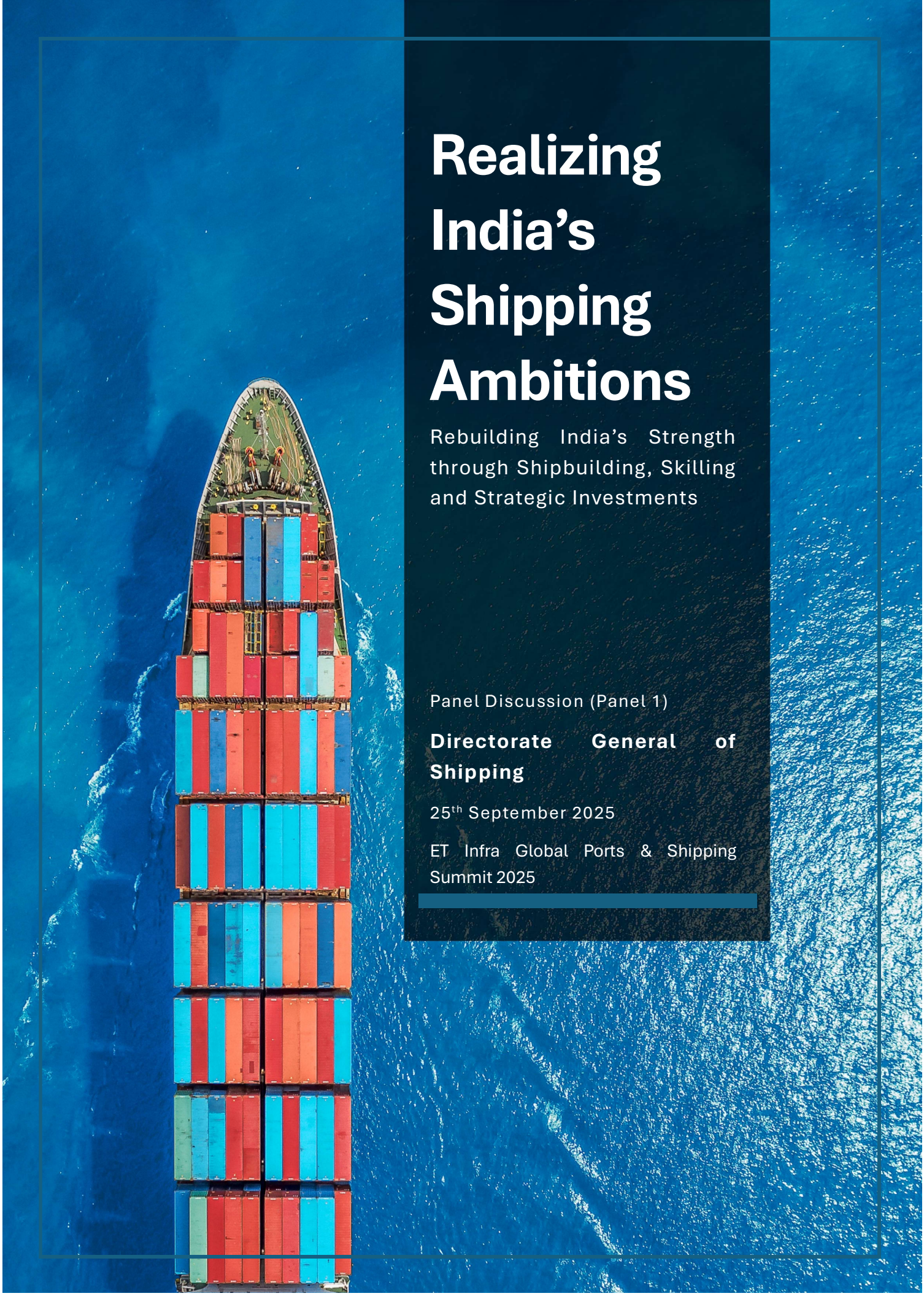


Realizing India's Shipping Ambitions

Rebuilding India's Strength through Shipbuilding, Skilling and Strategic Investments

Panel Discussion (Panel 1)

Directorate General of Shipping

25th September 2025

ET Infra Global Ports & Shipping Summit 2025

Contents

Executive Summary

1. **Infra Status and Low-Cost Capital for Shipbuilding**

    - The **Harmonized Master List of Infrastructure** now includes large ships, allowing access to low-cost, long-term capital for shipbuilding. The **Directorate General of Shipping (DGS)** is actively promoting this initiative to strengthen domestic shipbuilding capabilities, with an estimated investment of ₹3.5 lakh crore under the **Maritime India Vision 2030**. This effort aims to enhance financial viability and stimulate growth in the shipbuilding sector.

