



सागराः सुपन्थानः सन्तु

MARPORTS GLOBAL 2026

Directorate General of Shipping

24th April 2026 | Thiruvananthapuram, India

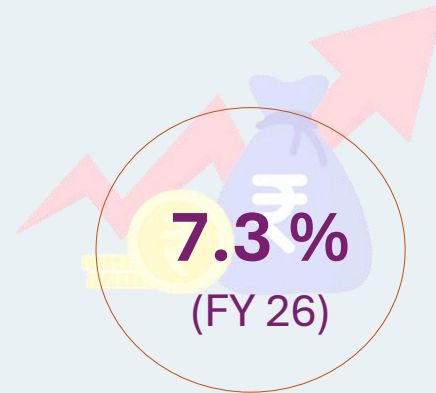


India's Economic Growth and the Significance of Maritime Domain



Indian GDP

World's 4th largest economy



GDP Growth

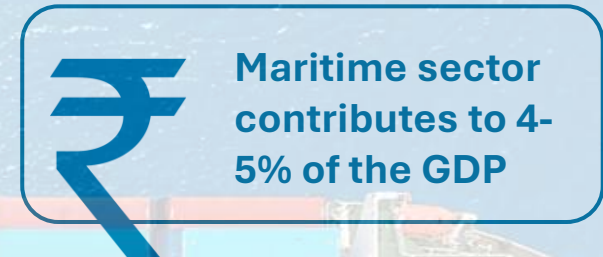
projected 6.3–6.7% annual growth through coming years



GDP Target

IMF projects India will surpass Germany by 2028, becoming the world's 3rd largest economy

The Maritime sector facilitates





Global Competitiveness



2

Indian Ports in Global top 30 Ports (Mundra & Visakhapatnam), 2023

(No Indian Port in Top 30 in 2015)

0.9 days

TAT ahead of many leading maritime nations (JNPA), 2022

(4 days in 2015)

Top 3

In trained manpower, 2025 with >3.2 Lakh Indian Seafarers

(1.2 lakh Seafarers in 2014)

2nd

Rank in global ship recycling, 2024

(3rd rank in 2017)

16th

Largest ship building sector globally with rapid capability expansion, 2024

(23rd Rank in 2016)

41st

Rank in World Competitiveness Index, 2025

(71st Rank in FY 2015)

14th

Rank in Liner Shipping Connectivity Index, 2024

(30th Rank in 2014)

38th

Rank in Logistics Performance Index, 2023

(54th Rank in 2014)



Contribution of the Blue Economy



Towards Viksit Bharat 2047

India and its Blue Economy

95%

By trade volume

70%

By trade value

India's Infrastructure Leverages

12

Major Ports

200+

Non-major Ports

11,098 km

Total length of India's coastline

India's Vessel Advantage



India has 1,520+ merchant vessels with 13 mn+ GT capacity



India ranks 18th globally in flag registration and 19th globally in carrying capacity

India is emerging as the leader of the Blue Economy in the world with multiple initiatives focusing on infrastructure, business and the overall economy

Port-led Development

Ports for Prosperity

Policy reforms driving EoDB, modern infrastructure and multi-modal logistics



India's Vision for the Maritime Sector



MARITIME INDIA VISION 2030

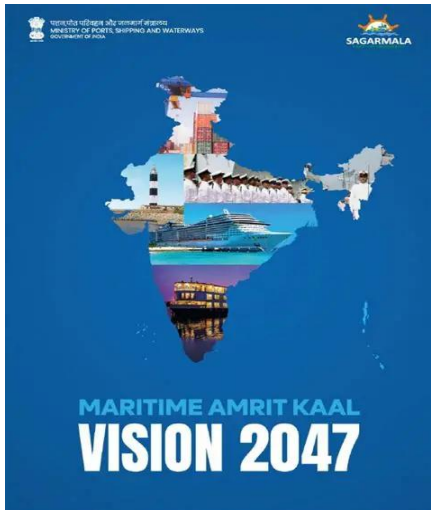


Maritime India Vision (MIV) 2030

- Position India Globally in the Top 10 Shipbuilding, repair nations (from 30k GT to 500k + GT).
- Renewable Energy Share at Major Ports : >60%
- Promote Waste to Wealth through ship recycling. India from #2 to #1 ship recycling nation.
- Encourage green belt development (plantations) : Atleast 33% of port area
- Investment: INR 20,000+ Crores
- Employment Generation: 1,00,000+ additional jobs (direct and indirect)

Maritime Amrit Kaal Vision 2047

- Advanced phase targeting Top 5 global position in shipbuilding and maintaining 1 position in ship recycling
- Carbon neutral ports (green fuel, electrification, SPS). $\geq 60\%$ renewable-energy share, create hydrogen hubs, emission & resource monitoring toolkits for ports.
- Promote Alternate/ Green Fuels, Bunkering infrastructure, green framework for terminal operations, introduce incentives in port duties for low emission vessels .
- 300+ Strategic Initiatives across 11 key maritime areas
- Financial Assistance: 20-30% assistance for green vessels (including retrofitting)



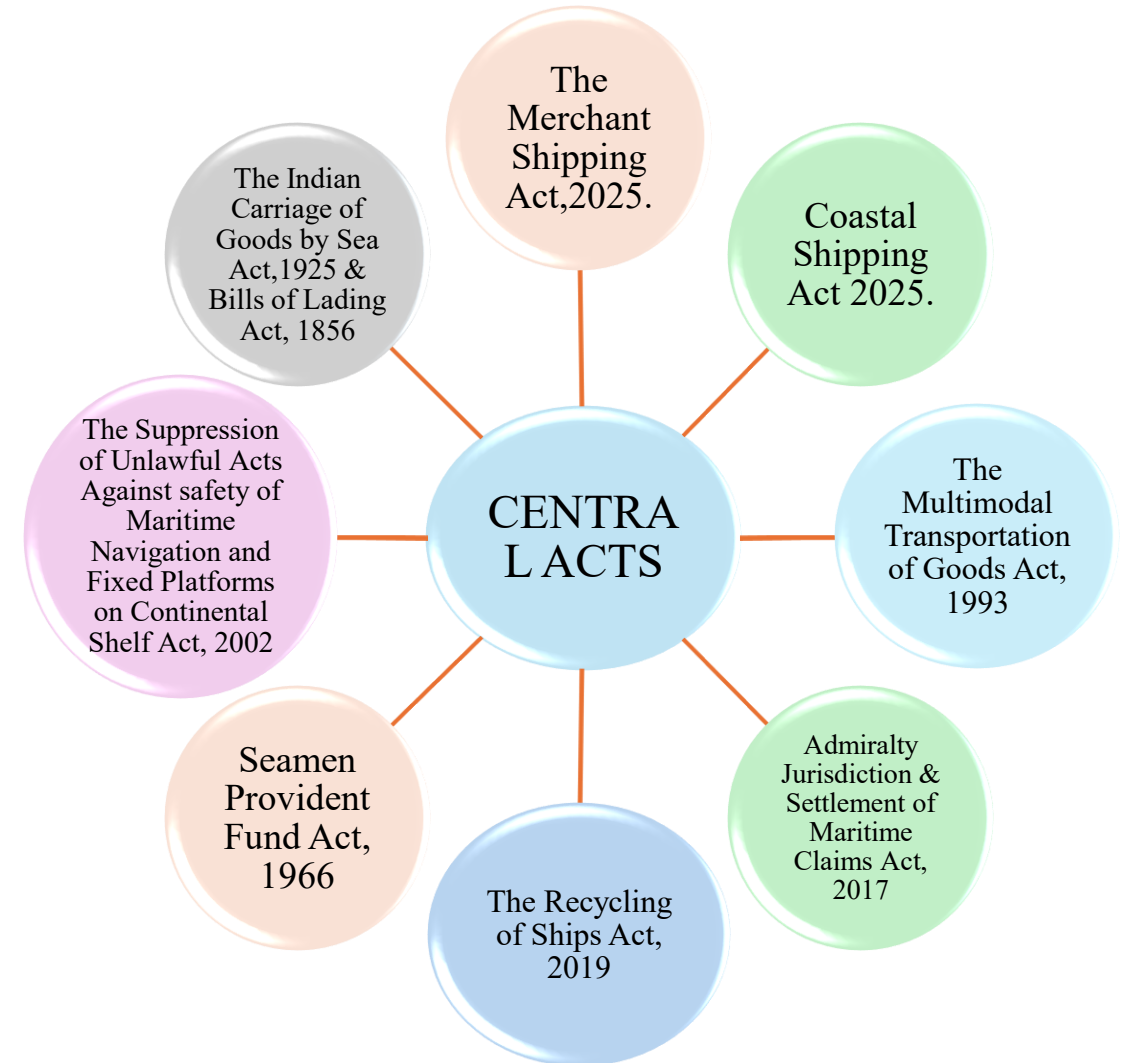


National Regulatory Framework



Legislative Frameworks driving Facilitative Maritime Ecosystem

New Maritime Legislative Reforms - 2025



Directorate General of Shipping → Transitioning to Directorate General of Maritime Administration



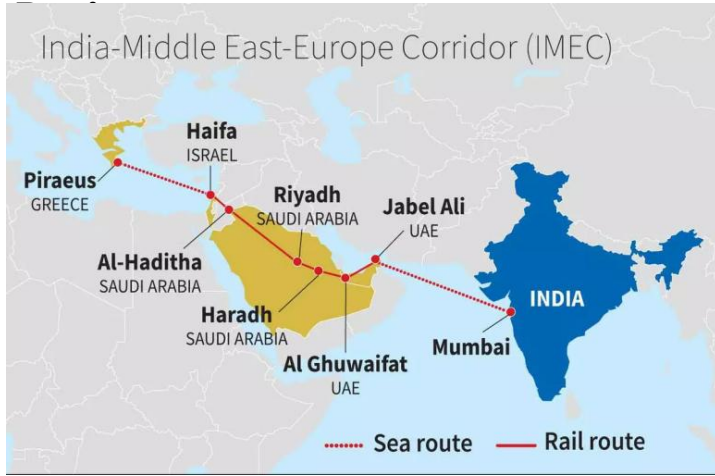
NAVIGATING TODAY'S COMPLEX GEOPOLITICAL ENVIRONMENT



Maritime Corridors - India's Connectivity



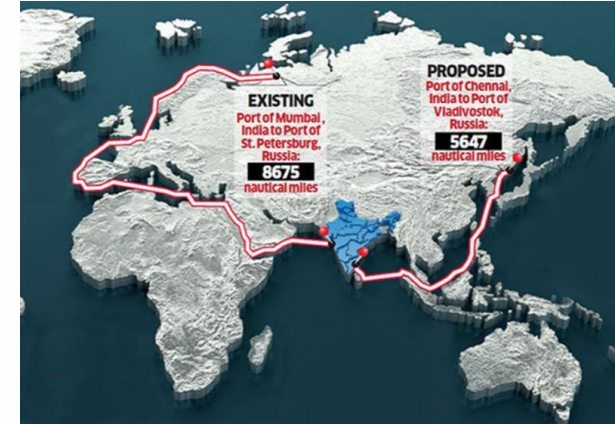
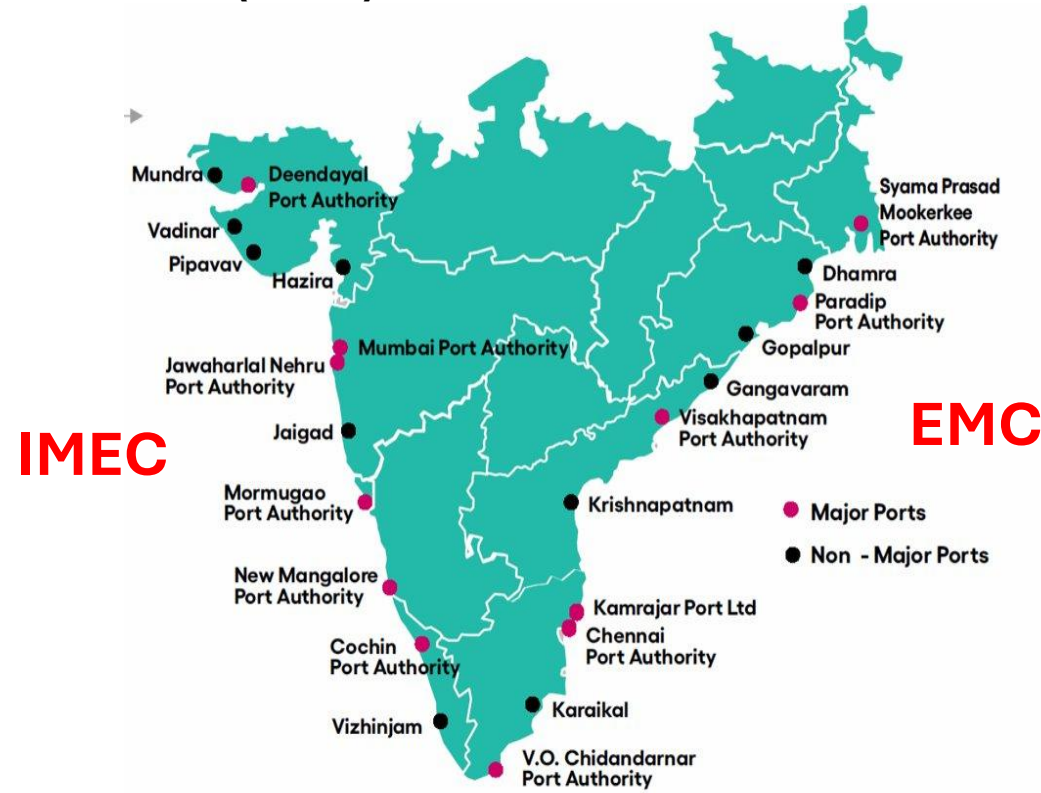
India-Middle East-Europe Economic Corridor (IMEC)



The **IMEC** Project was announced at the G20 Summit (2023), the IMEC aims to connect India, the Middle East, and Europe through a network of railways, roads, and ship-to-rail links.

The project will also feature an electricity cable, a hydrogen pipeline, and a high-speed data cable, fostering regional integration across Asia, Europe, and the Middle East.

Chennai-Vladivostok Eastern Maritime Corridor (EMC)



The **Chennai-Vladivostok Eastern Maritime Corridor (EMC)** is a sea link connecting the east coast of India (Chennai Port) with ports in the far-east region of Russia (Vladivostok Port).

