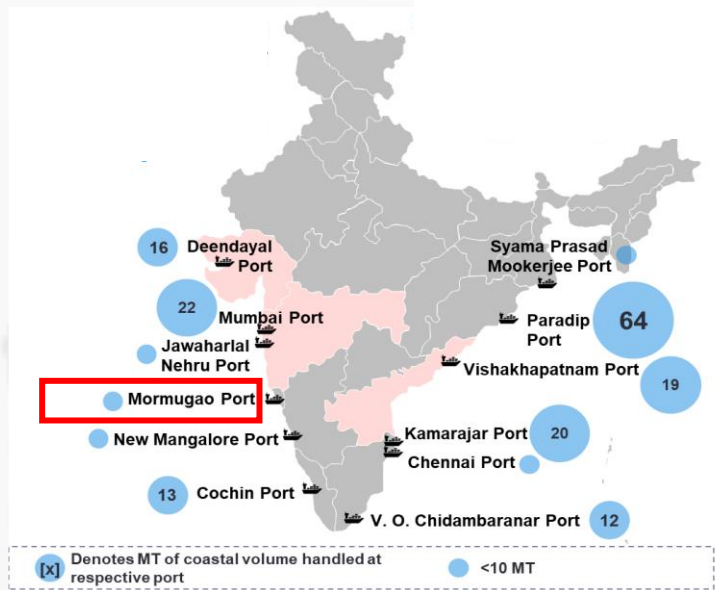
Goa operationalizes **national maritime reforms** at the state level strengthening **coastal trade, inland water transport, and blue economy integration in sync with Union Budget priorities**

Source: Union Budget 2026-27, Goa Budget Portal

Goa's Strength in Coastal Cargo Traffic

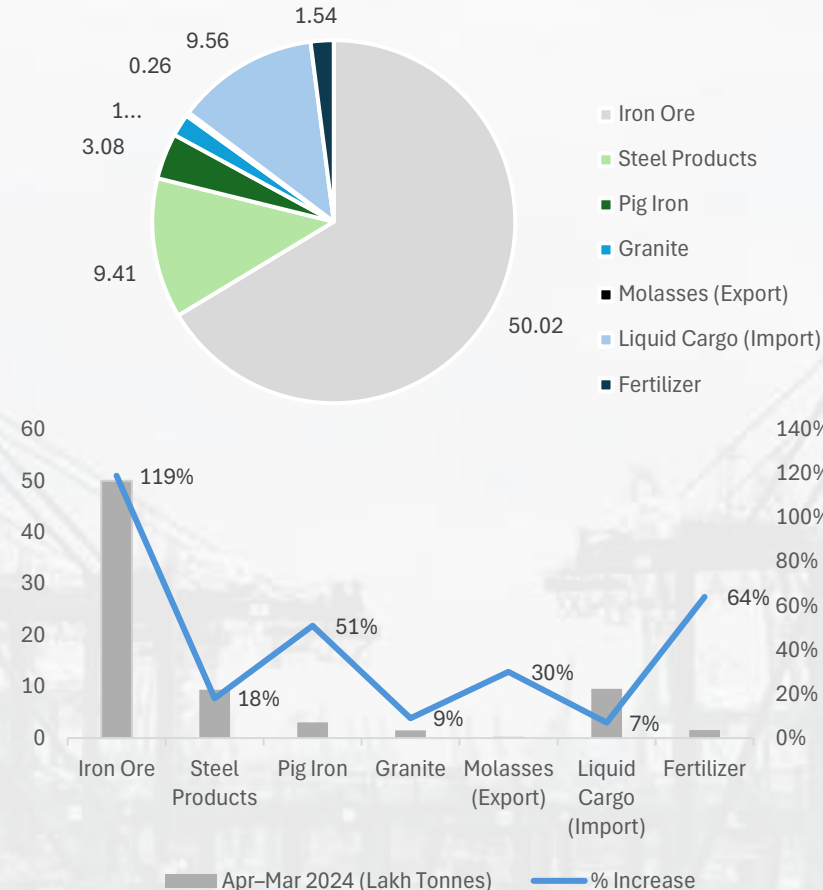
Strategically contributing to India's cargo ecosystem with strong coastal cargo performance and expanding port capabilities

Goa contributes 2% to the total cargo traffic



- Goa's major port contributes **20.63MT (2.52%)** of India's total major port cargo traffic.
- Non-major ports contribute only **0.12 MT (0.017%)** to the national non-major port cargo traffic

Commodity wise Coastal Cargo Traffic (in MT)



Goa's Coastal cargo traffic is dominated by **Iron Ore**, which accounts for the largest share, followed by **Steel Products** and **Liquid Cargo**.

Coastal cargo grew strongly YoY, led by **Iron Ore** doubling to **50.02 LT (+119%)**, with notable gains in **Fertilizer (+64%)** and **Iron (+51%)**. Moderate increases in **Steel (+18%)**, **Liquid (+7%)**, and **Granite (+9%)** **Iron Ore** as the primary growth driver.

Existing Infrastructure Backbone of Goa

Goa offers a solid foundation for coastal and inland shipping



01 - Major Port

- **Name** - Mormugao Port Authority, Goa
- **Location**- South Goa
- **Key Commodities**: Primarily handles **iron ore exports** (about 32% of India's total) and **coal imports**, alongside general cargo



06 - Non Major Ports

- **Tiracol** (Non-Functional)
- **Chapora** (Non-Functional)
- **Panji** (Functional)
- **Betul** (Non-Functional)
- **Talpona** (Non-Functional)

6 National Waterways:

- NW-68
- NW-111
- NW-27
- NW-25
- NW-71,
- NW- 88
- covering **Mandovi, Zuari, Chapora, Sal and other rivers.**

Transport Infrastructure

- It has around **255+ km of navigable inland waterways for cargo and tourism.**
- Goa offers multimodal connectivity comprising **1.4 lakh km of roads**, a broad rail network, and air connectivity through **02 operational airports Dabolim and Mopa.**

Source: India Maritime Week , Captain of Ports and Goa State Profile

Policies and Incentives - Goa Maritime Sector

Policy Interventions Supporting Connectivity, Sustainability & Coastal Shipping

Goa

The State, in alignment with Central initiatives, These combined interventions aim to enhance multimodal connectivity, reduce logistics costs, and promote sustainable maritime operations.