2. **Ship Recycling**

    - India commands nearly 33% of the global ship recycling market, with 115 operational yards compliant with the **Hong Kong Convention**. The **DGS** is facilitating compliance and best practices in ship recycling, focusing on maximizing value recovery and minimizing environmental impact. This initiative enhances India's recycling capabilities and positions the country as a leader in sustainable shipbuilding practices.

3. **Maritime Training and Skilling**

    - With 127 certified **Maritime Training Institutes (MTIs)**, India aims to increase its seafaring workforce from 12% to 20% of the global total. The **DGS** is implementing comprehensive reforms in maritime training, aligning with global benchmarks and enhancing the quality of education. This initiative is crucial for preparing a future-ready maritime workforce and realizing India's shipping ambitions.

4. **Maritime Casualty Management**

    - In 2024, there were 81 reported security incidents across Indian ports, with 18 requiring intervention by the Indian Navy. The **DGS** is strengthening reporting mechanisms and crisis management protocols through the **DG COMM Centre**, enhancing maritime safety and operational readiness. This effort reinforces India's commitment to safeguarding its maritime interests and improving incident response.

5. **Crewing 12% to 20%**

    - The goal of increasing India's share of the global seafaring workforce from 12% to 20% emphasizes the need for enhanced training and opportunities for Indian seafarers. The **DGS** is promoting initiatives to improve training quality and expand career pathways for seafarers, vital for empowering a

future-ready maritime workforce and ensuring India's competitiveness in the global shipping landscape.

6. **Multi Modalities Shift**

    - Currently, 64% of India's freight moves by road, compared to 37% in the USA. The **DGS** is advocating for strategic investments in multimodal transport infrastructure, including the development of **National Waterways** and integration with rail and road networks. This initiative aims to optimize logistics costs, which are currently 13-14% of GDP, and improve efficiency, supporting the broader objective of expanding shipping tonnage and boosting indigenous shipbuilding capacity.

7. **Digitalization (Maritime Single Window)**

    - The **Maritime Single Window** system aims to reduce documentation time by 50%, streamlining regulatory processes. The **DGS** is implementing this digital transformation to enhance operational efficiency and compliance, which are crucial for promoting ease of doing business in the maritime sector and facilitating India's ambitions for streamlined shipping operations.

8. **Decarbonization and Tonnage Transition**

    - India aims to achieve 40% renewable energy integration by 2030, with the **National Green Shipping Policy** targeting net-zero emissions by 2050. The **DGS** is leading efforts to promote greener shipping practices and sustainable shipbuilding techniques, positioning India as a leader in environmentally responsible maritime operations and reinforcing its strategic growth objectives.

9. **Ease of Doing Business and Facilitation - E Samudra**

    - The **E Samudra** platform aims to digitize trade documentation, potentially reducing clearance times by 30%. The **DGS** is integrating cargo carriage documentation into this platform, fostering a conducive environment for shipbuilding and maritime trade, and aligning with India's shipping ambitions.

10. **Legislative Reforms**

    - The **Merchant Shipping Act, 2025**, and the **Indian Ports Act, 2025**, aim to modernize maritime regulations, enhancing operational efficiency and attracting investment. The **DGS** is actively involved in these reforms, ensuring a robust legal framework that supports strategic growth in the shipping industry.

11. **Green Field and Brown Field Clusters for Build and Repair**

- The development of integrated maritime clusters is expected to create over 2 million jobs and attract ₹3 lakh crore in investments. The **DGS** is facilitating the establishment of these clusters, which will consolidate shipbuilding, repair, and ancillary industries, boosting indigenous shipbuilding capacity and fostering innovation and collaboration essential for realizing India's shipping ambitions.

12. **Blended Finance and Investment for the Sector**

- The **Maritime Development Fund**, with an allocation of ₹25,000 crore, aims to provide low-cost, long-term finance for maritime projects. The **DGS** is promoting this fund to enhance investments in shipbuilding and infrastructure, paving the way for sustainable growth in the maritime sector.

13. **International Cooperation**

- India is enhancing its role at the **International Maritime Organization (IMO)** and pursuing partnerships with countries like Japan and Denmark for green shipping initiatives. The **DGS** is actively engaging in these international collaborations, establishing a dedicated IMO cell to promote India's strategic interests and expand its shipping footprint on the global stage.