Strategic Importance: Vladivostok is the largest Russian port on the Pacific Ocean, and the corridor passes through the **South China Sea** and strengthens India's strategic presence **addressing China's dominance** in the region.

Cargo Potential: Crude Oil, LNG and Timber from Russia

Impact of Blockage of Suez Canal



Fig: Red Sea Shipping Crisis

Impact of Russia-Ukraine War on Maritime Trade & Shipbuilding

Disrupted Black Sea Routes

- Grain, metals, and bulk cargo shipments rerouted or delayed
- Longer transit times, higher freight costs

Sanctions & Export Controls

- Restrictions on Russian oil, metals, and technology
- Compliance risk for shippers & buyers
- Need to diversify sourcing and trading partners

Fuel & Insurance Instability

- Volatile bunker fuel prices increase operating costs
- Higher war-risk premiums and shipping insurance rates
- Some routes avoided, leading to global supply chain stress

Strategic & Financial Implications

- Risk of retaliatory tariffs disrupting global supply chains
- Shipping companies may face overcapacity or rerouting challenges
- Financing for newbuilds and fleet expansion becomes riskier

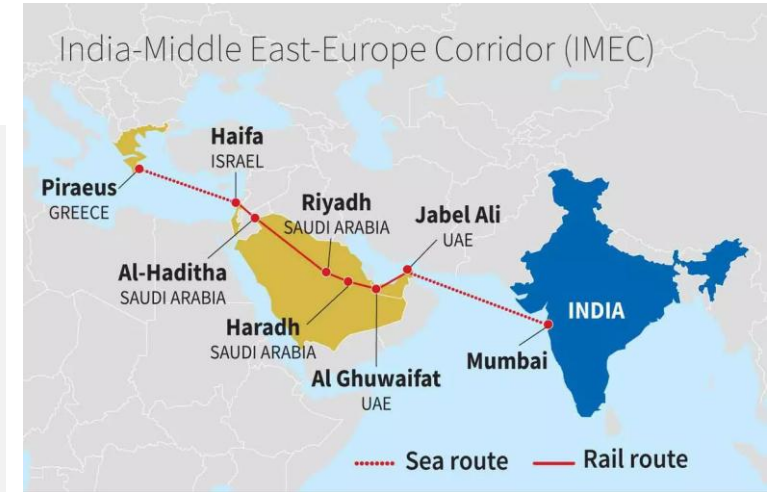
Geopolitical Importance of Chabahar

Chabahar Port is located on Iran's southern coast by the **Gulf of Oman**. It serves as India's access point to Afghanistan and Central Asia, bypassing Pakistan. The port counters **China's Gwadar Port in Pakistan**, part of the **China-Pakistan Economic Corridor (CPEC)**. Chabahar is also a key node in the **International North-South Transport Corridor (INSTC)**, linking Mumbai to Moscow through Iran and Azerbaijan.



India's Investment

- India Ports Global Limited (IPGL) operates the Shahid Beheshti Terminal at Chabahar.
- The \$120 million investment focuses on modernising port infrastructure and enhancing cargo handling.



Challenges

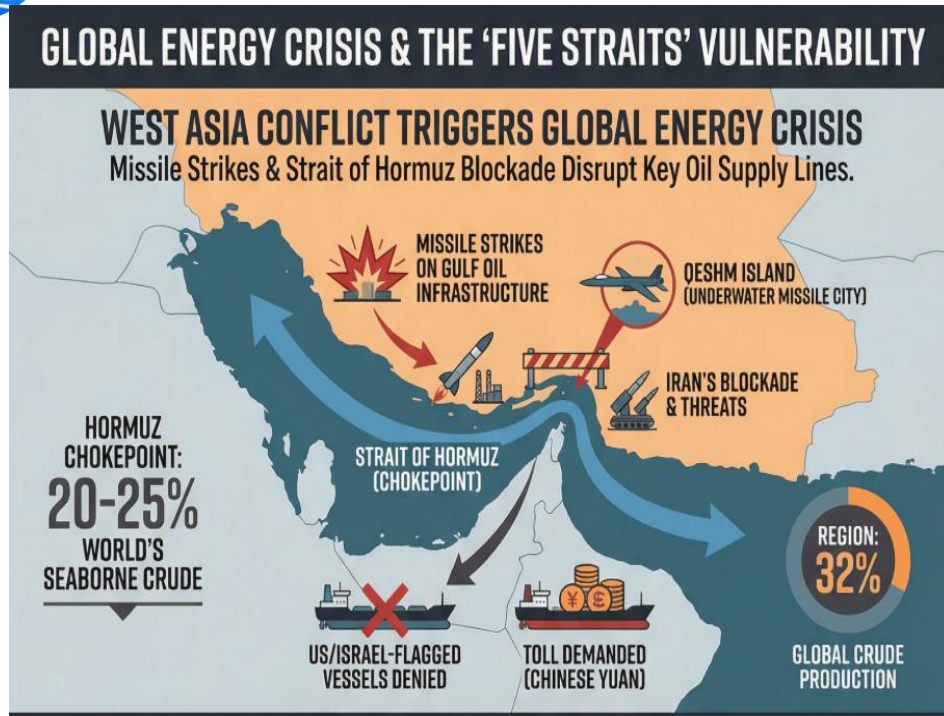
- Concern of US with Iran: Potential risk of sanctions
- Houthi-Red Sea Crisis

Economic Benefits

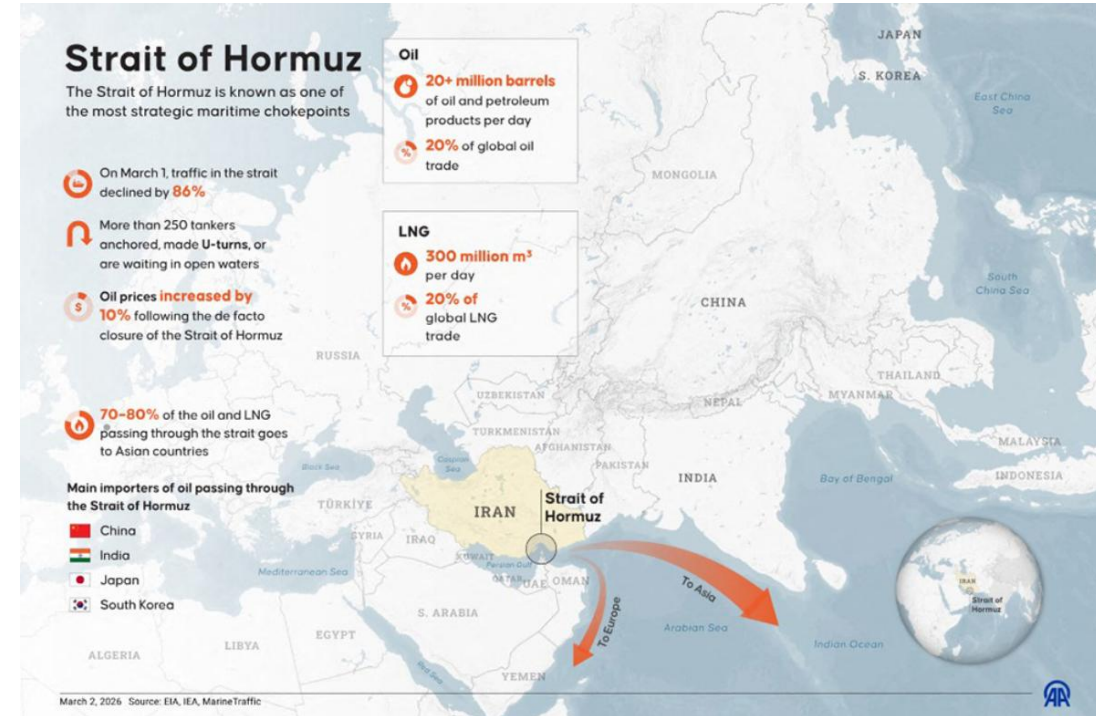
- Connect with the resource-rich Central Asian markets
- Diverse Trading Routes
- INSTC to save 30% in cost and 40% in transit time



Strait of Hormuz – Strategic Geo Political Importance



Source: ndtv.com



Source: EIA, IEA, Marine Traffic

- Before the war, Hormuz carried ~20% of global seaborne crude to Asia; during the conflict, flows were rerouted mainly via the Suez–Red Sea route, with Malacca remaining the busiest.
- As on March 1, traffic in the strait declined by 86%
- More than 250 tankers anchored, made U-turns or are waiting in open waters
- Oil Prices increased 10%

Xinhua News Agency. (2026). How important is the Strait of Hormuz? New Vision. https://www.newvision.co.ug/category/world/how-important-is-the-strait-of-hormuz-NV_229100_042026



India's Energy Security Situation Amid the Iran Conflict



5.6M

Barrels/day
Consumed

40%

Supplies via
Hormuz (pre-war)

4

Major Asian
Economies Affected

21 M

barrels/day transit
Hormuz globally

33km

width at narrowest
point



Iran war has severely
disrupted traffic

Strategic Takeaway: India's energy security is critically exposed to geopolitical shocks at maritime chokepoints. While diversification is underway, reliable single-source alternatives remain scarce — making the US a pivotal near-term partner and accelerating the imperative for a long-term resilient supply architecture.

**Affected
other Asian
Economies:**

China
High Dependence

Japan
90%+ import reliant

S. KOREA
High dependence

Srinivasan, C. (2026, April 22). Hormuz blocked, \$4 million for Panama crossing, and US crude on the rise. NDTV. <https://www.ndtv.com/world-news/hormuz-blocked-4-million-for-panama-crossing-and-us-crude-on-the-rise-11393195>



DGS Response during Security Concerns in Strait of Hormuz



13

INDIAN VESSELS

Within the Persian Gulf Region West of Strait of Hormuz



40

INDIAN + FOREIGN FLAGGED VESSELS

To be evacuated carrying cargo bound for India.



2,615

INDIAN SEAFARERS EVACUATED

544 Indian seafarers are on Indian flagged vessels, in the Persian Gulf region

Note: Status as of 1800 hrs 22 April 2026

DGS is closely monitoring the situation in coordination with **MoPSW, MEA & MoD**. The **40 vessels** have been identified in coordination with Ministry of Petroleum and Natural Gas and Department of Fertilizer



DGS Efforts for Indian Exporters and Trade Facilitation



Geopolitical developments in the Middle East have impacted shipping costs, schedules and trade flows. DGS has established a coordinated mechanism for grievance redressal and trade facilitation.

Key Actions by DGS:

- Allocation of **Unique ID** for each grievance, Port-wise nodal officers designated and Regular review meetings with stakeholders.
- **DGS Circular No. 14 of 2026 (09.03.2026):** Advised against predatory pricing and excessive charges; mandatory advance disclosure of charges.
- **Public Notice No. 14 of 2026 (21.03.2026):** Dedicated Helpdesk Cell established.
- **DGS Circular No. 18 of 2026 (08.04.2026):** Port concessions to be passed on; transparency in freight/war risk premiums; documentation of additional charges.

DGS Helpdesk Details

- ☎ **Helpline:** [022-25752019](tel:022-25752019)
- ✉ **Email:** mto-dgs@nic.in
- 📄 **Copy to:** sudhir.kohakade@gov.in

438

Total Grievances Received from FIEO (161) and DGS Helpdesk (277)

Coordination Meetings with Stakeholders





Bunker Costing



Bunker rates across different ports and fuel types

All rates in USD/MT

Fuel Type	Location	31-Dec (A)	30-Jan (B)	27-Feb (C)	2-Apr (D)	17-Apr (E)	Bi-Weekly change (E-D)/D*100	Pre-war change (E-D)/C*100
Heavy Fuel Oil (HFO) CST 380	Fujairah	332	402	415	730	579	-21%	40%
	Singapore	353	425	435	745	615	-17%	41%
	Colombo	435	461	514	999	896	-10%	74%
	Mumbai	404	462	477	713	623	-13%	31%
	Kochi	413	459	484	713	623	-13%	29%
Marine Fuel 0.5% Bunker	Fujairah	423	466	517	870	~740	-15%	43%
	Singapore	423	482	519	896	~762	-15%	47%
	Colombo	480	530	564	1150	985	-14%	75%
	Mumbai	461	468	530	1135	885	-22%	67%



War Risk Premium Trend – Persian Gulf Area



Heightened geopolitical uncertainty in the Middle East has materially impacted maritime insurance markets, particularly for vessels transiting the Persian Gulf and adjoining strategic sea lanes.

Phase	Hull War Risk Premium	Market Response
Pre-Conflict Baseline	0.10% – 0.25%	Stable annual cover
Escalation Phase	~1.0%	Voyage-based repricing
Peak Conflict Period	3.0% – 10.0%	Severe volatility, capacity tightening
Current Position (2026)	0.4% – 0.8%	Elevated but stabilising

Key Industry Takeaways:

- **Premiums** remain structurally **above historical norms** despite moderation from peak levels.
- Insurance pricing now **reflects persistent geopolitical risk in critical maritime corridors.**
- Increased transit costs directly affect tanker, container and bulk shipping economics.
- Selective underwriting, rerouting decisions and schedule adjustments continue across operators.
- Energy-import dependent economies, including India, remain **exposed to freight and logistics cost escalation.**



Formation of Bharat Maritime Insurance Pool



The sharp rise in war-risk insurance premiums due to the Hormuz crisis has significantly escalated logistics costs for Indian shipping and cargo. The union cabinet approved a dedicated maritime insurance pool.

Bharat Maritime Insurance Pool (BMI Pool)

Approved by Union Cabinet on 18 April 2026

Pool is backed by sovereign guarantee of

₹12,980 Cr.