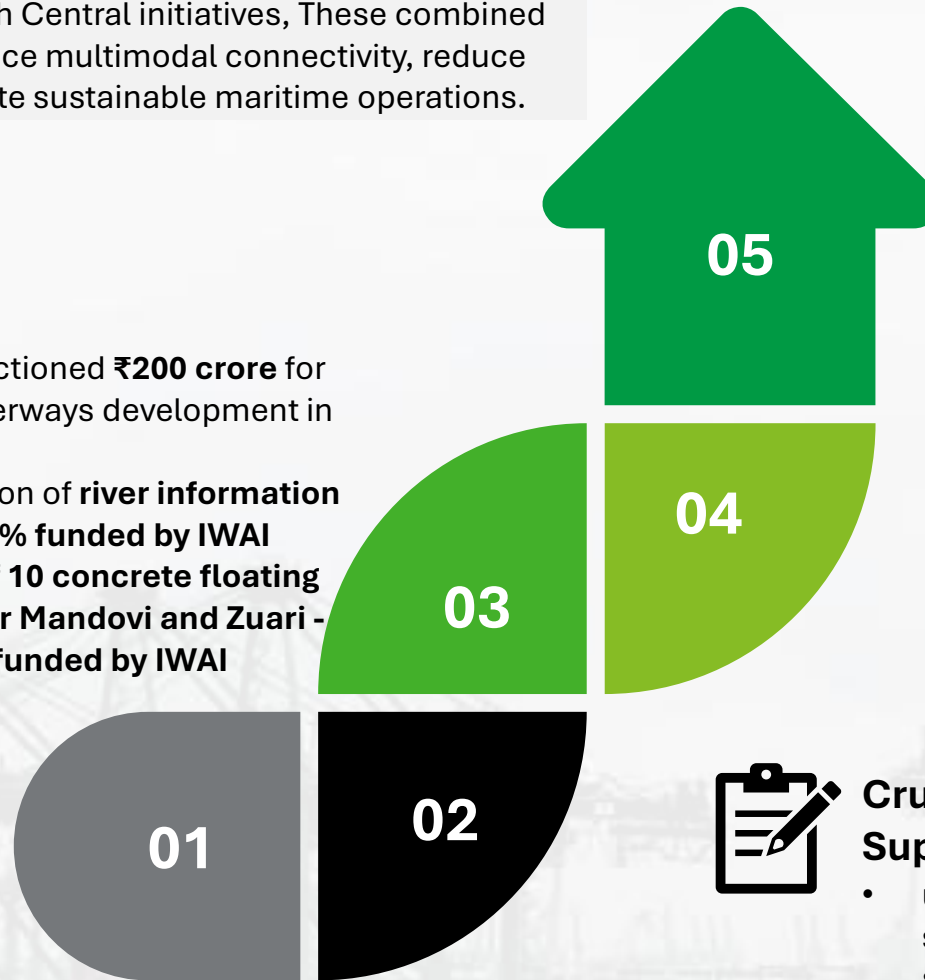
IWAI

- IWAI has sanctioned **₹200 crore** for National Waterways development in Goa
- Implementation of **river information system** - **100% funded by IWAI**
- Installation of **10 concrete floating jetties at river Mandovi and Zuari** - **project fully funded by IWAI**



Sagarmala Scheme

Development of **07 coastal community jetties** at various locations in the state - Sagarmala scheme on 50%-50% sharing basis



Green Shipping

- MPA implemented a green vessel incentive scheme, rewarding ships with Environment Ship Index (ESI) scores. Discounts on port charges encourage cleaner ship operations and attract global environmentally conscious shipping



State Logistics and Warehousing Incentives Scheme, 2025

- **10-15%** capital investment reimbursement
- **50%** interest subsidy
- **100%** stamp duty + registration reimbursement
- Skill development subsidy

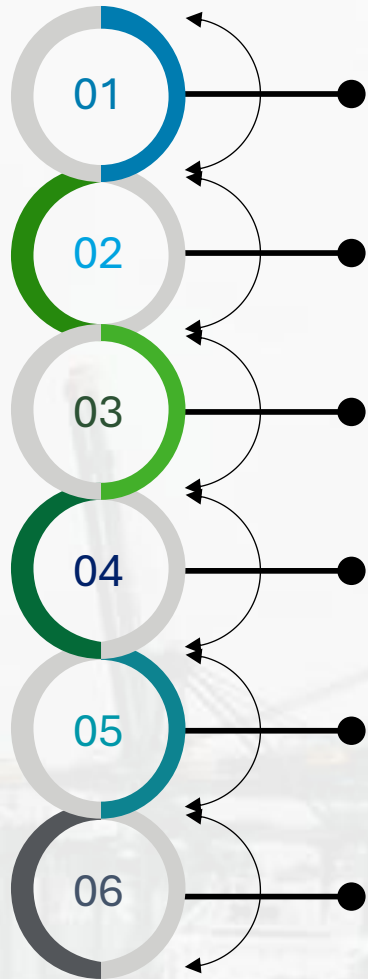


Cruise Bharat Mission (2024) Supports Coastal Passenger Shipping

- upgrades of **coastal ferry, Ro-Ro, and waterway services in Goa**, indirectly strengthening coastal shipping ecosystems

Strategic Maritime Initiatives for Goa

Integrated Initiatives for Safer, Smarter, and Sustainable Waterways



River information system/VTMS to enhance operational security and control.

Interstate Ferry Services : Mumbai-Goa Ferry service is under study which is expected to reduce travel time to approximately 6.5 hours

Dredging across major waterways to ensure safe and efficient Navigation for inland vessels and cargo transportation.