14. **Cruise Liners and Pleasure Crafts**

- The Indian cruise sector is projected to grow 8X over the next decade, potentially creating over 200,000 new jobs. The **DGS** is supporting the development of cruise terminal infrastructure and enhancing lighthouse tourism, allowing India to diversify its maritime offerings and contribute to the broader goal of enhancing its shipping capabilities.

15. **Aggressive Outreach Globally and in All Sectors**

- India operates the world's 18th largest merchant fleet, with 1,545 registered vessels. The **DGS** is leading efforts to expand India's maritime footprint through global outreach initiatives, enhancing trade linkages and market presence, supporting the strategic growth of India's shipping sector.

16. **Security**

- With 74 ports compliant with the **International Ship and Port Facility Security (ISPS) Code**, India is enhancing its maritime security frameworks. The **DGS** is establishing a **Bureau of Port Security** for

centralized audits and risk management, reinforcing India's position as a reliable maritime power vital for sustaining growth in the shipping industry.

17. **Taxation Anomalies**

- Indian shipping companies face significant tax burdens, including a 5% IGST on ship imports and double taxation on MRO services. The **DGS** is advocating for reforms to address these disparities, leveling the playing field with foreign competitors, enhancing the competitiveness of its maritime sector, and supporting the broader objective of expanding shipping tonnage and boosting indigenous shipbuilding capacity.

Conclusion

Through these strategic initiatives and key efforts led by the **DGS**, supported by sharp statistics, India is poised to realize its shipping ambitions, rebuild its maritime strength, and position itself as a leader in sustainable and innovative shipbuilding practices. By focusing on skill development, strategic investments, and international cooperation, India can enhance its global maritime presence and ensure a resilient future for its shipping industry.

India's Regional and Global Standing

India is now the **4th largest economy globally as of August 2025**, overtaking Japan, and trailing only the United States, China, and Germany in nominal GDP rankings. The country's nominal GDP stands at **$4.19 trillion** with a GDP per capita of around **$2,934**. This rapid ascent reflects strong domestic consumption, a large working-age population, resilient export sectors (notably engineering, petroleum, and electronics), high foreign direct investment, and improved infrastructure.

India's real GDP grew **6.5% in FY25**, signaling robust post-pandemic recovery, reaching **₹187.97 lakh crore**. Economic projections from IMF, World Bank, and other institutions forecast annual growth between **6.3% and 6.7%** over the next few years. CPI inflation fell to **3.16%**, the lowest since 2019, aided by improved supply chains and prudent policy measures.

Merchandise shipments hit **US$277.63 billion in April–July 2025**, up **5.23% year-on-year**, while FDI inflows rose **14% to US$81.04 billion in FY25**, confirming India's position as a preferred investment destination. Per-capita GDP climbed to **₹133,501**, indicative of rising prosperity and stronger domestic demand.

Rankings and Economic Position

India's steady economic growth is expected to allow it to surpass Germany by 2028, potentially becoming the **world's 3rd largest economy** if current momentum and reforms persist. This growth is largely driven by domestic demand, ongoing export expansion, and strategic government investments in infrastructure and policy reform, including labor, industry compliance, and digital transformation initiatives.

The real GDP growth rate for 2024–25 was 6.5%, slightly down from the previous year's post-pandemic rebound of 9.2%, but still the highest among major economies worldwide. The United Nations, Confederation of Indian Industry, and IMF all project growth rates between 6.3% to 6.7% annually through 2027. India's exports reached $436.6 billion in FY25, and total goods and service exports have surged by 76% over the past decade, now at $825 billion. FDI inflows rose over 15% year-on-year to reach $49.3 billion in FY25, reinforcing India's position as a preferred global investment destination. Meanwhile, inflation dropped to 2.82% as of May 2025, its lowest in six years, aided by improved supply chains, softer commodity prices, and monetary policy stability.

Economic Prospectus

India's economic prospects are strengthened by government policies focused on **infrastructure-led growth**, which contributed to a record **$176 billion capital spending in H1 FY25**, expected to rise further in FY26. Reduced port congestion, improved compliance, and ongoing reforms in labor and industrial laws are boosting productivity. With a strong emphasis on domestic consumption, digital transformation,

and green initiatives, the nation is on track to cross the **$5 trillion GDP mark by 2027–28**, further enhancing its global economic influence.