Objectives to ensure:

- Continuity of maritime insurance coverages
- Reduction in additional war-risk premium burden on Indian shipowners and cargo owners
- Stability of shipping operations during geopolitical disruptions



SHIP BUILDING



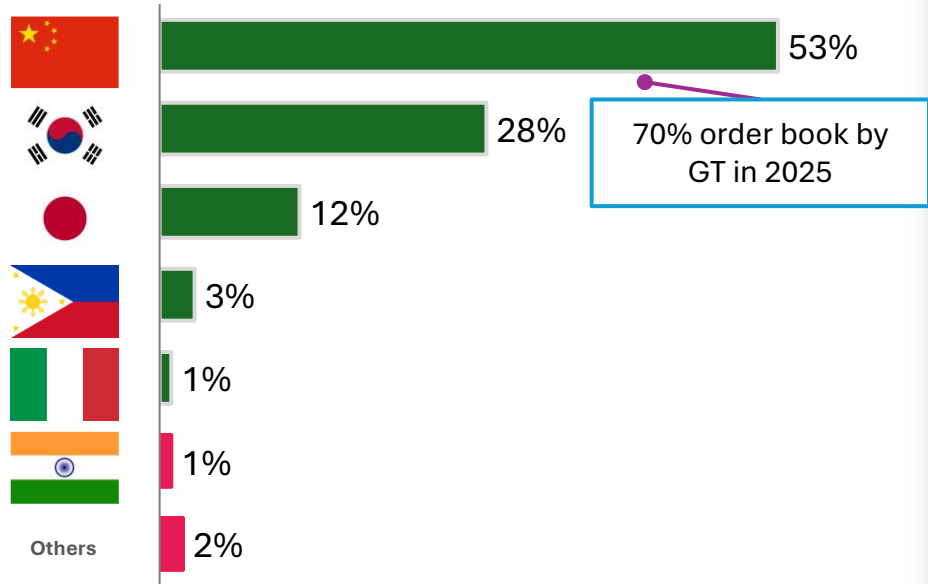
Scaling India's Shipbuilding Capacity for Global Competitiveness



India | 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



National Vision for Ship Building





Four Pillar Approach for Ship Building



Shipbuilding Financial Assistance scheme

Allocation: ₹24,736 crore

(Shipbreaking Credit Note – 4,001 Cr)



Maritime Development Fund

Allocation: ₹25,000 crore

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



Shipbuilding Development Scheme

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



Legal, Policy and Process Reforms



Domestic Demand Aggregation



Fleet Expansion & Investment Overview

Organization / Programme	Vessel Planned	Gross Tonnage (GT)	Investment (INR Cr.)
Oil and Gas PSUs – Fleet acquisition plan	59 vessels	2.8 million GT	INR 47,800
SCI – Long Term Plan	216 bulkers/tankers/offshore vessels	10 million GT	INR 1,00,000
SCI – Container Fleet	51 container vessels	~ 6 million GT	INR 60,000
Domestic Green Tug Programme	100 green tugs	–	INR 12,000
Dredging Corporation of India – Fleet expansion	11 dredgers	–	INR 3,775
Total	437 vessels	~ 19 million GT	INR 2.2 lakh Cr.

Procurement Plan (1 yr.)

Stakeholder	Vessel Type	Qty
JV with Oil PSUs including ONGC	LPG Carriers, Crude Carriers, Product Tankers, etc.	22
Shipping Corporation including BCSL	Container Vessels, Product Tankers, Platform Support Vessels, etc.	24
Major Ports	Green Tugs	12
Dredging Corporation	Dredgers	4
Total		62 Vessels



STRENGTHENING INDIA'S LARGE TRANSHIPMENT PORT CAPABILITIES

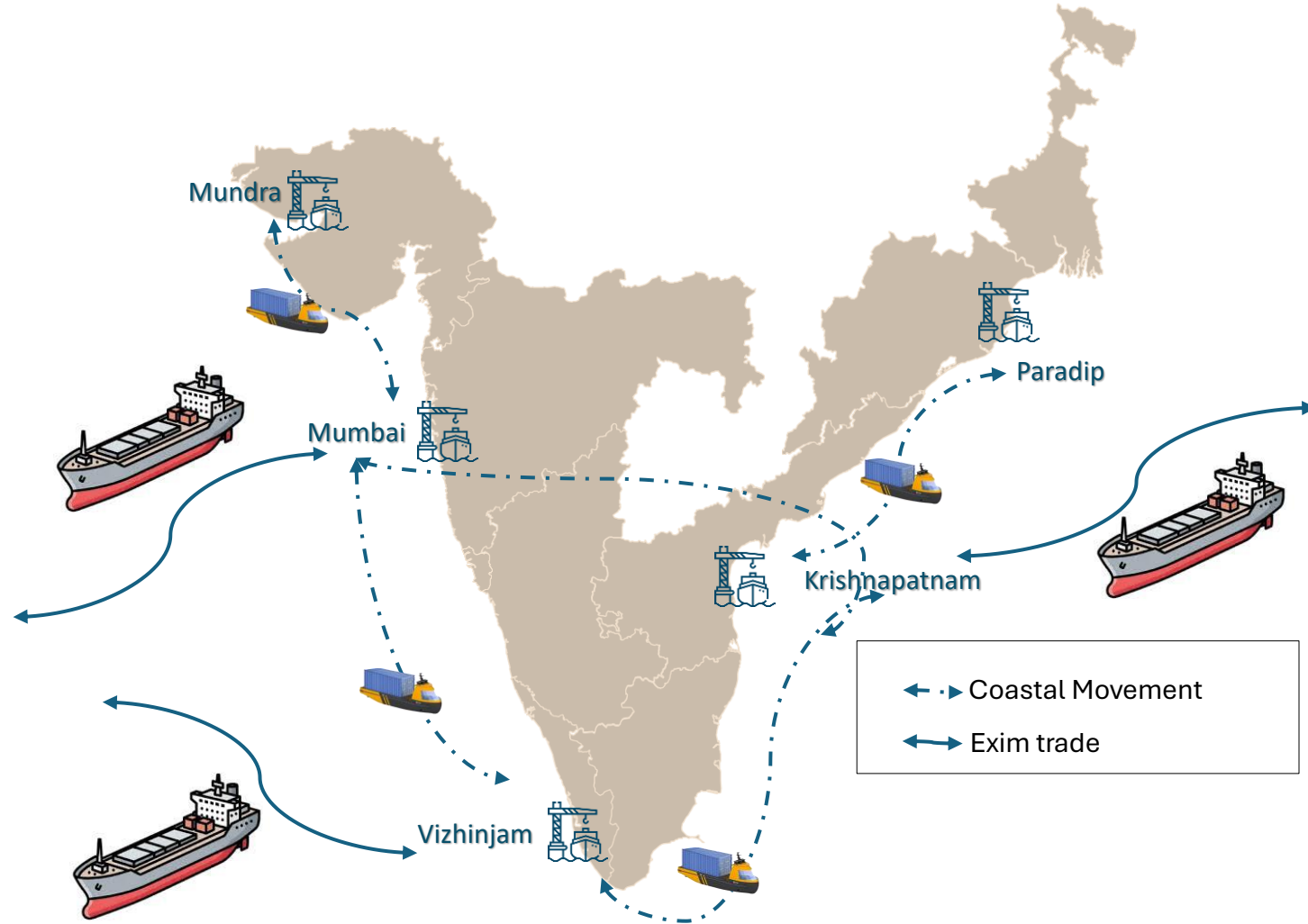


Vizhinjam Port



Vizhinjam Port Highlights

- India's first deep-water container transshipment port, designed to handle ultra-large container vessels naturally.
 - Transshipment capacity of 1 million TEUs per annum in Phase-1, scalable to ~5 million TEUs in a phased manner.
 - Over 285 ships have docked so far, including some of the world's most fuel-efficient vessels.
-
- Bigger mother vessels calling deepwater ports like Vizhinjam, Mundra etc. doing only EXIM trade do not require Licence.
-
- Smaller feeder vessels used for Coastal movements of transshipment & Empty containers requires Licence.
 - Long term time charter for a duration of 2 years can be issued for undertaking multiple voyages calling multiple ports.



An aerial photograph of a tropical forest with a narrow waterway. A person is visible in a traditional outrigger canoe on the water. The forest is dense with green foliage, including many palm trees. The sky is a clear, deep blue. A semi-transparent white banner is overlaid across the center of the image, containing the title text.

ROLE OF COASTAL SHIPPING AND INLAND NAVIGATION IN MULTIMODAL LOGISTICS



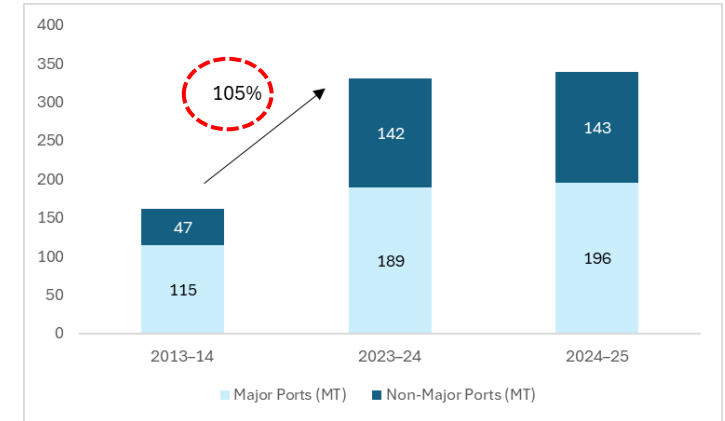
Present Scenario of Coastal Shipping



Coastal shipping forms an essential part of domestic logistics, drawing on the nation's extensive coastline.

Growth and Progress in India's Coastal Shipping Ecosystem

Coastal Cargo growth at Indian Ports



- Coastal cargo throughput reached **339 MT** in FY **2024-25**,
- Volumes have more than doubled (**+110%**) from 161 MT in FY 2013-14 to 339 MT in FY 2024-25, reflecting a CAGR of **~7%**.

Key commodities transported through coastal routes include:

Coal

Iron ore

Petroleum products

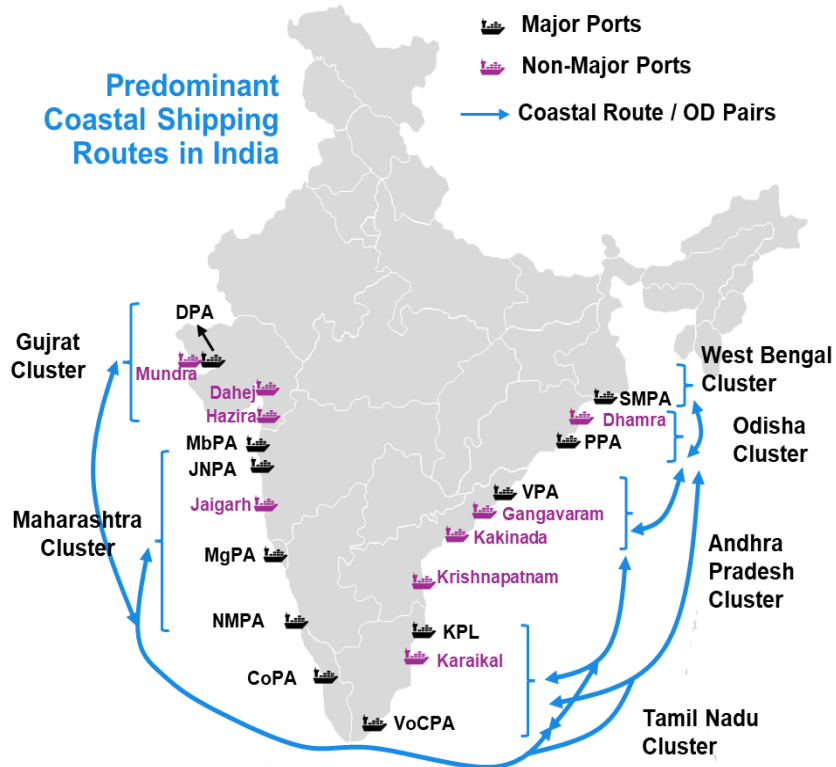
Cement

Foodgrains

Steel

Fertilizers

Predominant Coastal Shipping Routes in India



Strategic Importance of Coastal Shipping for India

- Cost-effective for bulk and long-haul cargo, especially over >500 km distances.
- Lower unit transport cost vs. road; reduced fuel consumption per tonne-km.
- Significantly lower GHG emissions, making it a greener logistics option

National-Level Benefits

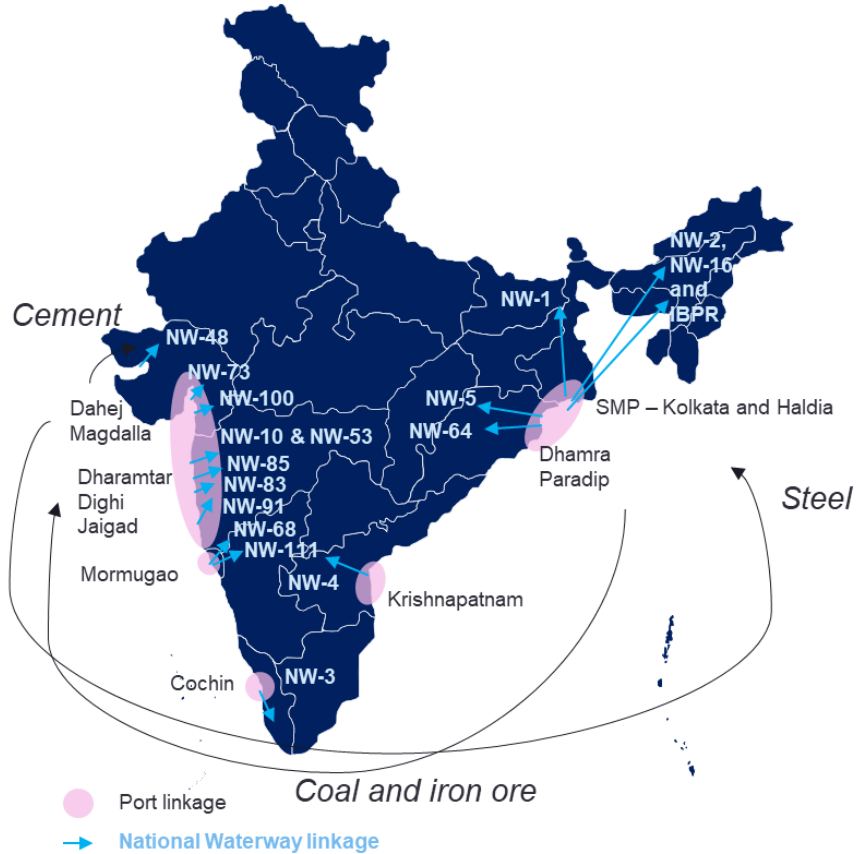
- Helps reduce India's high logistics costs.
- Eases congestion on saturated rail corridors and national highways.
- Improves energy efficiency and lowers the carbon footprint of freight.