Hull superstructure & outfitting : Construction of concrete jetty with highly advanced crane of 200 tons, is planned at **Betim** to construct vessels with superstructure of higher air draft

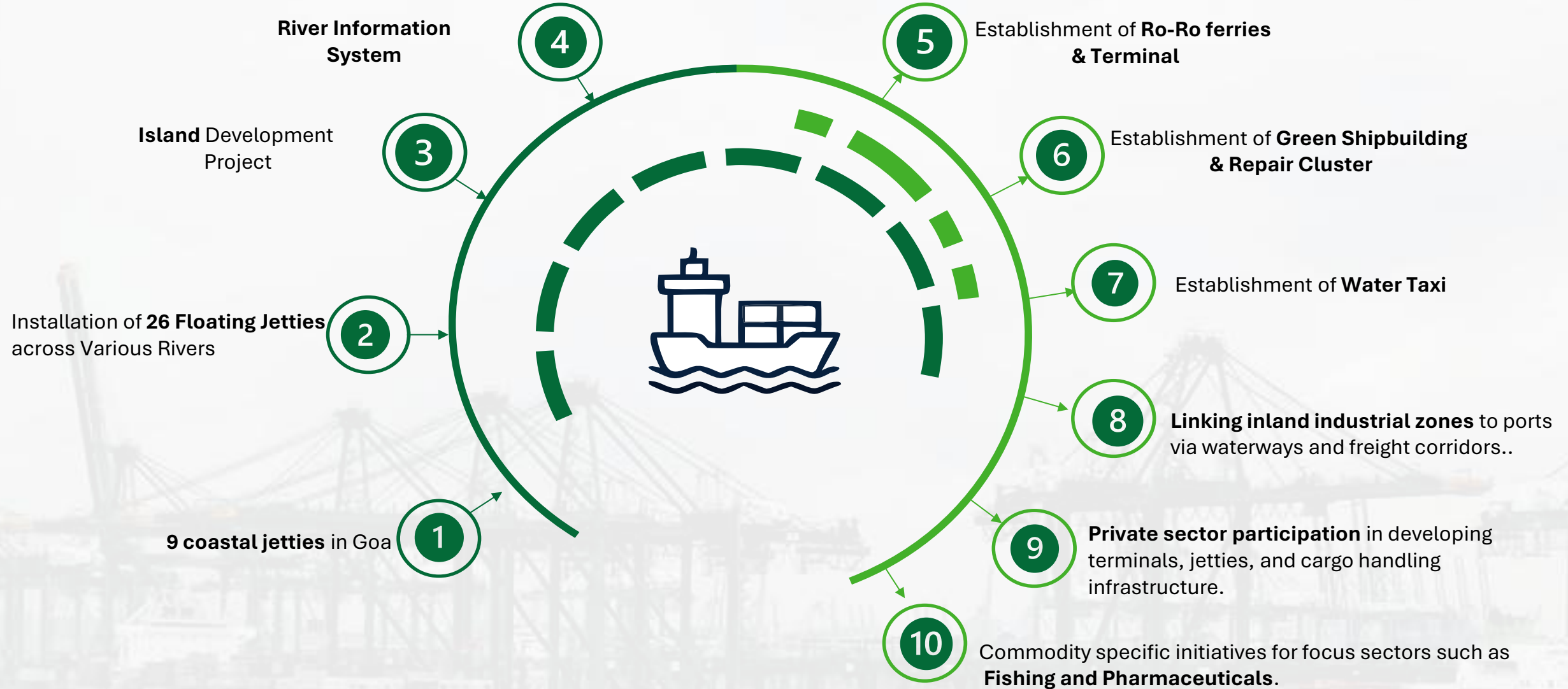
Marine Slipway development at Britona for ship repair facility in Mandovi River
Mini Harbour Jetty at Cortalim primarily to modernize fishing infrastructure, improve, and support the local fishing community

Installation of **Mooring Bouys** at Miramar, Panji Goa regular patrolling and the introduction of educational modules for tourists.