Current Maritime Landscape

India's blue economy is central to its growth, with **95% of trade by volume and 70% by value** moving by sea. But in an interconnected maritime world, domestic progress must always be viewed alongside international obligations — particularly at the IMO.

India's maritime growth story is significant:

- **Ports have tripled in capacity in the past decade**, making us better prepared to implement IMO's facilitation and safety norms.
- **Inland waterways cargo has nearly tripled since 2014**, advancing sustainable logistics in line with IMO's decarbonisation agenda.
- Cruise tourism and lighthouse tourism have grown manifold, opening new dimensions of maritime activity while demanding stricter safety and environmental oversight. **Cruise passenger traffic has crossed 0.5 million annually**, with year-on-year double-digit growth.
- Seafarer strength has more than doubled in the past decade — India now ranks as the second-largest supplier of seafarers worldwide.

At the same time, our ports are going greener with **over 60% of major ports adopting renewable energy**, and ship recycling at Alang is embracing **Hong Kong Convention–compliant practices**, areas where India's domestic progress directly strengthens its credibility at the IMO.

Thus, India's maritime advancements are not just national milestones but also **building blocks of global compliance, sustainability, and competitiveness**, reinforcing our contributions at the IMO.

India's Position in Global Maritime Governance

India stands today at a pivotal moment in its maritime journey — both as a regional leader in the Indian Ocean and as an active global voice at the IMO.

- With the second-largest pool of seafarers worldwide (over 2.5 lakh active seafarers, including ~45,000 women), India plays a direct role in upholding international safety and welfare standards.
- As a leader in ship recycling, **accounting for 33% of global dismantling**, India's transition towards green recycling directly contributes to IMO's sustainability agenda.
- In port performance, India now features prominently in global rankings, with **Visakhapatnam (20th), JNPA (28th), and Mundra (27th)** among the world's **top**

100 container ports (Lloyd's List 2023 rankings), demonstrating efficiency and competitiveness.

- On the **Logistics Performance Index 2023 (World Bank)**, India ranks **38th globally**, ahead of many advanced economies in **vessel turnaround time and port efficiency**, showcasing operational improvements that strengthen global supply chains.

Strategically located in the **Indian Ocean Region**, India is also at the crossroads of major global shipping routes, including the **Strait of Malacca**. With initiatives like the **Chabahar Agreement, INSTC, and SAGAR and MAHASAGAR policy**, India is integrating connectivity, security, and sustainability in ways that reinforce its global maritime relevance.

India's Shipping Ambitions

Changing Global Landscape:

In this rapidly changing global landscape, two trends are driving the future of maritime: sustainability and digitalization. We must adhere to global standards set by organizations like the International Maritime Organization (IMO) and embrace evidence-based decision-making, ensuring cybersecurity and compliance with international safety protocols.

The UNCTAD projects a 2.0% growth in seaborne trade in 2024 and a 2.4% CAGR from 2025 to 2029. This underscores the medium-term demand for Indian port and liner capacity. As we prepare for this growth, we must invest in technology and innovation to enhance our operational capabilities.

To propel India into a robust engine of development, the Hon. Prime Minister has articulated the Maritime India Vision 2030 (MIV 2030), which is a comprehensive 10-year blueprint aiming to elevate India to the forefront of the global maritime sector. This vision envisions an investment of ₹3–3.5 lakh crore across ports, shipping, and inland waterways, expected to unlock over ₹20,000 crore in annual revenue and create 2–2.5 million jobs.

Maritime India Vision 2030

The MIV 2030 focuses on ten core themes, including:

1. **Best-in-Class Port Infrastructure**: We are investing in brownfield expansions and developing mega ports, particularly focusing on southern transshipment hubs.
2. **End-to-End Logistics Efficiency**: Approximately 200 connectivity projects are underway, integrating road, rail, coastal, and inland waterways to enhance logistics efficiency and reduce evacuation times.