Alignment with India's Climate Goals

- Maritime transport emits far less CO₂ per cargo unit than road transport.
- Coastal shipping acts as a key lever for green logistics and decarbonisation.

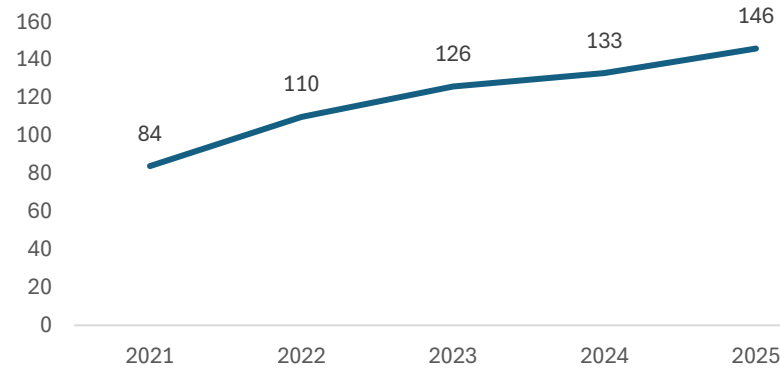


Present Scenario of Inland Waterways Utilization

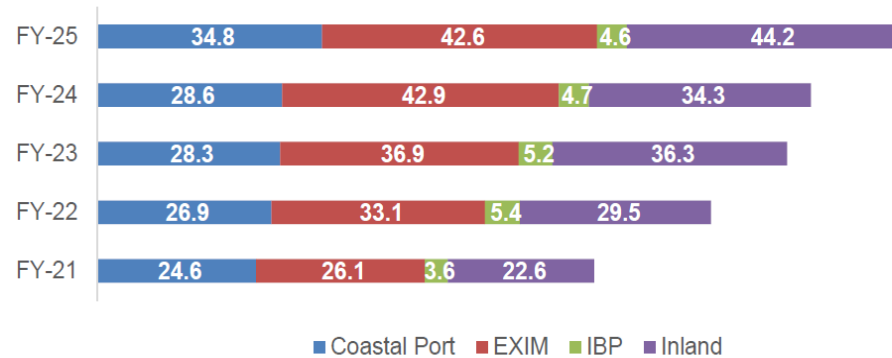


Coastal traffic is majorly handled on **14 of the 29 operational national waterways** which are operational for **cargo movement**.

Trend of traffic volumes between FY-21 and FY-25 (MMT)



Snapshot of Inland waterways traffic volumes as per voyage / port of call between FY-21 and FY-25 (MMT)



Coastal traffic typically forms ~25-30% of the total IWT sector traffic volume currently handled on the national waterways.

Preliminary Developmental Interventions

- 1 First and last mile connectivity
- 2 Cargo handling and storage infrastructure
- 3 Deployment of cargo vessels / barges



Coastal Cargo Promotion Scheme



*The Union Budget 2026–27 introduces a dedicated **Coastal Cargo Promotion Scheme** to accelerate the shift of freight movement from road and rail to India's extensive network of waterways*

Rationale

The formulation of CCPS is necessitated by:

- **High logistics cost** as a percentage of GDP
- **Under-utilization of** coastal berth capacity
- **Limited private investment** in coastal vessels
- **Tariff and tax** asymmetries between modes
- Need for **green and low-emission transport solutions**
- A **structured incentive framework** is required to make coastal shipping commercially competitive and operationally viable.

Objectives

- To enhance the **modal share of coastal cargo.**
- To **promote domestic shipping and shipbuilding.**
- To **reduce logistics costs** for key commodities.
- To enable **green and sustainable transport solutions.**
- To **strengthen multimodal integration** with inland waterways and ports

- Accelerate shift of freight from road & rail to coastal waterways
- Target modal share increase from 6% to 12% by 2047
- Position water-based transport as central logistics pillar
- Expected outcomes: Lower CO₂, reduced fuel use, logistics cost savings
- Supports 'Aatmanirbhar Bharat' & 'Viksit Bharat 2047' goals



Coastal State Workshops



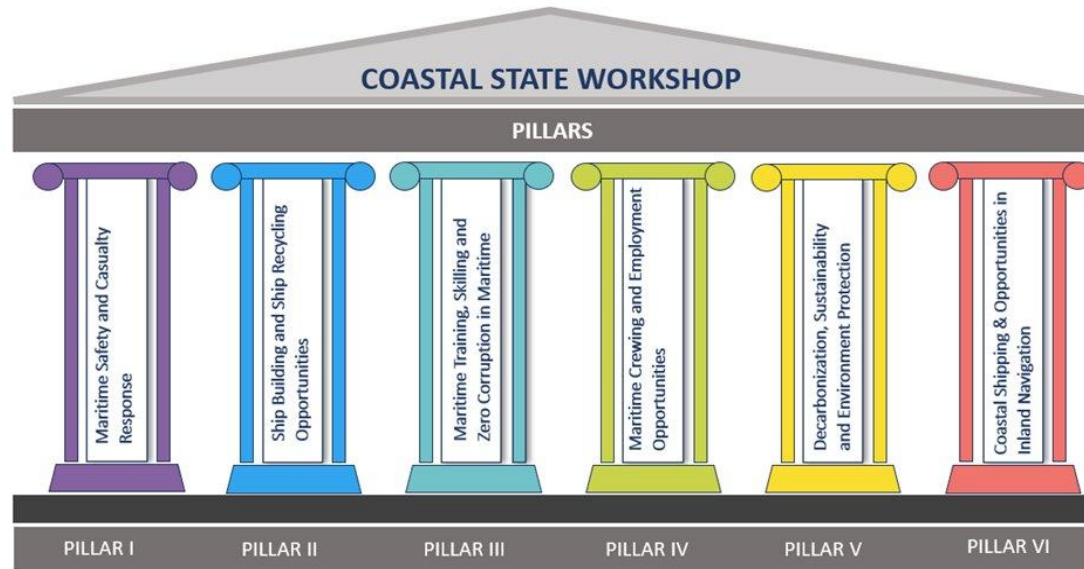
Rationale

The Coastal State Workshop is being organised by the Directorate General of Shipping to strengthen Centre - State coordination in maritime governance, address key challenges, and align State initiatives with national maritime priorities.

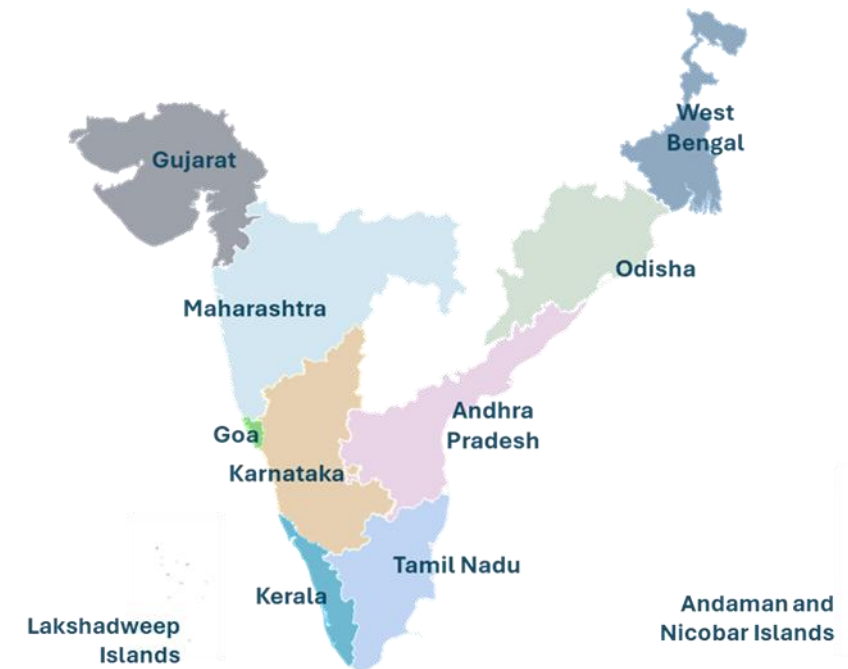
Objective

The workshop aims to facilitate focused deliberations on State-specific maritime issues, promote stakeholder coordination, and support aligned development across key sectors such as maritime safety, shipbuilding, sustainability, coastal shipping, and connectivity.

6 PILLARS OF THE COASTAL STATE WORKSHOP



The Coastal state workshop is an annual initiative engaging all 11 coastal states on maritime and coastal shipping development.



To establish a continuous, collaborative mechanism to accelerate maritime growth and coastal shipping development across India's coastline.

A large green container ship is sailing on the ocean at sunset. The ship is loaded with many green containers. In the background, there are wind turbines on a hillside. The sky is blue with some clouds, and the sun is low on the horizon, creating a warm glow. The water is dark blue with white waves. The overall scene is peaceful and sustainable.

GREEN SHIPPING – Sustainability & Decarbonization



Green Shipping Initiatives



NPSC metrics include **Green Port Index (GPI)**, **Port Readiness Level (PRL)**, **Smart Port Shore Power Index (SPSPI)**, **Environmental Ship Index (ESI)**, and **GHG Emissions Inventory** to benchmark sustainability and readiness of Indian ports

With the **Hong Kong Convention** now in force, India leads globally with 115 compliant yards at Alang.



Structured Roadmap for decarbonization

Guidelines for LNG, Biofuels, Methanol, Ammonia, Hydrogen

Structure to rate ships on their environmental performance, linked to age norms.

Use of clean shore electricity by ships while berthed at port, reducing fuel combustion & emissions.



Maritime INDIA @ Net Zero



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



MARITIME INDIA
@NET ZERO



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RESOURCES INSTITUTE
Creating Innovative Solutions for a Sustainable Future



National Green Shipping Policy – The 7 Pillars



Pillar 1: Green Ships
Lifecycle-based decarbonization of India's fleet through energy-efficient, fuel-flexible and low- to zero-emission vessels, supported by green ship certification and lifecycle emissions accounting.

Pillar 2: Green Ports
Port-led decarbonisation by integrating clean energy, electrification and efficient operations, positioning Indian ports as competitive, low-carbon logistics gateways.

Pillar 3: Green Fuels
A safe, phased and technology-neutral transition to alternative marine fuels, guided by lifecycle performance, bunkering safety and infrastructure readiness.

Pillar 4: Green Ship Recycling
Advancing safe, environmentally sound and circular ship recycling aligned with the Hong Kong Convention, strengthening worker safety, material recovery and digital transparency.

Pillar 5: Green Finance
De-risking maritime decarbonisation by mobilising affordable, long-term capital through blended finance, risk-sharing instruments and ESG-aligned investment frameworks.

Pillar 6: Green Skill Development & Capacity Building
Preparing the maritime workforce and institutions for new fuels, technologies and regulatory requirements, ensuring a just, inclusive and execution-ready transition.

Pillar 7: Green Technology & Innovation
Accelerating adoption and indigenisation of advanced maritime technologies through digitalisation, pilot projects and innovation sandboxes to enhance efficiency, safety and competitiveness.



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).
- **Maritime Use:** Target fuel for deep-sea vessels (tankers, bulk carriers) post-2035.
- **Challenges:** High Toxicity, safety standards, training, IMO safety code under development.
- **Strategic Role:** India positioning as future fuel exporter, not just consumer.



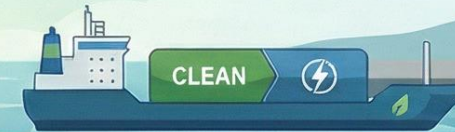
Methanol

- **Marine Use:** Dual-fuel methanol engines already ordered by global majors.
- **Breakthrough:** India's first Green Methanol Bunkering Hub under construction at 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.








National Green Hydrogen Mission – Green Hydrogen Hubs






The **National Green Hydrogen Mission (NGHM)** aims to position India as a **global hub for green hydrogen production, utilisation and export**, with a target of **5 MMT annual production by 2030**, supporting decarbonisation and energy transition.




Deendayal Port Authority (Kandla) – Western Hub

- **1 MW** green hydrogen plant commissioned (electrolyser-based) 
- **3,400 acres** land allocated for Green Hydrogen / Ammonia projects
- **3.5 MTPA** jetty compatible for Green Ammonia handling
- **Port Readiness Level 6 (7)** for green fuel / methanol bunkering 
- Advancing methanol bunkering ecosystem and alternative fuel transition 
- Western gateway for green fuel production + bunkering + export corridors

Paradip Port Authority – Eastern Hub

- **₹797 crore** Green Hydrogen / Ammonia jetty approved 
- **4.0 MTPA** handling capacity for green energy cargo
- Development includes jetty, storage, pipelines and handling systems
- Implemented under PPP / BOT 
- Designed to connect eastern hydrogen clusters to global markets
- Anchor hub for bulk handling, storage and export logistics 

V.O. Chidambaranar Port (Tuticorin) – Southern Hub

- **10 Nm³/hr** Green Hydrogen pilot plant commissioned (Apr 2025) at cost of **INR 3.87 Crore** 
- Pilot supports port operations (lighting, EV charging)
- **205.72 acres** land allocated for GH2 / Ammonia projects 
- Developing Green Methanol Bunkering Facility (2 × 750 m³)
- Emerging as green fuel + digital + renewable integrated port 
- Southern hub for pilot deployment, innovation and green bunkering



India as a Net Green Energy Exporter & Bunkering Destination



From energy importer to future maritime fuel hub

Strategic Advantage

- Long coastline with major ports on **East–West shipping lanes**
- Abundant renewable energy for **green hydrogen, ammonia, methanol**
- Cost advantage in **solar + wind production**, lowering fuel export price

Fuel Export Readiness

- **Green Ammonia** : Kandla supply to Singapore (L&T–Itochu JV)
- **Green Methanol** : VOC Port bunkering hub under development
- **Hydrogen Derivatives** : Mission to export through maritime corridors

Port Infrastructure Transformation

- Dedicated **Green Bunkering Terminals** (VOC Port, Kandla, JNPA)
- Upcoming **Green Shipping Corridors**: Tuticorin – Kandla – Singapore – Rotterdam
- Integration of **renewable power, storage & safety systems**

Economic & Diplomatic Impact

- Reduces dependency on oil imports
- Positions India as **fuel supplier to global shipping lines**
- Enhances maritime influence under **Global South leadership**

Policy Backing

- Supported by **National Green Hydrogen Mission & NGSP**
- Incentivized by **Harit Sagar & MIV 2030**
- Aligned with **Make in India & Energy Security Vision 2047**

India is not just preparing for Green Fuels — it is preparing to Fuel The World.