Development of **Islands** and **Submarine Tourism**

Growing Hub for Maritime Opportunities

Avenues for Investment, Modernization & Blue Economy Growth

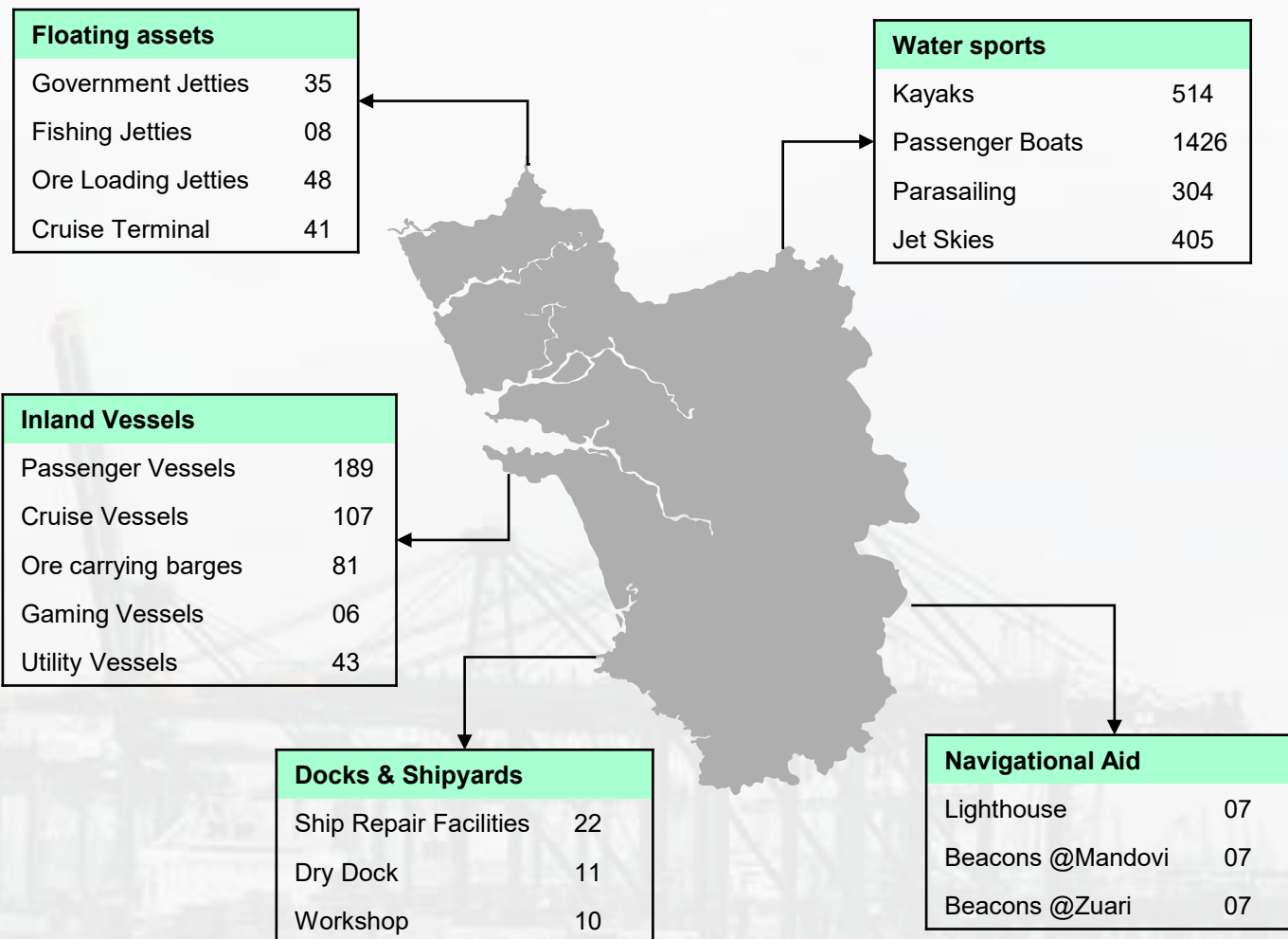


State Maritime Infrastructure

Maritime Profile



Goa has strong maritime backbone supporting trade, tourism, fisheries and Inland waterways



Infrastructure is strategically distributed to enable efficient operations, safety and multi-sectorial growth across the coastline

35 Government Jetties

Department	Port Reception	Cruise	Fishing	Community	Total
Captain Of Ports	01	7	2	0	10
River Navigation Dept.	0	1	0	15	16
Fisheries Department	0	1	6	0	7
Tourism Department	0	2	0	0	2

89 Private Jetties

Type	Loading unloading	Cruise
Concrete	48	0
Wooden	0	6
Floating, Pontoon, Steel	0	35

Source: India Maritime Week , Captain of Ports and Goa State Profile

State Profile

Maritime and Trade Profile



Key Initiatives/Investment/Infrastructure Plans



Over the past five years, projects worth **INR 1,016 crore** have been completed through **Government Budgetary Support, Internal Resources, and Public-Private Partnership (PPP)** models



Allocation of **INR 200 crore** for National Waterways projects in Goa by Inland Waterways Authority of India (IWAI).



A **INR 3,500 crore** agreement with Atlantic & Pacific LNG Inc. for establishing LNG infrastructure at Mormugao Port Authority



The **Goa Maritime & Waterways Infrastructure Development Vision** Document positions Goa as a model for sustainable maritime development with emphasis on **“Blue Growth with Green Responsibility”**.



Inland waterways and green fuel bunkering are emerging as strategic enablers. Redevelopment of Goa Institute of Maritime Excellence for training and certification of Seafarers on PPP mode .

Investment Commitments :

Sr	Name of MoU	Name of the Stakeholder	Investment
1	Setting up of LNG Facilities	M/s Atlantic & Pacific LNG	3,500
2	Redevelopment of Berth No.9 on EPC mode.	M/s Gammon Engineers and Contractors Private Limited	1,000
3	Development of Vasco Bay infrastructure includes construction of Fishing harbour, Passenger Jetty, Coastal cargo berth & Berths for Indian Navy and Indian Coast Guard.	M/s. Indian Port Rail & Ropeway Corporation Ltd,	1,000
4	Capital Dredging of Approach Channel and inner Basin for handling of Capesize Vessels at Mormugao Port.	M/s International Seaport Dredging Private Limited (ISDPL)	500
5	Berthing facilities at Finger Jetties 1,2 & 3	M/s Indian Coast Guard	250
6	Development of LPG Facilities	M/s Cisterina	100
7	Development of Berth-3	M/s. Indian Port Rail & Ropeway Corporation Ltd	25
8	Design, Supply, Installation, & Commissioning of 2MWp Solar Power Plant at MgPA	M/s Oriana Power Ltd	20

Nodal Agency: Captain of Ports

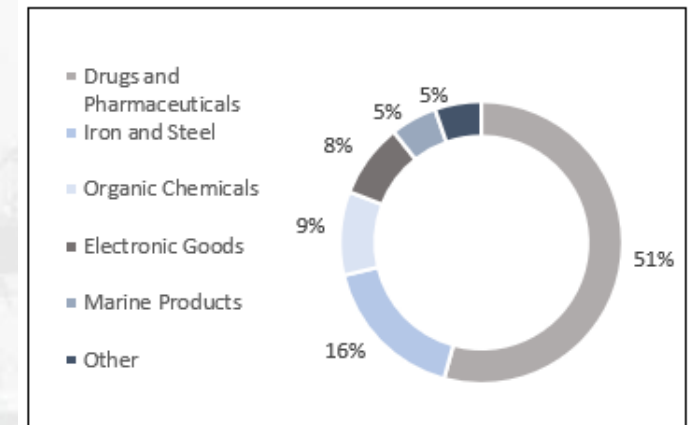


CAPTAIN OF PORTS DEPARTMENT
GOVT. OF GOA

- The state of Goa has a **~100+ long coastline** with **5 non major ports and one major port**.
- The Captain of Ports was established in 1912 with responsibility of developing **Inland Waterways and Minor Ports of Goa**.