3. **Technology-led Logistics**: The National Logistics Portal (Marine) and smart ports are being developed to facilitate digitalization and system-based monitoring.
4. **Policy & Institutional Reforms**: We are establishing new regulatory frameworks and promoting public-private partnerships (PPP) to enhance operational efficiency.
5. **Shipbuilding, Repair & Recycling**: Our focus is on meeting domestic shipbuilding demand and developing a marine design ecosystem.
6. **Inland Waterways (IWT)**: We aim to enhance cargo and passenger movement through improved terminal and fairway infrastructure.
7. **Cruise Sector Growth**: We are planning an eightfold growth in cruise tourism, developing terminal infrastructure and training academies.
8. **Global Maritime Cooperations**: Strengthening linkages with neighboring nations and enhancing our representation in the International Maritime Organization (IMO).
9. **Safe, Sustainable & Green Maritime**: Our target is to achieve 40% renewable energy integration by 2030, focusing on emissions reduction and safety programs.
10. **Seafaring & Training Excellence**: We aim to enhance research, education, and the seafarer ecosystem, as India currently supplies 10–12% of global seafarers.

Hon. Prime Minister Shri Narendra Modi has emphasized, “India is very serious about growing in the maritime sector and emerging as a leading Blue Economy of the world.” This vision is not just about infrastructure; it is about creating a sustainable and resilient maritime ecosystem.

Maritime Amrit Kaal Vision 2047

Looking further ahead, the **Maritime Amrit Kaal Vision 2047** projects about ₹**80,00,000 crores** investments and **40 million** jobs by 2047 a testament to the pivotal role shipping will play in India’s journey towards becoming a developed nation.

The eleven key themes of MAKV are:

1. Lead the World in Safe, Sustainable & Green Maritime Sector

India is committed to reducing maritime emissions in line with the IMO’s GHG strategy and COP26 goals. 22 initiatives are planned including carbon-neutral ports, alternate fuel adoption like LNG and hydrogen, and over 20 pilot projects under the Green Shipping Programme.

2. Promote Ocean, Coastal & River Cruise Sector

Despite our vast coastline, India’s cruise tourism remains underdeveloped. 25 initiatives are planned including cruise terminals on both coasts, inland waterway development, relaxed cabotage rules, and fiscal incentives like GST reduction and e-visa extension.

3. Enhance Modal Share of Coastal Shipping & Inland Water Transport

With 14,000 km of navigable waterways, water transport remains underutilized. 46 initiatives are planned including operationalizing 50 waterways by 2047, coastal berths near production hubs, and low-draft vessel designs with tug-barge combinations.

4. Promote Maritime Cluster

Industrial maritime clusters are being developed at DPA, VoCPA, SMPA (Haldia), and Andaman & Nicobar Islands. 30 initiatives are planned including bunkering hubs, ship repair facilities, and investor-friendly policies to attract private sector participation.

5. Promote Maritime Professional Services

As India's maritime sector expands, so does the need for robust financial and legal services. 28 initiatives are planned including a Maritime Development Fund, international arbitration center, and tax incentives to ease financing and insurance settlements.

6. Become a Global Player in Shipbuilding, Repair & Recycling

India's shipbuilding share is just 1% globally, far behind China and Singapore. 17 initiatives are planned including policy extensions, expansion of Alang Shipyard, and new recycling hubs in Andhra Pradesh, Odisha, and West Bengal.

7. Develop World Class Education, Research & Training

India's maritime education ecosystem needs integration and innovation. 39 initiatives are planned including incubators, Maritime Knowledge Clusters, Centers of Excellence at IIM Ahmedabad and IIFT Delhi, and global training partnerships.

8. Strengthen India's Global Maritime Presence

India is enhancing its global maritime stature through strategic partnerships. 43 initiatives are planned including a dedicated IMO cell, permanent IMO representative, and implementation of the BIMSTEC Master Plan for regional cooperation.

9. Develop World Class Next Generation Ports

India's ports handled over 1.3 billion tonnes of cargo in 2019–20, yet capacity must grow. 42 initiatives are planned including deeper drafts, transshipment hubs, two new major ports, and private sector participation under PM Gati Shakti.

10. Enhance Efficiency through Technology & Innovation

Technology is key to maritime transformation and efficiency. 17 initiatives are planned including E-Gate 2.0 using computer vision, drone-based inventory, AI-powered berth allotment, and digital twins for port planning and optimization.

11. Enhance India's Tonnage

India's fleet accounts for just 1% of global tonnage, compared to 5% for China. 9 initiatives are planned including fiscal reforms, infrastructure status for shipping, and easing ship leasing and financing norms to boost Indian-flagged vessels.

The vision foresees India as the largest global supplier of certified seafarers, with the **blue economy contributing up to 12% of our GDP—up from about 4% today**. Our ports will be carbon-neutral, our ships propelled by zero-emission fuels, and our shipbuilding industry globally competitive, positioning India at the forefront of green, smart, and secure shipping.