Green Ports

Driving Sustainable Maritime Growth

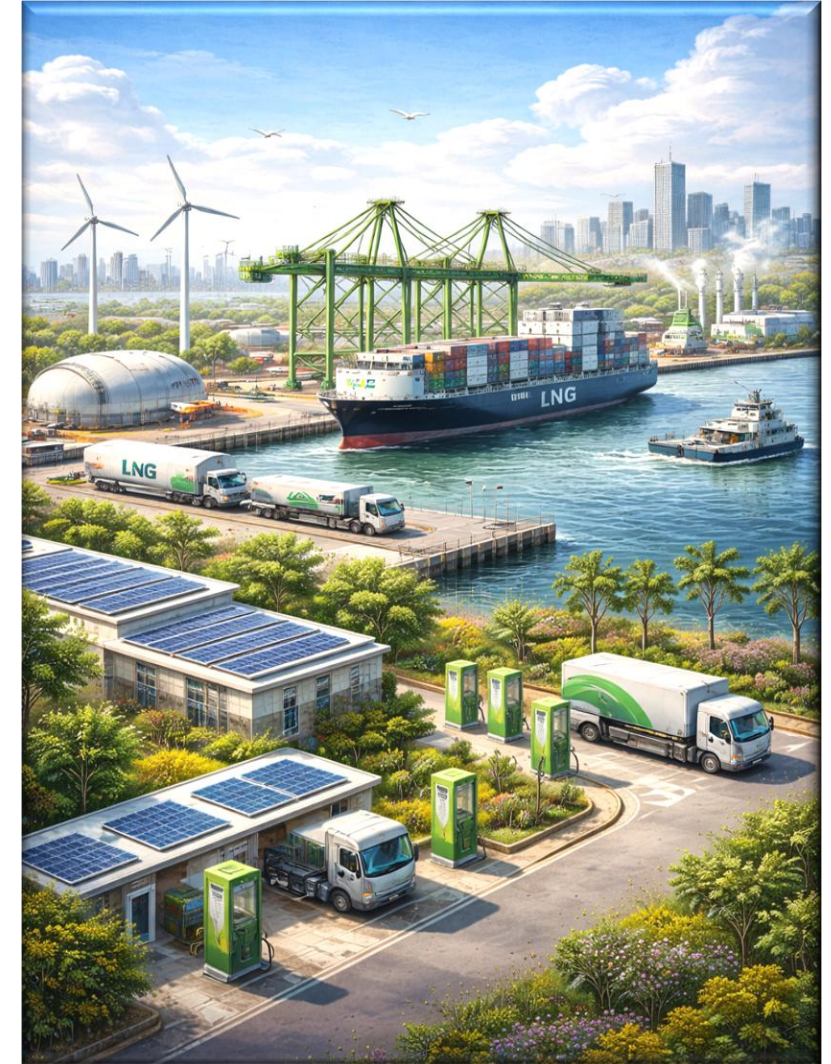


Concept of Green Ports

- 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 Council (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.





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.

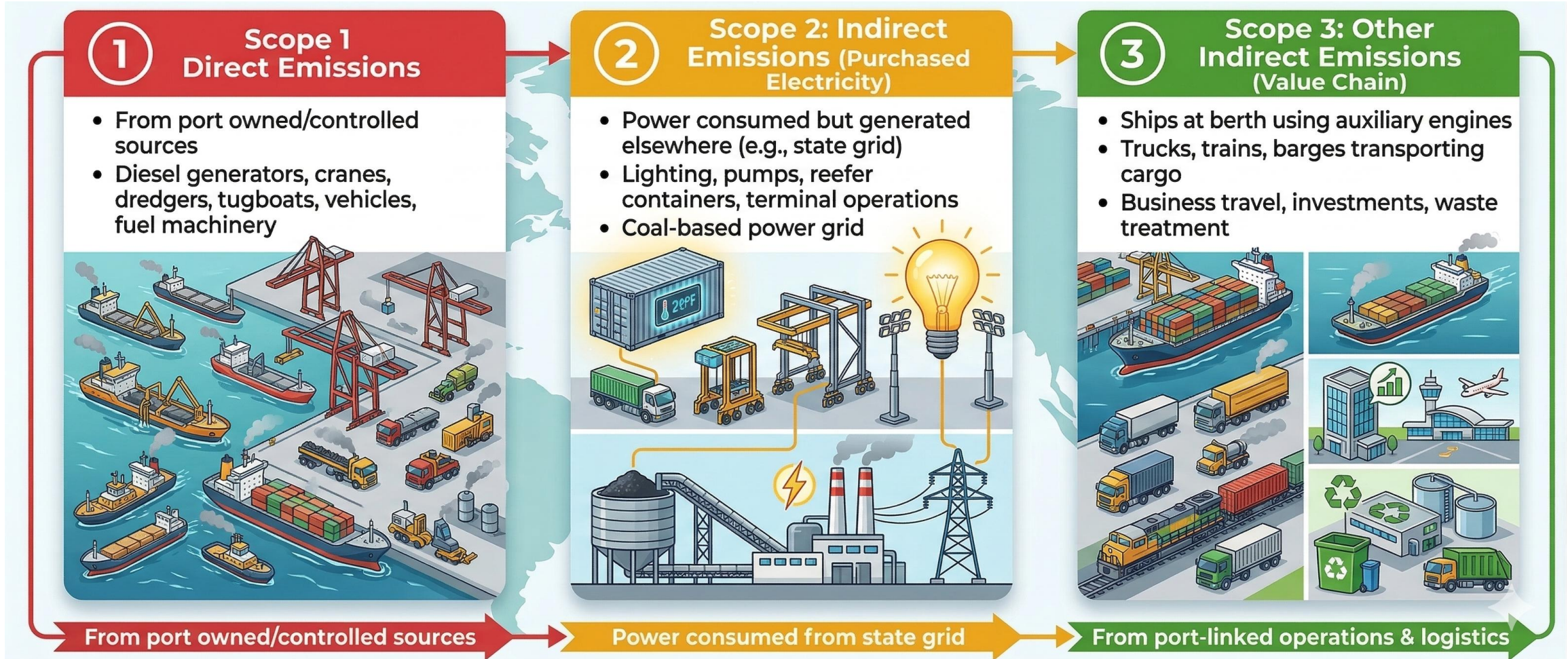


Environmental Ship Index (ESI)

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.



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)
- **Paradip Port** - Newly commissioned. Delivered full load power to MV APJ Indrani at CB1 Berth.



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.



Green Tug Transition Program (GTTP)



- Initiative of **MoPSW** for transition of harbour tugs to green propulsion.



- Targets progressive **replacement of diesel-powered tugs.**

~400

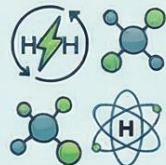
- Applicable to **~400 harbour tugs** operating across **Indian ports.**



- Implemented through **Approved Standard Tug Designs & Specifications (ASTDS-GTTP).**



- Initial focus on **battery-electric tugs**, with provision for **hybrid, methanol** and **hydrogen.**



PHASED IMPLEMENTATION FRAMEWORK

PHASE 1 (2024-27)

- Induction of battery-electric green tugs at Major Ports.
- Deployment based on ASTDS-GTTP.

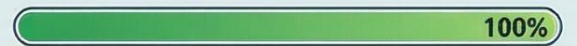


PHASE 2-3 (2028-33)

- 30%-60% of operational tug fleet to be ASTDS-GTTP compliant.
- Introduction of alternate fuels and hybrid technologies.



PHASE 4-5 (2034-40)



- 100% transition of harbour tugs at Major Ports.
- Nationwide adoption aligned with vessel life / charter cycles.





Just Transition in Maritime



Just Transition: Putting People at the Core of Decarbonisation

Decarbonisation is not only a fuel shift. It is a workforce shift.



~3.23 lakh Indian seafarers (as of 2025) –
~12% of global maritime workforce



Alternative fuels introduce new safety risks



New technologies demand new competencies



Transition must protect jobs, safety and dignity



Skills & Training

- Large-scale upskilling for green fuels
- Modernised STCW standards
- Investment in maritime training infrastructure



Safety & Standards

- Health-and-safety-first approach
- Handling ammonia, hydrogen, low-flashpoint fuels
- Alignment with MLC 2006 & global labour norms



Equity & Inclusion

- Avoid widening global skills gaps
- Support developing maritime nations
- Promote diversity & gender inclusion

A green transition must also be a fair transition.



Integrated Vessel Traffic Management System (iVTMS)



Enhancing Navigational Safety, Efficiency and Environmental Governance

Regulatory Framework

Implemented in accordance with **Chapter V of SOLAS**

Compliant with relevant **IMO Guidelines & Circulars**

Ensures standardized vessel traffic monitoring and navigational safety

Coverage & Deployment

Implemented across **All Major Ports in India**

Additionally operated by **Directorate General of Lighthouses and Lightships (DGLL)** at **Gulf of Kutch**

Integrated surveillance for high-density and sensitive maritime zones

Developed by **IIT Madras – (NTCPWC)**

Integrates:

AIS

Radar

VHF

Meteorological & oceanographic data

CCTV surveillance

Centralized command and control platform for real-time situational awareness.

Strategic Significance

- Collision avoidance & Channel traffic regulation
- Emergency response coordination
- Optimized vessel sequencing
- Reduced congestion in port approaches
- Enables Just-in-Time arrival
- Supports speed optimization & Reduces anchorage emissions
- Improves incident-based environmental response



Just-in-Time (JIT) Arrival

Objective:

Synchronize vessel speed with berth readiness to eliminate anchorage waiting.

Enables:

- Reduced fuel consumption at sea
- Lower port congestion
- Improved berth utilization
- Reduced emissions from idling vessels

Impact:

Speed optimization = Immediate CO₂ reduction



Integrated Operational Data Layer

Digital twins require:

- Real-time AIS, weather and berth data
- Terminal equipment data (cranes, yard, gates)
- Pilotage & tug scheduling inputs
- Hinterland (rail/truck) visibility
- As highlighted in Neugebauer et al., digital twins require **bi-directional real-time data exchange between physical and digital systems.**

Reference : Digital Twins in the Context of Seaports and Terminal Facilities - Springer

Digital Twin of the Port

A virtual representation of the physical port, continuously updated through automated data exchange.

Capabilities:

- Berth allocation simulation
- Crane scheduling optimization
- Yard congestion prediction
- Emission modelling
- Scenario testing (storm, delay, peak traffic)

Digital twins must provide:

- Situational awareness
- Intelligent decision support
- Multi-stakeholder coordination

This transforms port management from reactive to predictive.



Digital Twin at VOCPA Tuticorin



Prestigious Digital Twin System commissioned in record 6 months

Cost: ₹24.62 Crore

Executed by: IPRCL

Inaugurated by Hon'ble Minister of MoPSW Shri Sarbananda Sonowal (23 Feb 2026)

Salient Features

Complete 3D Port Visualization

The entire port ecosystem is displayed in real-time 3D on a holographic table, enabling intuitive and immersive operational oversight.

Integrated CCTV Surveillance (~400 Cameras)

Nearly 400 CCTV cameras are mapped to their exact physical locations, allowing centralized and location-specific monitoring of port activities.

VTMS Integration – Real-Time Vessel Intelligence

The Vessel Traffic Management System is fully integrated. With a single click on a vessel image, movement details and cargo information are instantly accessible.

Integrated Weather Monitoring

Live weather systems are embedded into the platform, enabling proactive monitoring of rainfall, cyclones and other atmospheric disturbances.





National Port Sustainability Council (NPSC)



Proposed Framework

• Institutional Framework for Port Sustainability in India

- The **National Port Sustainability Council (NPSC)** is a proposed institutional mechanism under the **Ministry of Ports, Shipping and Waterways (MoPSW)** to provide a structured approach for advancing sustainability across Indian ports.
- The Council will serve as the **national platform for coordinating environmental performance monitoring, sustainability benchmarking and energy transition initiatives across major and non-major ports.**

Key Functions of NPSC

- **Standardization of Sustainability Indicators** across Indian ports
- **Monitoring and Reporting of Port Emissions** including GHG inventory development
- **Benchmarking Environmental Performance** through sustainability indexing frameworks
- **Supporting Energy Transition Initiatives** such as shore power and alternative fuels
- **Alignment with Global Green Port Frameworks** and international sustainability standards



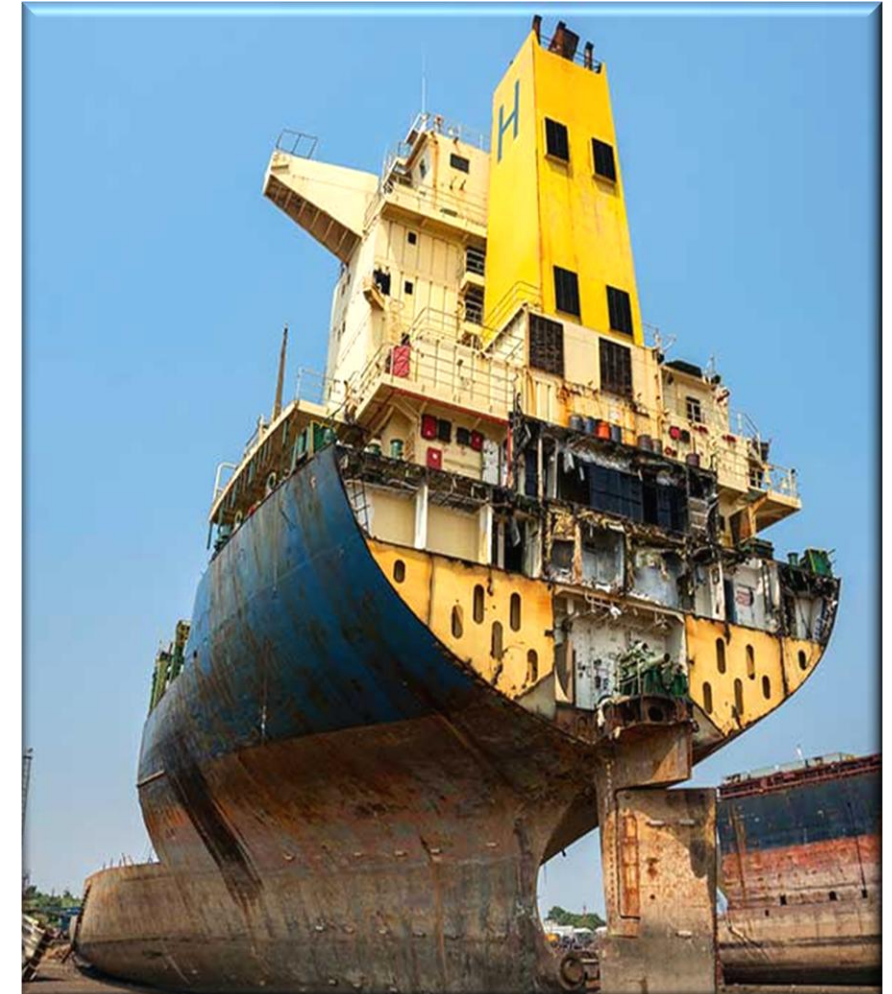
Ship Recycling



- 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.