Principal Commodities Exports in FY25

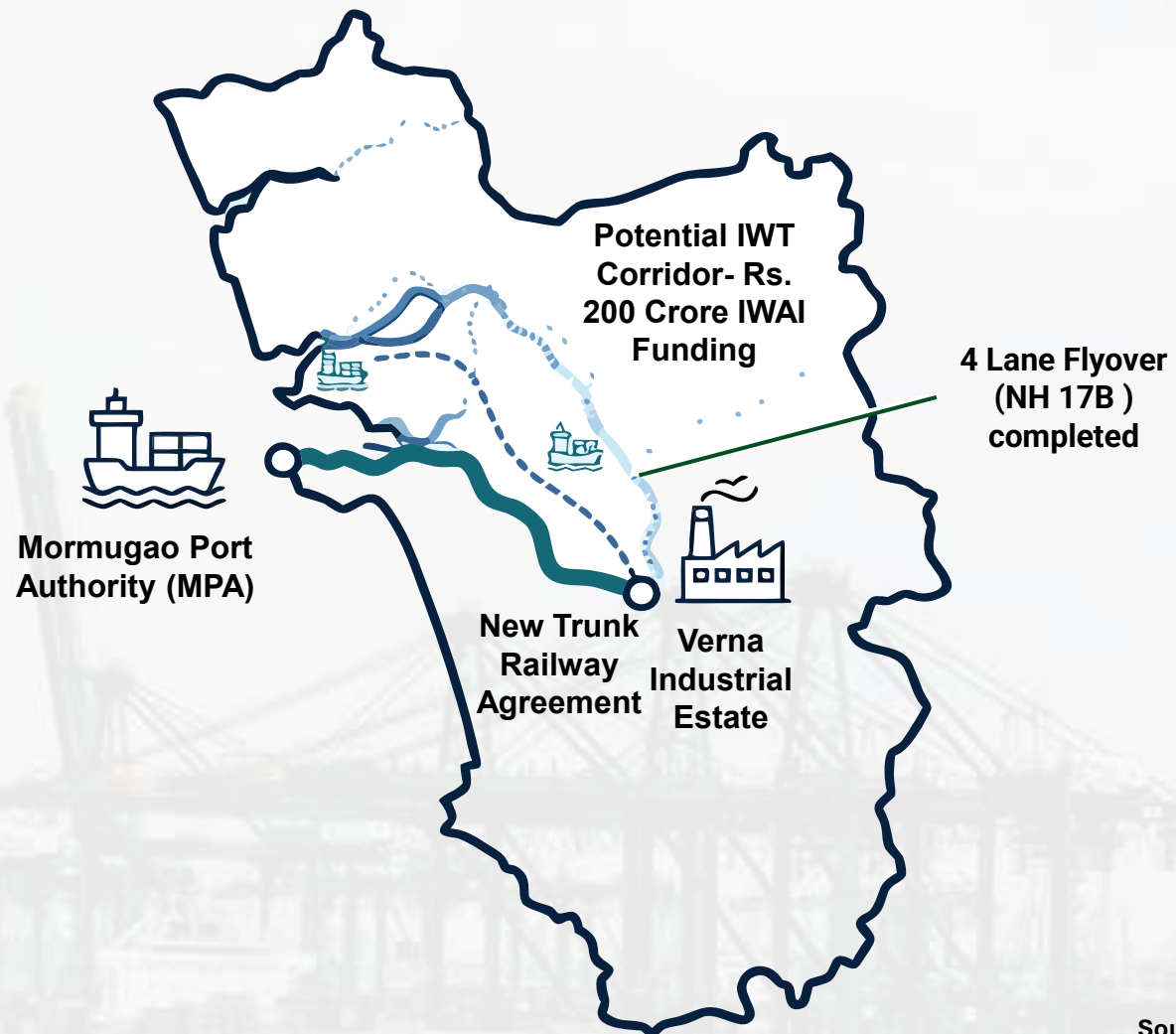


Sources :

India Maritime Week , Captain of Ports and Goa State Profile

Intermodal Infrastructure and Connectivity

Integration Across Port, Road, Rail, and Waterways



Port Capacity Enhancement

Operationalization of **Berths 10 & 11** via a **30-year PPP** with **Delta Ports** for container and multi-purpose cargo with a private investment of **INR 140 Cr**



Road Connectivity : Four-Lane Loop Road / Flyover on NH-17B, connecting Ravindra Bhavan to **MPA Gate No. 9** inaugurated in **Jan 2025**. The project cost **INR 644.1 Cr** and features India's **first curved cable-stayed flyover**,



Rail Connectivity

A new **Trunk Railway Agreement** with **South Western Railway** enhances operational working arrangements.



Inland Waterways (IWT) : Strategically deploy **INR 200 Crore IWAI funding** to develop multimodal terminals with mechanized handling, connecting industrial zones to MPA.

Source : MPA , Administrative Report FY 24-25 MOPSW, REPORT ON INDIA MARITIME WEEK-2025

Coastal Shipping Act, 2025

An Overview of the Provisions and improvements



*It aims increasing coastal cargo share to **230 million metric tonnes by 2030**, while strengthening the maritime sector's contribution to **Aatmanirbhar Bharat** and **Viksit Bharat**.*

Details about Coastal Shipping Act (2025)



1. Simplified licensing

Moves the requirement for **Indian-flagged vessels** to obtain a general trading license for coastal operations, easing compliance burdens and promoting domestic participation.



2. Integration of Coastal and Inland Waterways

Integrating **coastal and inland waterways** to create a **seamless multimodal transport network**, reducing transshipment needs and improving efficiency.



3. Database of coastal shipping

A **national database** is planned to be created for better real time information and support in better decision-making pertaining to coastal trading.



4. Strategic plan

Creation of **National Coastal and Inland Shipping** Strategic Plan biennially, aiming to improve route planning, forecast traffic, and foster sustainable growth

The **Directorate of Shipping's** initiatives for the act focus on modernizing regulations, promoting efficiency, and supporting sustainable growth in India's maritime sector.

Key initiatives include

- Establishing a **National Coastal and Inland Shipping Strategic Plan**.
- Creating a **National Database of Coastal Shipping** for greater transparency and efficiency.
- **Eco-friendly** measures and promoting Indian ownership and operations.

The Act promotes the use of Indian-built vessels and supports the domestic shipbuilding and repair industries, fostering self-reliance in the maritime sector

National Database for Coastal Shipping

Current Policies and Digital Initiatives in the Indian Maritime System

Existing Initiatives



Digitalization Push

Modernize ports, optimize cargo handling, reduce congestion, and enable paperless trade.



SAGAR SETU Platform

Unified digital system connecting 80+ ports and 40 stakeholders for EXIM operations and ease of doing business.



Digital Centre of Excellence (DCoE)

MoPS&W-CDAC partnership to drive AI, IoT, blockchain innovations under Maritime India Vision 2030 & Amrit Kaal Vision 2047.



DRISHTI Framework

KPI-based performance monitoring and transparency across ports.



Green Initiatives

“Gateway to Green” report – Paradip, JNPA, DPA as global hubs for green hydrogen (target: 5 MT by 2030).



Sagarmala Programme

Port modernization, connectivity, blockchain, IoT, automation for efficiency and transparency.



Innovation Ecosystem

Sagarmala Startup & Innovation Initiative (S2I2) to foster maritime tech startups and MSMEs.



Collaboration Platforms

Partnerships with academia, research centers, and private sector for indigenous tech and global competitiveness.

Ongoing Initiatives

The **Directorate of Shipping** is driving the act focusing on modernizing regulations, promoting digitalization efficiency, and supporting sustainable growth in India's maritime sector.

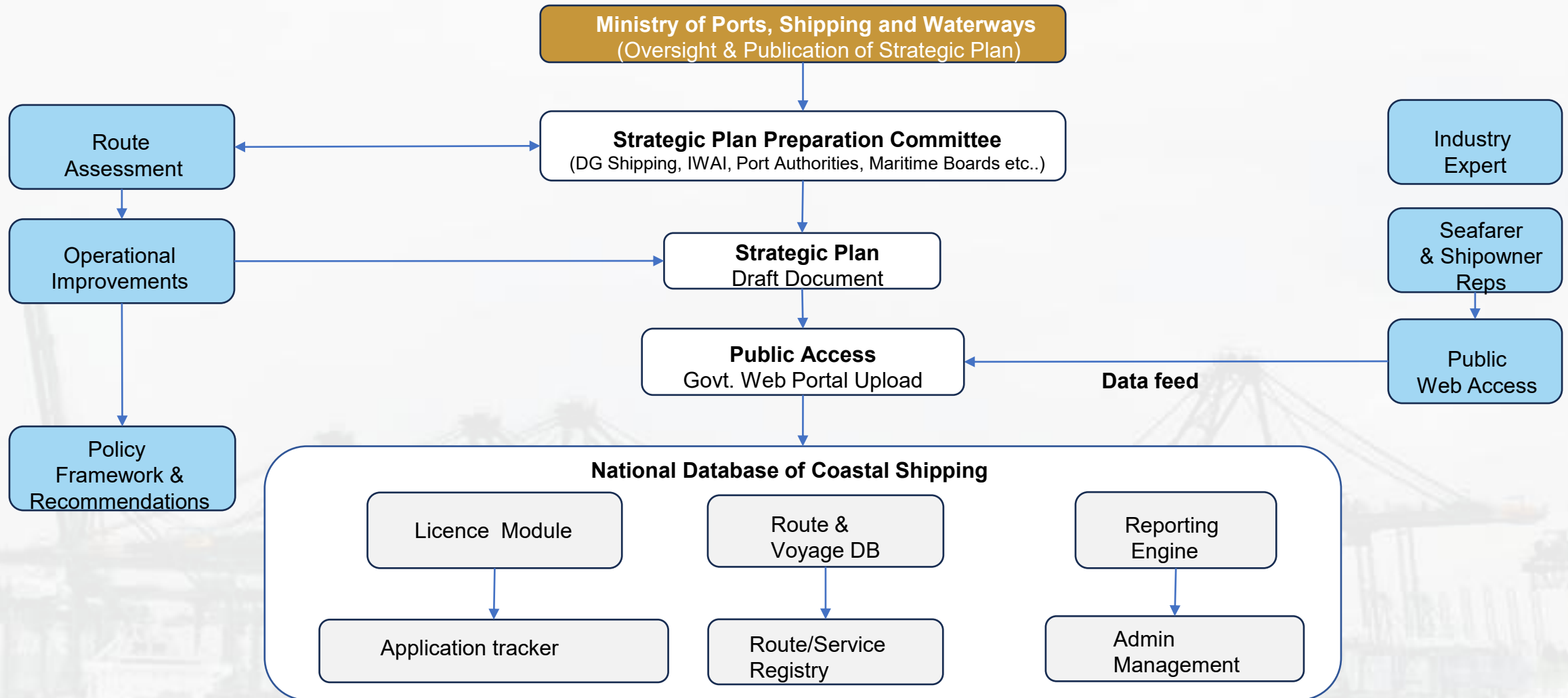
National Database for Coastal Shipping

National Coastal And Inland Shipping Strategic Plan

The missing link in India's logistics Digital transformation is **Coastal Trade** — and it is now being integrated to unlock efficiency, sustainability, and regional connectivity

National Database for Coastal Shipping

The Proposed Setup (as per the Coastal Shipping Act, 2025)



Available Port Infrastructure

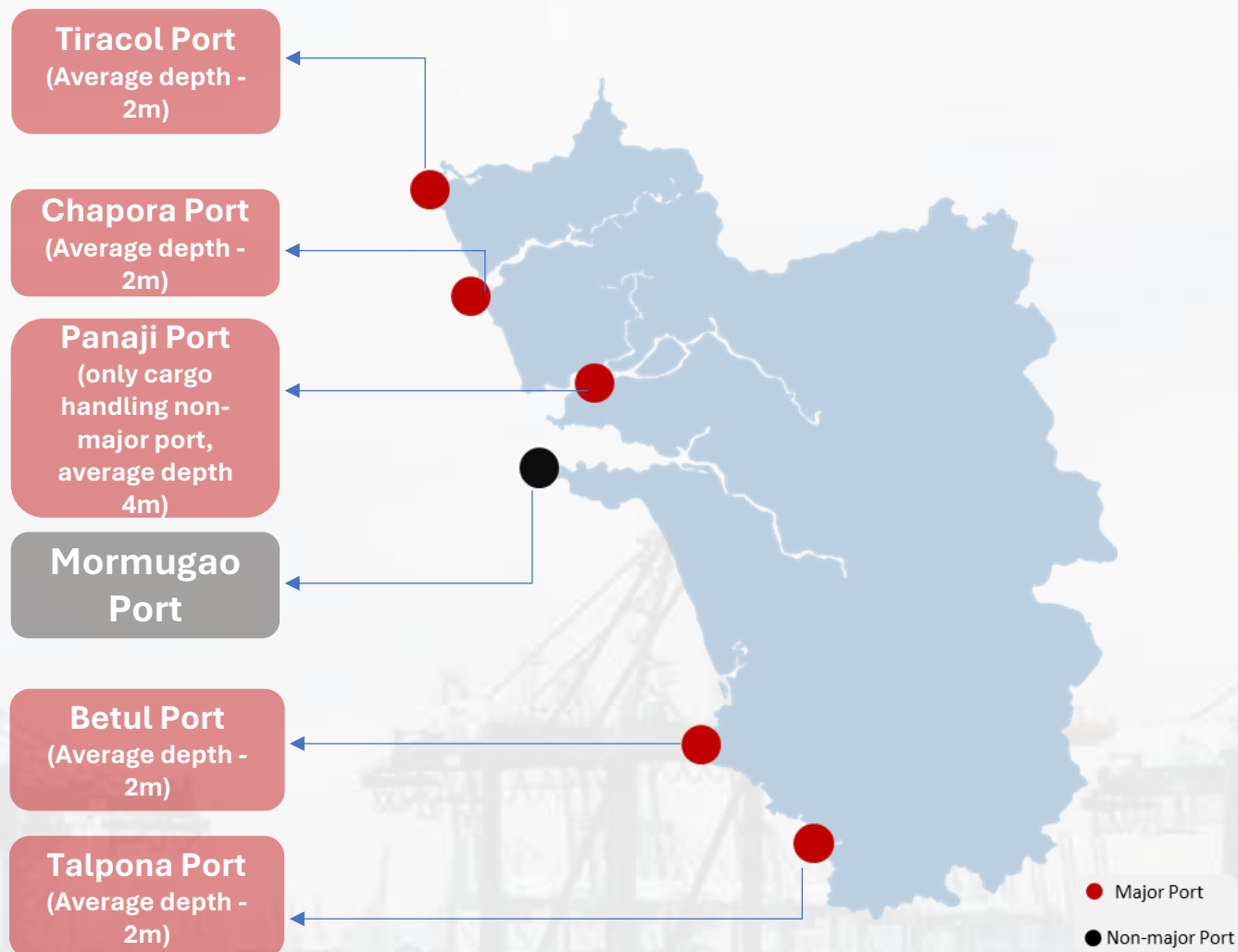
Overview of Current Facilities and Operational Capabilities