India’s Role & Importance

- Handles **30% - 35% of global ship recycling tonnage** 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**.
[115 HKC Compliant Yards at Alang]
- 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**.





ISO Compliance



Strengthening India's Global Credibility

Enforcing ISO management systems ensures ship recycling operations at Alang are **system-driven, auditable and internationally benchmarked**, complementing HKC compliance and supporting EUSR recognition.

Key ISO Standards for Ship Recycling Yards

ISO 9001 – Quality Management: Streamlined processes, documentation and continual improvement.

ISO 14001 – Environmental Management: Pollution control, waste handling and eco-monitoring.

ISO 30000 – Ship Recycling Management: Integrates HKC principles for safe and compliant recycling.

ISO 45001 – Occupational Health & Safety: Worker safety, risk control and preventive culture.

Impact of Enforcement

- Builds **credibility and transparency** in global markets.
- Enhances **environmental, health and safety performance**.
- Improves **audit readiness** for IMO and EU inspections.
- Positions **Alang as a benchmark for responsible recycling**.



ISO 9001
Quality Management System (QMS)



ISO 14001
Environmental Management System (EMS)



ISO 30000
Ship Recycling Management System (RSMS)



ISO 45001
Occupational Health & Safety Management System (OHSMS)



Ship Recycling Credit Note



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

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
- The credit note can be redeemed up to 5% of the fair price of the new vessel being built in an Indian shipyard

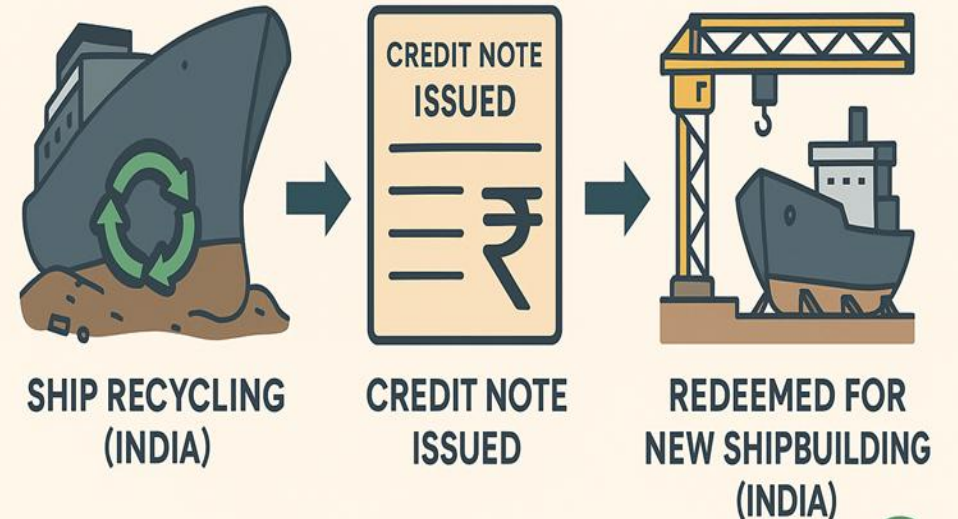
Expected Benefits

- 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**

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

SHIP RECYCLING CREDIT NOTE

Linking Recycling with Shipbuilding



SHIP RECYCLING CREDIT NOTE





India's Marine Plastic Pollution & Waste Discharge



A Growing Maritime Concern

- **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**



IMO Led Projects



GloLitter
partnerships

Reducing sea-based marine plastic litter

THE ISSUE
It is estimated that about 20% of total marine plastics comes from sea-based sources such as fisheries, shipping, recreation, oil and gas industry and others. Plastic litter has devastating effects on our oceans, marine life and human health. Reducing and preventing marine plastic litter is vital to safeguard coastal and global marine resources.

OUR SOLUTION

- Equip partner countries with knowledge and tools to initiate legal, policy and institutional reforms.
- Establish public-private partnerships through Global Industry Alliance (GIA) to demonstrate best marine plastic litter management solutions.
- Engage women in tackling marine plastic litter problems through a grants program.
- Facilitate regional and global partnerships between countries to have a greater impact.

IMPACT

- Partner countries are leading the change on national, regional, and global levels and enforcing international conventions and regulations on marine plastic litter.
- Private sector is increasingly committed to supporting marine plastic litter related initiatives.
- Marine plastic litter originating from the shipping and fisheries sectors is reduced.

Geographic Focus: Asia, Caribbean, Latin America, Pacific and Africa.
Lead Partnering Countries: Brazil, Costa Rica, Chile d'Ivorie, India, Indonesia, Jamaica, Kenya, Madagascar, Nigeria and Venezuela.
Partnering Countries: Argentina, Cabo Verde, Colombia, Ecuador, Gambia, Mozambique, Nicaragua, Panama, Peru, Philippines, Senegal, Sri Lanka, Solomon Islands, Sudan, United Republic of Tanzania, Thailand, Timor-Leste, Togo, Tonga and Viet Nam.

TOTAL BUDGET: NOK 40 million (about US\$ 4.5 million)
DONOR: Norwegian Agency for Development Cooperation (Norad)
IMPLEMENTING PARTNERS: The Food and Agriculture Organization (FAO)
PROJECT DURATION: 2020 - June 2024
WEBSITE / CONTACT: GloLitter@imo.org

GloLitter :

Tackling Plastics and Marine Litter

GREEN VOYAGE 2050

Supporting shipping's transition towards a low carbon future

THE ISSUE
According to the Fourth IMO GHG Study 2020, CO₂ emissions from shipping account for approximately 2.89% of global anthropogenic emissions, and if left unchecked, could rise significantly in the future. In 2016, IMO adopted the Initial IMO Strategy on reduction of GHG emissions from ships confirming IMO's commitment to reducing GHG emissions from international shipping and, as a matter of urgency, to phasing them out as soon as possible.

OUR SOLUTION
Supporting effective implementation of the Initial IMO GHG Strategy and in particular, providing support to developing countries in their efforts to reduce GHG emissions from ships, through enhancing government and port management capacities to:

- Undertake legal and policy reforms to effectively implement MARPOL Annex VI.
- Develop National Action Plans (NAPs) to address GHG emissions from ships.
- Catalyze private sector partnerships.
- Deliver pilot demonstration projects to facilitate technology uptake.

IMPACT

- High level commitment secured from all participating countries to progress on activities in their tailored workplans.
- Development of global capacity-building tools and training material to support decarbonization efforts.
- Initial dialogue with IFI's and other strategic partners to support pilot project implementation and other outputs.
- Reestablishment of the Low Carbon GIA under GreenVoyage2050, a public-private partnership to support low carbon shipping.

Geographic Focus: New Pilot Countries: Azerbaijan, Belize, Cook Islands, Ecuador, Kenya, Solomon Islands and Sri Lanka
Pioneer Pilot Countries: China, Georgia, India, Malaysia and South Africa

TOTAL BUDGET: 7.15 Million USD
DONOR: Norwegian Ministry of Climate and Environment
PROJECT DURATION: 2019-2022
WEBSITE / CONTACT: greenvoyage2050_imo.org, greenvoyage2050@imo.org

Green Voyage 2050 :

Advancing IMO GHG Reduction Strategies



GloNoise :

Reducing Underwater Radiated Noise Pollution

DIGITAL TRANSFORMATION

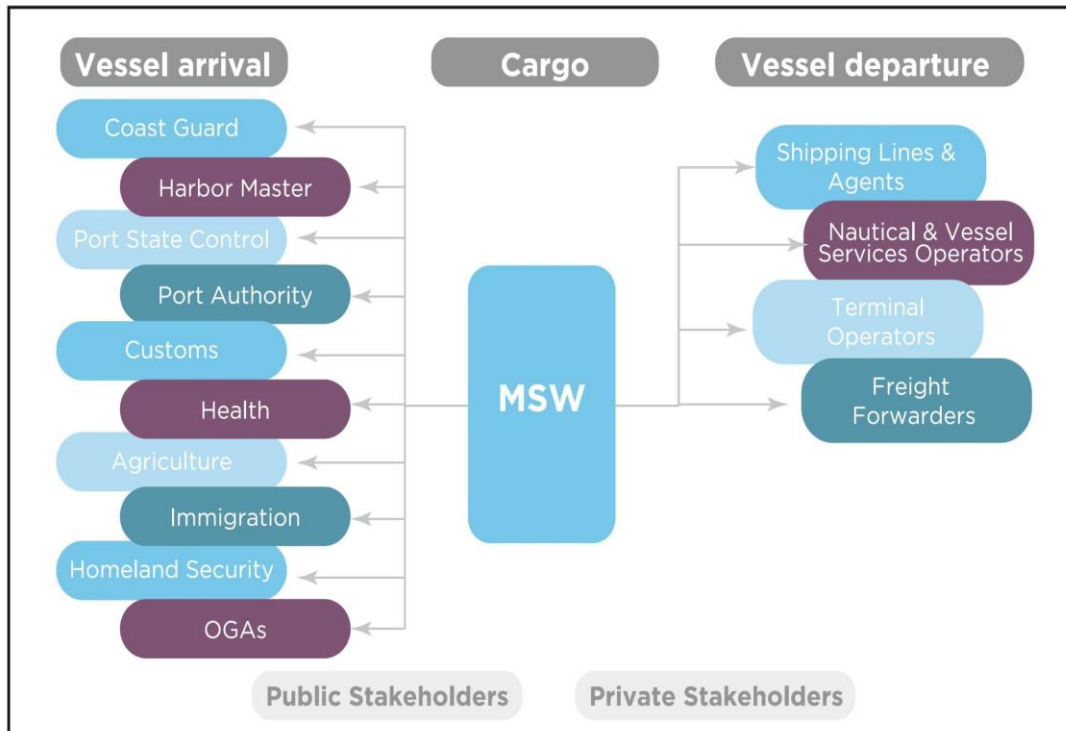




Maritime Single Window



A Maritime Single Window (MSW) is a digital platform that allows ship owners, operators, and agents to submit all necessary documentation electronically in a single-entry point to various authorities (customs, port health, immigration, and other regulatory bodies) involved in maritime operations.



Stakeholder		Integrated
Designated Ports	85 Exim Ports	Yes
Immigration		Technical Integration for Immigration is under way
Customs		Email notification for customs integration has been deployed.
PHO		Yes

Benefits

1. Reduction in Cargo Clearance Time
2. Port Turnaround Time Improvement
3. Savings on Documentation and Compliance



E- Samudra



Objectives

The primary objective of this envisaged project is to undertake an IT transformation exercise and enable all the processes in the DGS through the implementation of a **Comprehensive e-governance solution.**

1

Transition to paperless system for improved transparency and faster service delivery.

2

Automate shipping and seafarer operations, internal administration, and maintenance.

3

Integrate with Ministry of Ports, Shipping, and Waterways' IT systems for unified dashboards.

4

Enhance e-Governance operations, user interactions, and ease of doing business.

Modules and Processes

Coastal Branch

- Sailing Vessel Seamen

IT and e-governance

- Common Processes (Profile Creation and Availing Services)
- Common Processes for Departments

Crew Branch

- Seafarer-Related Processes & Available Services

Engineering Branch

- Service Providers
- Auditors for ISM Audits
- Recognized Organization
- Survey & Certification
- Ports

Nautical Branch

- Ship Registration
- Shipping Entity Profile & Available Services

Commercial Matter

- Multimodal Transport Operators
- Ship Chartering

F.A.A.P.P

- Budget Preparation
- Accounts
- Audits
- Public Procurement

15 modules and 62 sub-processes

Project Features



Streamlined Document Accessibility



Compliance monitoring



Data Sharing



Audit and Administrative Process



Operational Efficiency



Data analysis



Cloud DC & Server Security Services



Cloud Network Security Services



Mobile App for e-Samudra users



E-Navik (24x7 Grievance Redressal System)



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

- ✓ Lodging and categorization of grievances
- ✓ Automated routing to concerned officers
- ✓ Investigation and resolution tracking
- ✓ Communication and feedback mechanism
- ✓ Real-time monitoring and reporting

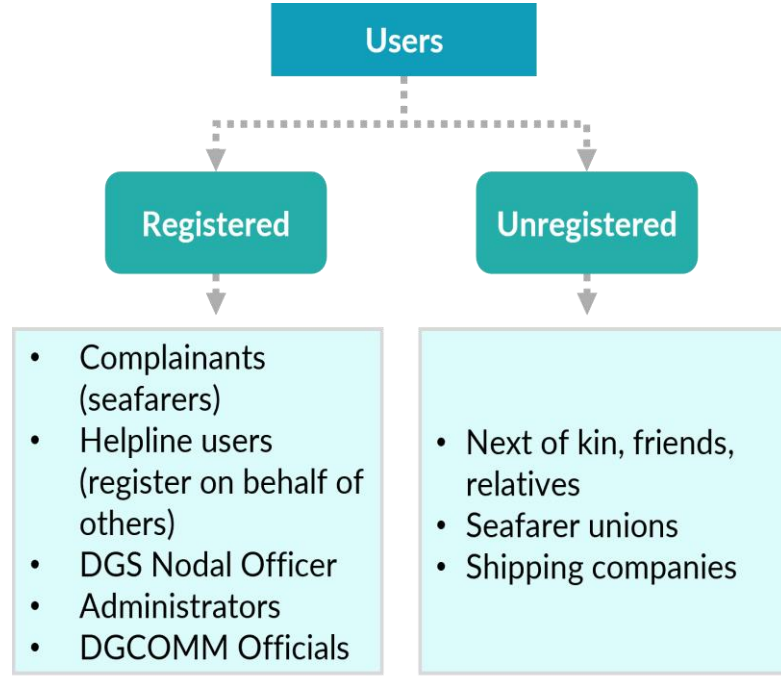
24/7 Grievance Redressal System

DG Shipping provides a 24x7 grievance redressal mechanism enabling seafarers to report concerns related to employment, safety, welfare, fraud, and overseas emergencies.

Helpline: 9004048406
Email: support.dgs@gov.in

Every grievance matters

Support available **24/7**





E-Navik (Crisis Response Management Module)



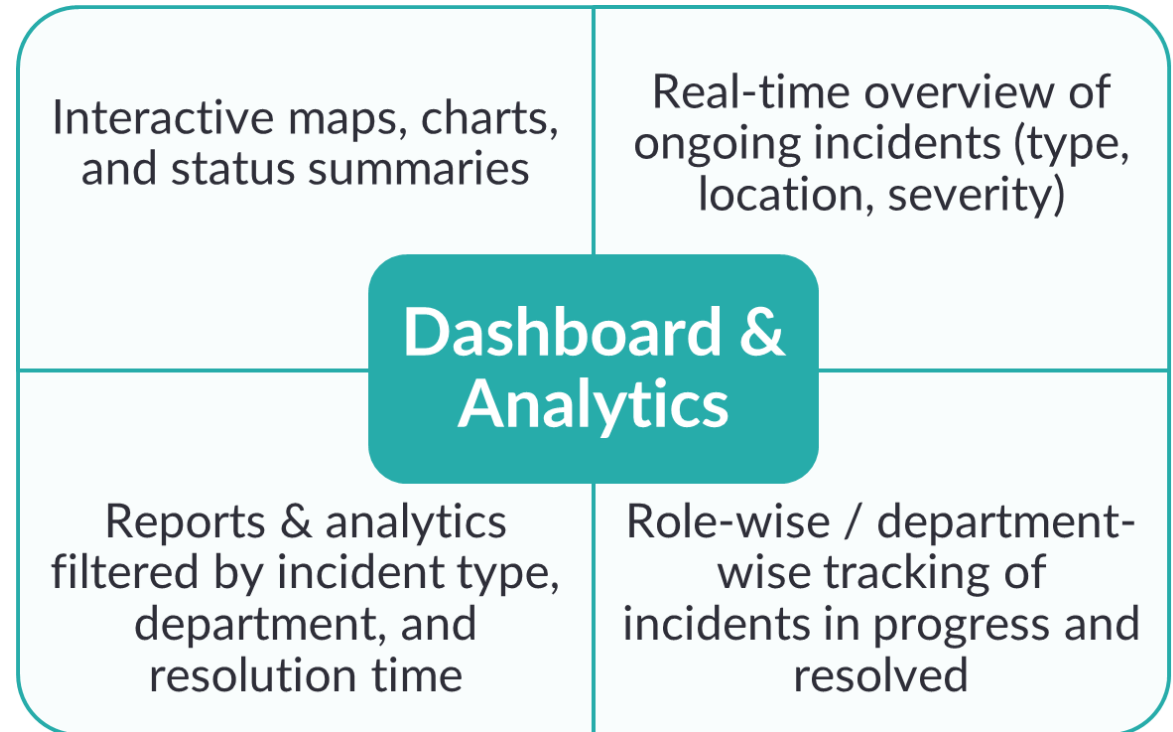
Aims to ensure a **rapid, coordinated, and technology-enabled response** to maritime crisis through an integrated digital platform.

Core Objectives

- ✓ Enable real-time reporting and tracking of maritime incidents.
- ✓ Facilitate coordination among multiple stakeholders (DGS, MoPSW, MEA, Navy, Coast Guard, etc.). Ensure incident management from initiation to resolution.
- ✓ Provide live updates, alerts, and analytics.
- ✓ Generate post-crisis reports for evaluation and policy improvement.

Key Enablers

- ✓ Digital incident reporting & categorization.
- ✓ Automated action plans with assigned tasks and deadlines.
- ✓ Resource mobilization tools for quick response.
- ✓ Real-time communication and discussion boards for stakeholder collaboration.
- ✓ Analytics dashboards with role-wise data and trends.

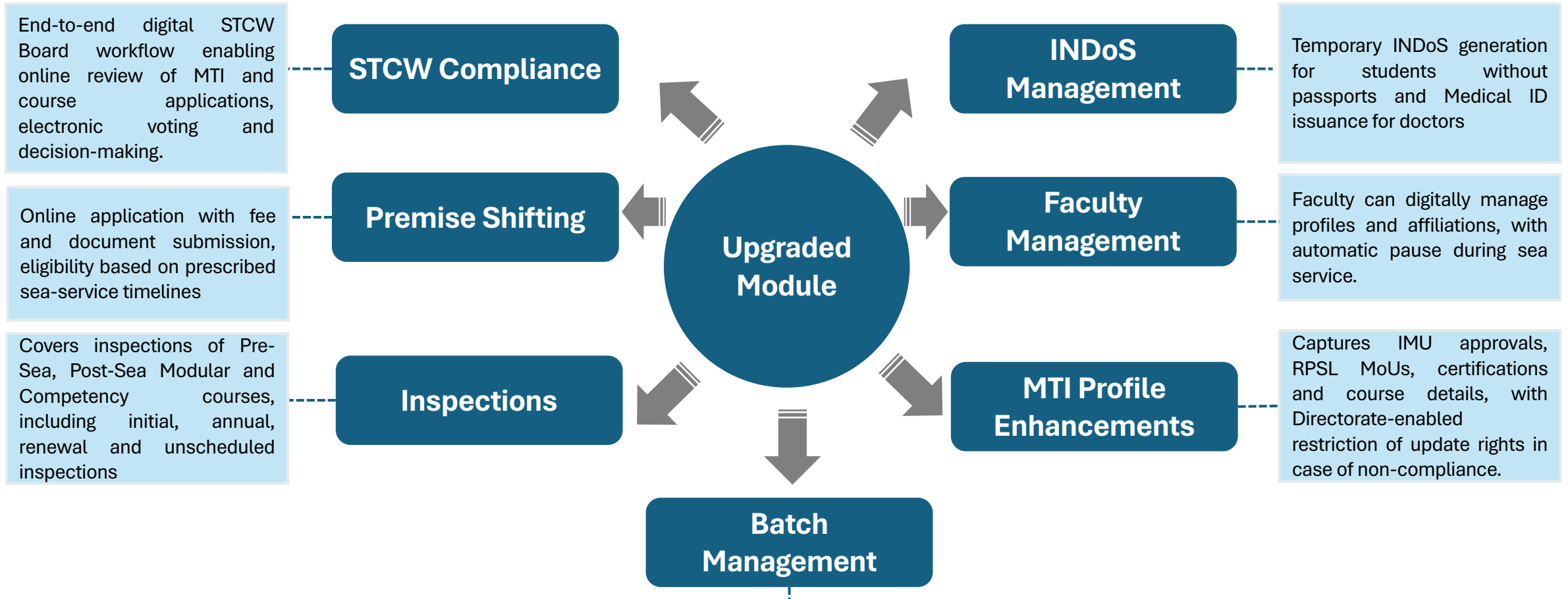




E-Navik (Maritime Training Institute Module)



Aims to enhance efficiency, compliance, and transparency in the **Maritime Training Institutes (MTI)** ecosystem through digital automation and seamless integration.



Enforced minimum 25% batch upload limit with dynamic batch size and intake control, along with online correction request facility.



E-Navik (Recruitment & Placement Service License (RPSL))



Aims to strengthen transparency, compliance, and efficiency in **Recruitment & Placement Service License (RPSL)** operations through automation and digital integration.

KEY FUNCTIONALITIES:

1. { **Comprehensive Inspection Program (CIP)**

2. { **MLC Board Integration**

3. { **Seafarer / Technician Sign-On/Offs**

4. { **Fee Payments & Bank Guarantees**

5. { **Non-RPSL License (Technicians)**

6. { **Appeal Management**

7. { **Change Requests & Contract Updates**

8. { **Integration with MTI System**



National Coastal Database Portal



The National Database of Coastal Shipping is intended to serve as a publicly-accessible, electronic portal that collects and displays key information about India's coastal trade.

Key Objectives are:

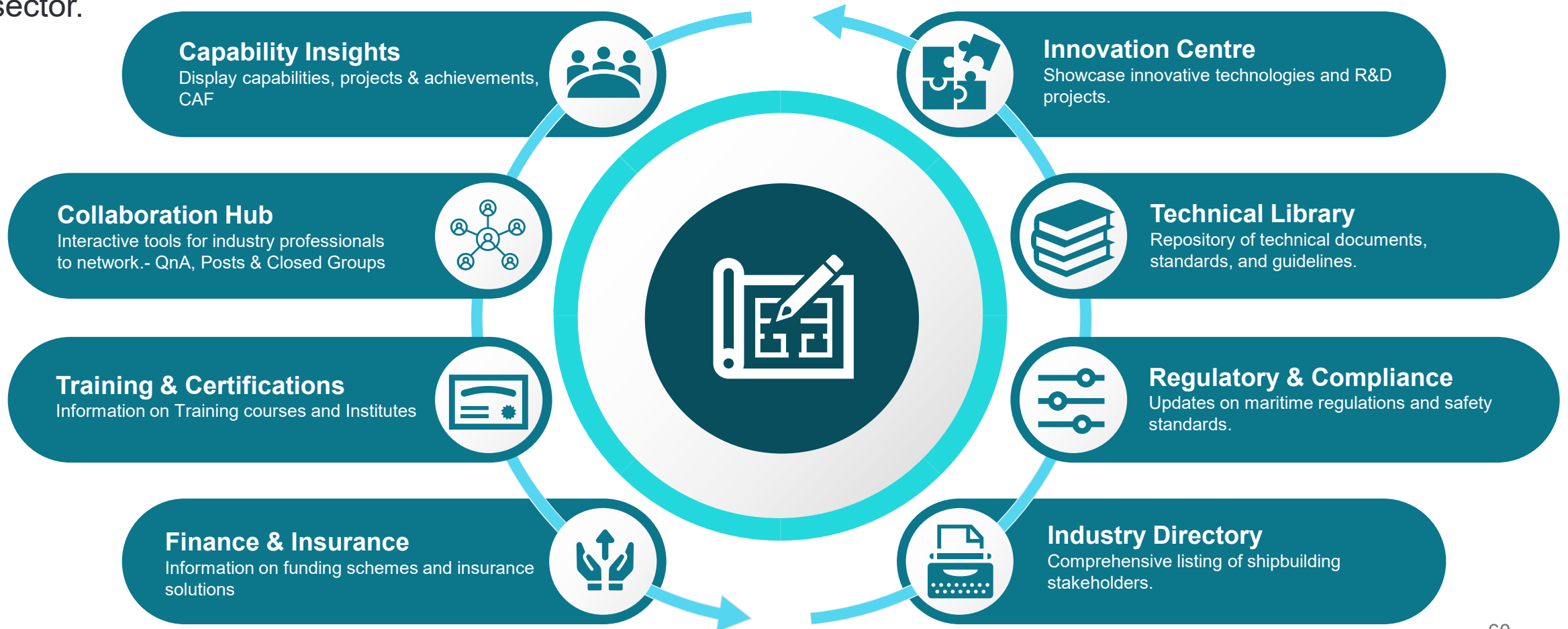
- 1 Develop and implement a centralized, secure, and scalable database system for all coastal shipping activities in India.
- 2 Ensure real-time data capture and reporting from ports, shipping operators, and government agencies.
- 3 Provide analytics and reporting capabilities to support policy decisions and operational planning.
- 4 Enable the public, policymakers and industry participants to monitor the status of coastal shipping, assess compliance, and support the development of the Strategic Plan.
- 5 These purposes are set out in the Act, which requires the Director-General to maintain the database on a web portal and make it available for public access



Digital Transformation

Project Objectives

To enhance efficiency, transparency, and competitiveness while fostering growth and sustainability across the sector.





Ship Recycling Portal



An upcoming unified national digital platform under DGS to implement the Hong Kong Convention (HKC) and Recycling of Ships Act (2019), ensuring real-time, transparent and accountable governance of India's ship recycling ecosystem.

Importance of Portal

- **Transparency** : Digitally traceable inspections, certifications & audits
- **Accountability** : Role-based actions with time-stamped compliance trails
- **Real-time Monitoring** : Central oversight by DGS & State Authorities
- **Global Credibility** : Auditable records for IMO, foreign Flag States & shipowners
- **Stakeholder Integration** : Connects DGS, GMB, ROs, yards, service suppliers

Core Functional Modules

- Yard Registration & Licensing
- **Inventory of Hazardous Materials Inventory**
- **RRC Certification Registry**
- SRP Submission & Approval
- **Inspection, Audit & ISO Compliance Tracking (ISO 9001, 14001, 30000, 45001)**
- Incident & Non-Conformity Reporting
- Worker Training & Competency Records
- GISIS / IMO Reporting Integration



Strengthening Cyber Resilience in Maritime Governance



Recognizing the increasing digitalization of maritime operations, DGMA has initiated robust cybersecurity transformation. A unified cybersecurity compliance framework has been developed, aligning with global standards such as:

- National Institute of Standards and Technology (NIST) Cybersecurity Framework
- ISO/IEC 27001 (Information Security)
- ISO 22301 (Business Continuity)
- ISO 31000 (Risk Management)
- European Union Agency for Cybersecurity (ENISA) Guidelines
- National regulations including Ministry of Electronics and Information Technology (MeitY), National Critical Information Infrastructure Protection Centre (NCIIPC), Standardisation Testing and Quality Certification Directorate (STQC) norms

This comprehensive approach aims to ensure end-to-end cybersecurity compliance for all digital and maritime systems, including port infrastructure and Vessel Traffic Management Systems (VTMS).





Building Institutional Cyber Resilience



The Digital Personal Data Protection (DPDP) Act, 2023: Any breach of sensitive DGS data exposes seafarers, stakeholders, and candidates to legal risks, reputational harm, and e-governance disruption.

1.

Real-time monitoring using **SIEM (Q Radar)**

2.

Cyber Crisis Management Plan (CCMP) for rapid containment.

3.