The trend in the cargo handled at both Major and Non-Major Ports of the State from 2020-21 to 2024-25

	2020-21	2021-22	2022-23	2023-24	2024-25 (P)
Major Ports	21.99	18.46	17.33	20.63	18.13
% Growth	-37.28	(-16.06)	(-06.08)	-19.00	(-12.13)
Non-Major Ports	0.04	0.03	0.01	0.12	0.06
% Growth	-341.88	(-23.62)	(-70.37)	-1375.00	(-51.10)
All Ports	22.02	18.48	17.34	20.75	18.18
% Growth	-37.43	(-16.08)	(-06.17)	-19.63	(-12.35)

- Major Ports continue to handle most of Goa's cargo, with volumes far higher (**99.68%**) than those at Non-Major Ports.
- Cargo handled at Major Ports reduced steadily from 2020-21 to 2022-23, increased in 2023-24, and is expected to decline again in 2024-25.
- Non-Major Ports handle very small quantities, so even small numerical changes result in large percentage variations.
- The large growth spike in 2023-24 for Non-Major Ports is due to a rise from a very low base, not due to major operational expansion.
- Overall port performance closely follows the trend of Major Ports, showing their central role in Goa's cargo movement.



Source: Update on Indian Ports Sector Transport Wing, Ministry of Ports, Shipping and Waterways

Inland waterways ecosystem

Infrastructure, Services, and Cargo Movement



Six officially declared National Waterways are notified under the National Waterways Act, 2016