Access controls & PAM (ARCON) to prevent unauthorized **data exfiltration**

To institutionalize cybersecurity governance, DGS has designated a **Chief Information Security Officer (CISO)** as per MeitY and NCIIPC guidelines.

1.

Steering the **Information Security Steering Committee**

2.

Implementing a **cybersecurity roadmap**

3.

Coordinating with national cybersecurity institutions



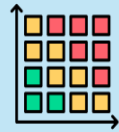
MARITIME TRAINING AND SKILLING



Digital Initiatives in Training



Examination Reforms



MTI Modules- 3 + helpline and escalation matrix



Learning Management System



Web based simulation



Digitization of Training and Assessment Record (TAR)



Centralized Attendance system CAS 2.0



Online Maritime Certificate Validation System



Use of new analytics tools for insight building and effective decision making



Dynamic Batch sizing



Placement portal and authentic job portal



Artificial Reality & Virtual Reality



Faculty development Program



Transparency and Zero Tolerance for Fraud in Training



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



For any queries on Maritime Training, course details, Guidance. Please reach out to the Official helpline.

CONTACT: 8655798737

- ✓ Stay Informed
- ✓ Stay Compliant
- ✓ Stay Safe





CREWING



India's Seafaring Scenario

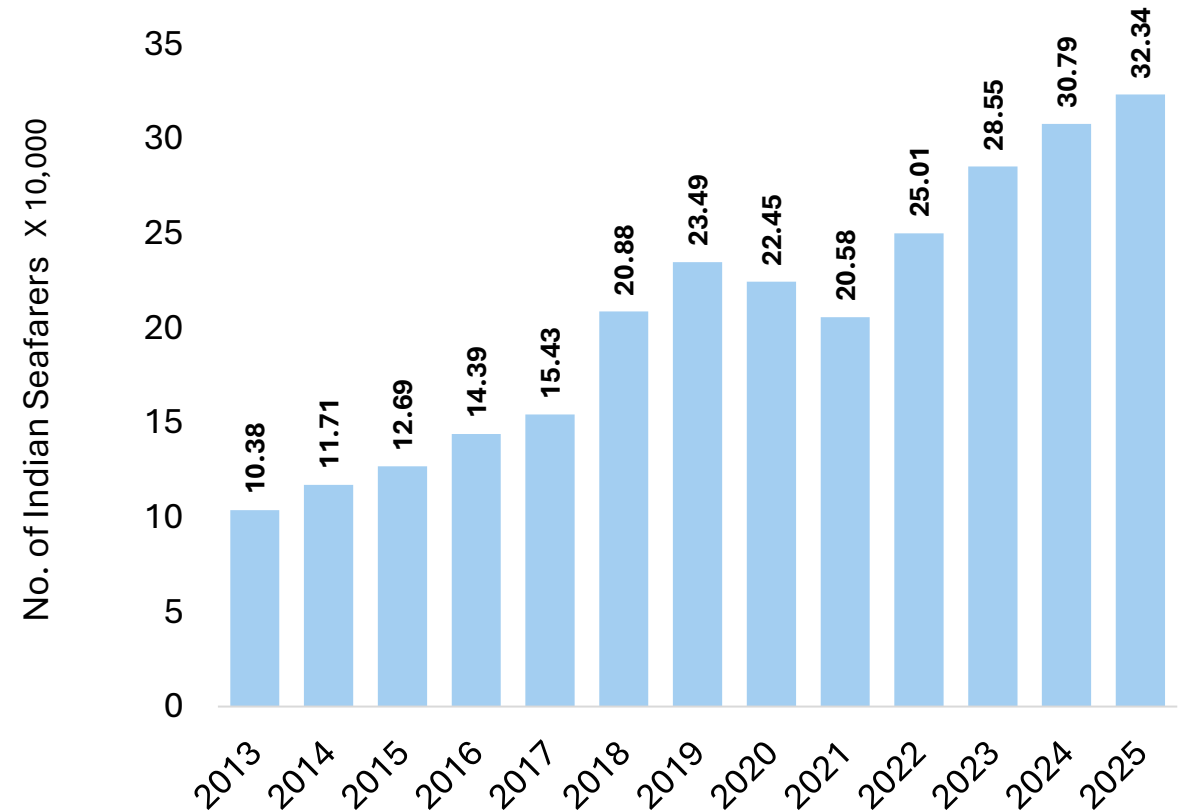


- **India among top 5 maritime nations** in seafarer supply
- **Contributes ~ 12%** of the global seafarer workforce
- **MIV 2030 target:** Increase India's share to **20%** by 2030

Current share of women seafarers in India: **< 0.5%**

- **MIV 2030 target:** Raise women participation to **2-3%** by 2030
- **Growth achieved: 339%** rise since 2021

Year on Year growth of Seafarers



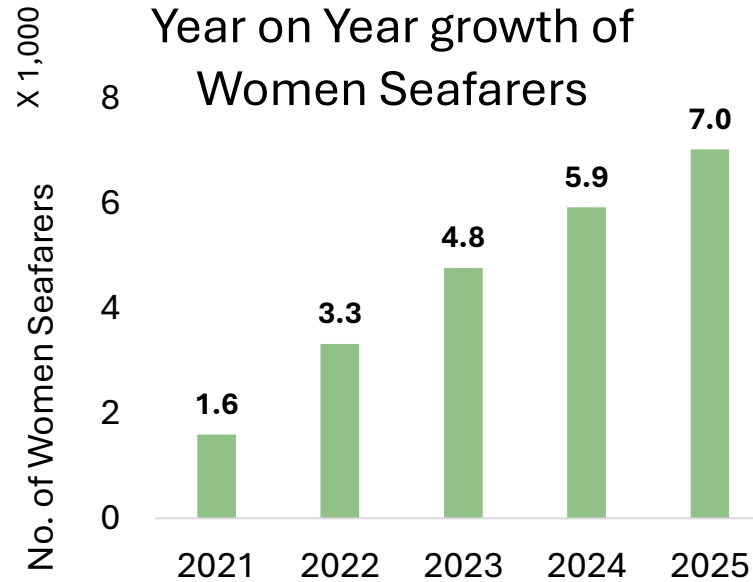


Seafarers' Welfare Initiatives



Sagar Mein Yog

Sagar Mein Yog, a flagship DGS initiative, promotes seafarers' holistic well-being by integrating standardized wellness modules across Pre-Sea, At-Sea, and Post-Sea stages, with a *pilot three-day ToT* programme conducted in December involving about 50 trainers.



Sagar Mein Samman

Sagar Mein Samman strengthens India's maritime regulatory framework by establishing structured, policy-backed standards for inclusivity of women seafarers, aligned with DGS Order 18 of 2024, MIV 2030, and UN SDGs 5 & 8, with a target of 2–3% women participation by 2030, implemented in collaboration with MUI.

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



Pranaam Helpdesk

The **PRANAAM Seafarers Assistance Counter** was successfully inaugurated on 21 January 2026 at Chhatrapati Shivaji Maharaj International Airport, *Terminal 2*, Mumbai, providing on-ground support to seafarers for documentation and immigration, while helping reduce fraud, legal issues, and emergencies and ensuring a smooth airport entry experience.



Towards Stronger Social Security and Welfare for Seafarers



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.

Seafarer Welfare Fund Society (SWFS)

Welfare & Immediate Support

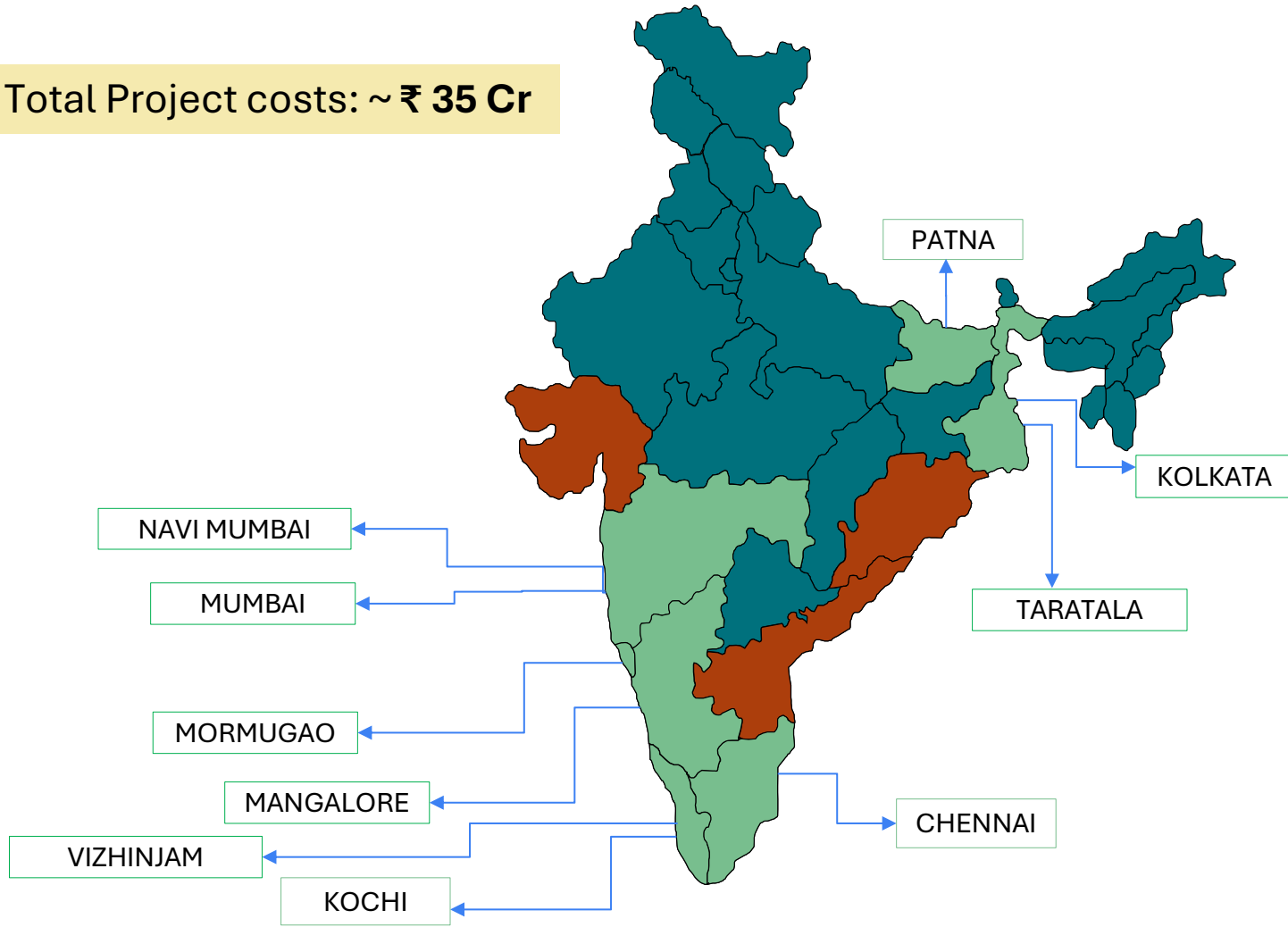
- The **SWFS** welfare schemes are designed to support seafarers and their families through initiatives focused on health, education, welfare infrastructure, and various financial assistance measures.
- **Welfare Schemes:** Schemes covering active seafarers, retired personnel, women seafarers, families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



Seafarer Welfare Infrastructure – SWBAT



Total Project costs: ~ ₹ 35 Cr



S. N.	State Detail	Port Name	Project Name
1	West Bengal	Kolkata port	Mariners Club
2		Taratala	Nabik Griha Samity
	Odisha	NIL	
	Telangana	NIL	
	Andhra Pradesh	NIL	
3	Tamil Nadu	Chennai port	Seafarers Club & Officers' Lounge
4		Chennai Port	Seafarers Club (I/P)
5		Kamarajar Port	Seafarers Club
6	Kerala	Vizhinjam Port	-
7		Kochi	Seafarers Club
8	Karnataka	Mangalore	New Club
9	Goa	Mormugao Port	Seafarers Club Project
10	Maharashtra	JNPA Port	Seafarers Club
11		-	Royal Bombay Seamans Society
	Gujarat	NIL	
12	Bihar	Patna	Seafarers Club

● Coastal states with Projects ● Coastal states with no Projects ● Non Coastal States



Ensuring Zero Tolerance In 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...



Suraksha Sarvapratham



Safety First

DGS is focused on promoting safety on vessels and is set to launch a campaign called the Suraksha Sarvpratham, ensuring that the seafarers are able to discharge their duties in a risk-free manner.

To reduce accidents and minimize risks aboard ships.

Detailed documentation of incidents that occur at sea and during port operations.

Systematic recording and analysis of incidents will help identify patterns, understand root causes, and implement preventative strategies.

Instill a culture of safety among seafarers.

Web-based learning management systems for training.

Free online courses will be developed.

To create a safer working environment for seafarers by reducing the frequency and severity of accidents at sea and in ports.

Comprehensive incident documentation, strict adherence to safety protocols, and innovative AI-based safety videos--- to establish Safety Culture



Humans as the Paramount Element in the Maritime Industry

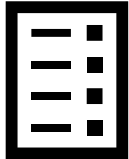


Human element is of paramount importance in the maritime industry as human skills, judgement and welfare drive maritime safety.

Issues of Criminalisation

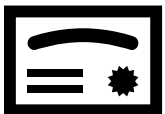
- Seafarers face legal threats or undue blame for operational incidents, often without due process.

Digital Records



Creation transparent digital records, ensuring fair accountability and reducing wrongful criminalisation

Certification and Assessment



Certification and Assessment and global data sharing detect and respond quickly to abandonment or criminalisation cases

Issues of Abandonment

- Seafarers stranded without pay, support, or repatriation, due to company financial/ legal issues

Digital Platforms



support real-time crew tracking, payroll management, and welfare monitoring, reducing the risks of abandonment

Communication and Grievance Platforms



Support for distress situations, with human-centered policies and tech tools for a just and humane maritime ecosystem

Technology acts as an enabler for protecting seafarer rights, supporting welfare, and strengthening accountability in line with the document's focus on human-centric maritime development



संगच्छध्वं संवदध्वं सं वो मनांसि जानताम्।

“Move together,
speak together,
may your minds
be in harmony.”
(Rigveda 10.191.2)



सत्यमेव जयते

Ministry of Ports,
Shipping & Waterways
Government of India