NW-25 – Chapora River

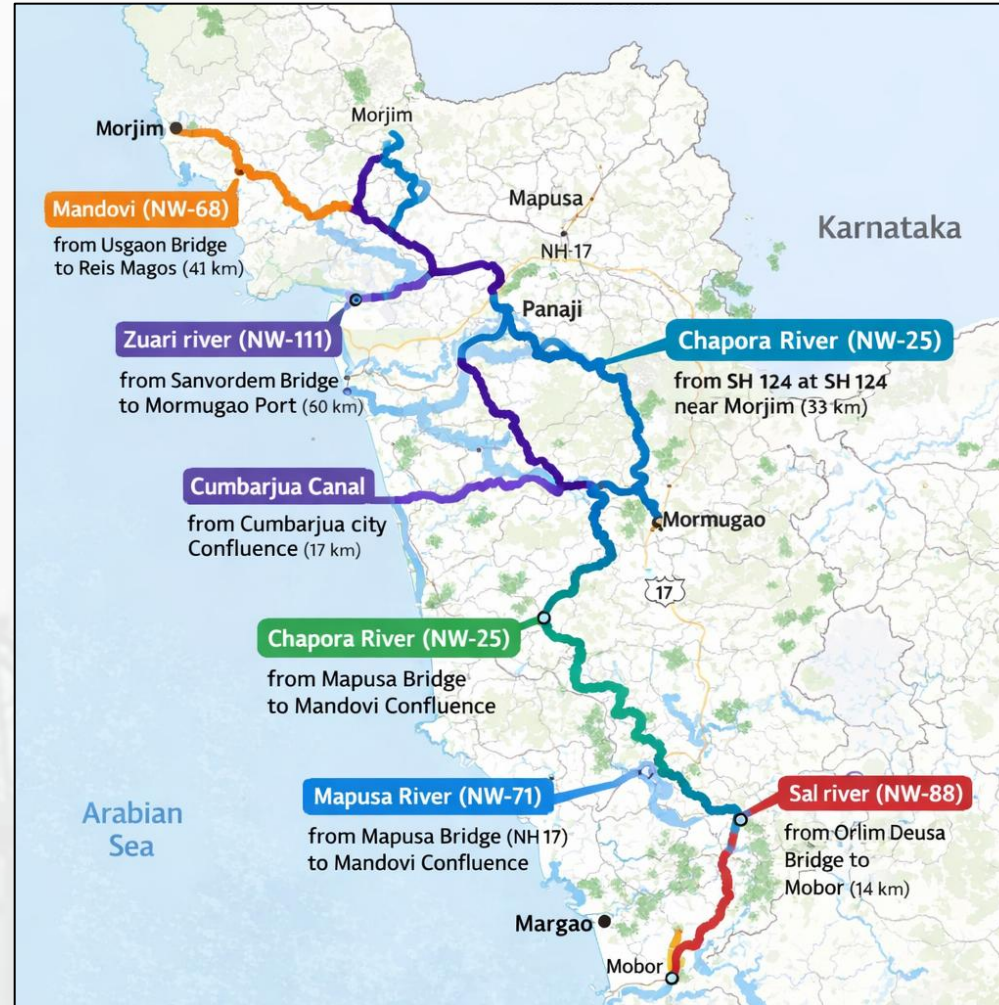
NW-27 – Cumberjua Canal

NW-68 – Mandovi River

NW-71 – Mapusa River

NW-88 – Sal River

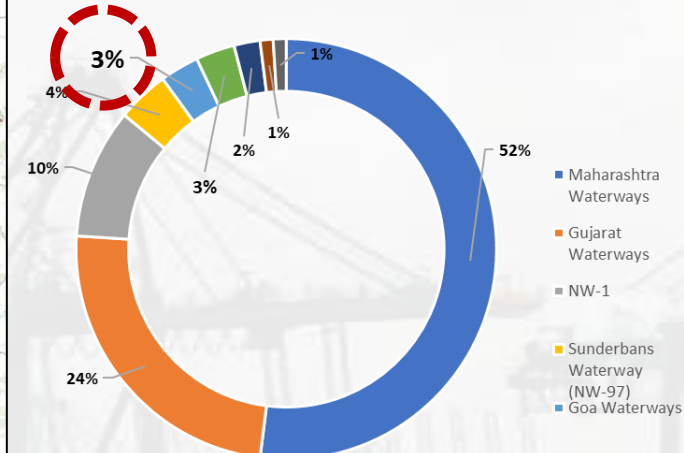
NW-111 – Zuari River



National Waterway routes in Goa

Source: Annual Report, National Waterways Authority of India 2023-2024

An assessment of cargo movement across national waterways in FY 2023–24 shows that Goa Waterways carried **3%** of the cargo movement



Inland waterways ecosystem

MoU: IWAI & Government of Goa



Memorandum of Understanding for coordinated development and management of key National Waterways in Goa

Purpose and Coverage

Establishes collaboration between IWAI and the Government of Goa (Captain of Ports) for developing and regulating six National Waterways in Goa:

Mandovi (NW-68), Zuari (NW-111), Cumbharjua (NW-27), Chapora (NW-25), Mapusa (NW-71), and Sal (NW-88).

IWAI- Primary responsibilities

- Finances and leads development of fairways (182 km), including dredging, river training works, bank protection, and maintenance.
- Develops and maintains terminals, jetties, cargo/tourism infrastructure, and navigational aids such as lighted buoys and RIS/VTMS systems.
- Prepares and finalizes EOIs, RFPs, tenders, estimates, and coordinates with Goa Government departments for project progress

Govt. of Goa- Primary responsibilities

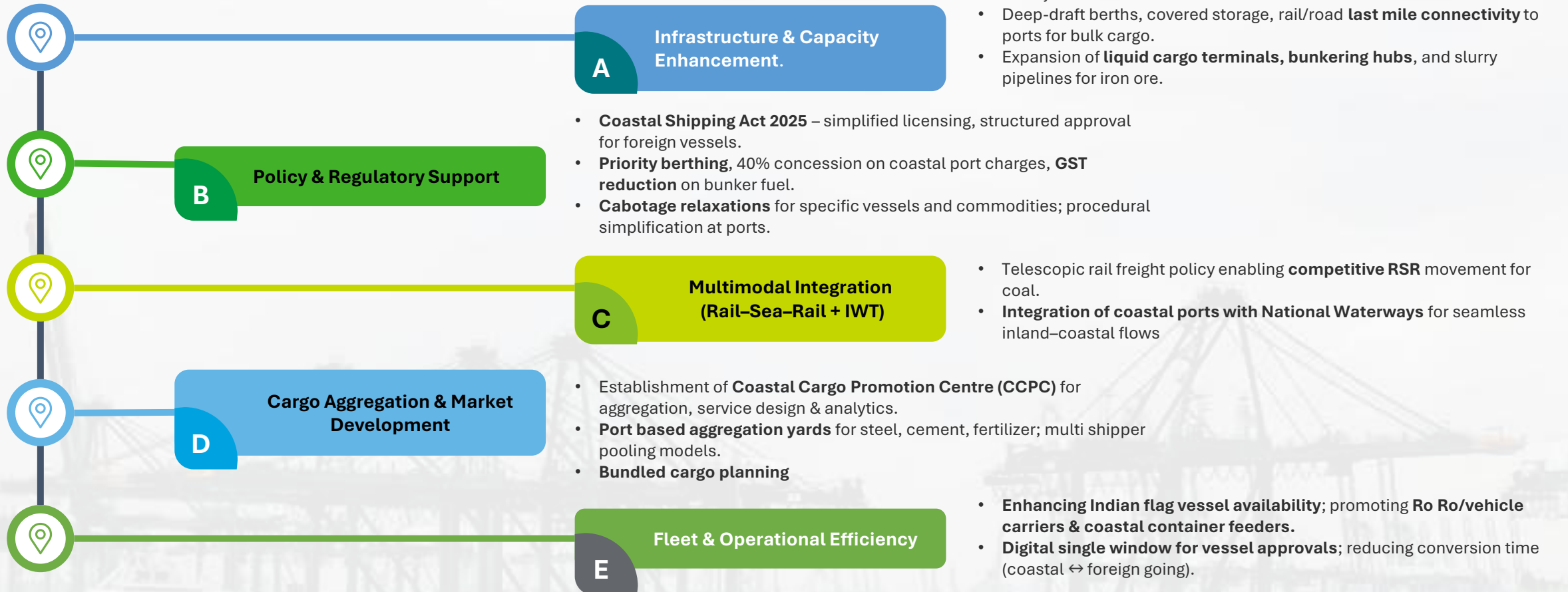
- Ensures safety, security, and smooth navigation on waterways.
- Identifies priority projects, facilitates statutory clearances, and undertakes land acquisition when required
- Removes encroachments on riverbanks and regulates fishing activities to avoid obstruction to navigation
- Free to undertake independent infrastructure projects on waterways using its own funds; revenue from such projects remains with the State.

Joint responsibilities

- Secure environmental, forest, and ministerial approvals; address local issues collaboratively.
- Prepare annual budgets, coordinate project planning, and ensure aligned oversight via designated Nodal Officers

Coastal Cargo: Pathways to Growth

Integrating Infrastructure, Policy Support, and Efficient Fleet Operations



*Source: Industry Feedbacks

Thank You