Sagarmanthan 2024: India's Maritime Vision

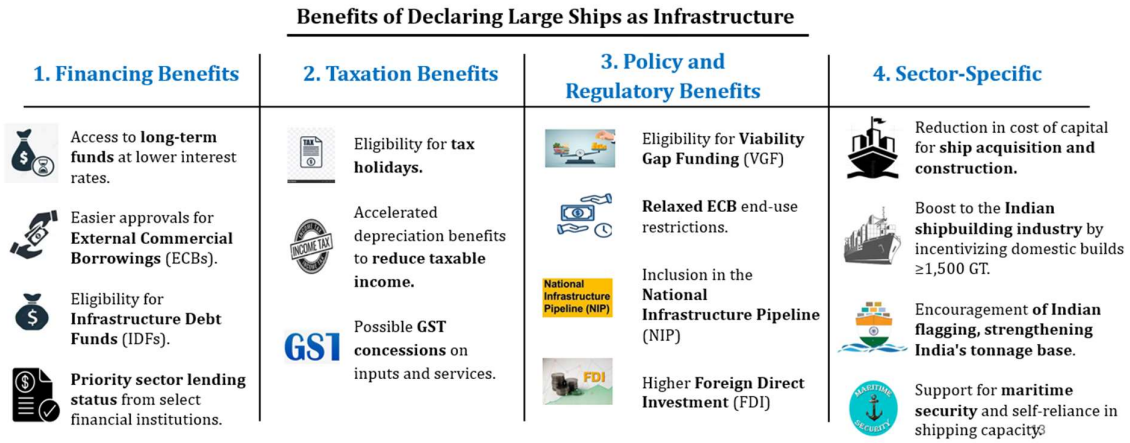
Against this backdrop, the Ministry of Ports, Shipping and Waterways, in partnership with the Observer Research Foundation, convened the **first edition of 'Sagarmanthan: The Great Oceans Dialogue' on 18–19 November 2024 in New Delhi**. As South Asia's largest maritime thought leadership forum, Sagarmanthan brought together policymakers, global experts, and industry leaders to deliberate on the future of oceans through four thematic pillars — **New Frontiers, Blue Growth, Green and Blue, and Coasts and Communities**.

The event spotlighted India's growing maritime strengths: record turnaround times at major ports (22.57 hours), Paradip Port emerging as the largest cargo-handling port at **145.38 MT in FY24**, and green initiatives such as the **Green Tug Transition Programme** and development of **Green Hydrogen Hubs**. With India investing **US$ 82 billion in port infrastructure by 2035** and launching transformative schemes like **Sagarmala** and **Maritime India Vision 2030**, Sagarmanthan reaffirmed India's role as a rising maritime power.

By fostering dialogue on sustainability, governance, and innovation, Sagarmanthan has set the course for a **future-ready maritime ecosystem**, cementing India's place as a central player in global maritime governance.

1. Infrastructure status and low-cost capital for Ship building @Akshay S @Ankush Raj

In a major boost to the Make in India initiative, the Government of India has officially included large ships in the Harmonized Master List of Infrastructure sub-sectors under the category of Transport and Logistics, as per the gazette notification dated September 19. This inclusion is aimed at strengthening domestic shipbuilding and enhancing India's maritime capabilities. Commercial vessels with a gross tonnage (GT) of 10,000 or more, under Indian ownership and flag, now qualify for infrastructure status. Additionally, vessels with GT of 1,500 or more, built in India and under Indian ownership and flag, are also eligible.



Financial and Taxation Benefits

Infrastructure status unlocks access to **low-cost, long-term capital** for shipbuilding and fleet acquisition. Key financial advantages include:

- **Lower interest rates** on loans, improving affordability and project viability.
- **Access to External Commercial Borrowings (ECBs)** and **Infrastructure Debt Funds (IDFs)**.
- **Priority sector lending eligibility**, enabling favorable terms from domestic banks.

Taxation incentives further support profitability:

- **Tax holidays under Section 80-IA**, offering full income tax exemption for a defined period.
- **Accelerated depreciation** (up to 40%) allows faster capital recovery and reduced taxable income.
- **GST concessions** on inputs and services used in shipbuilding reduce overall project costs.

Policy and Regulatory Benefits

The infrastructure designation also brings significant **policy and regulatory advantages**:

- **Eligibility for Viability Gap Funding (VGF)**: Government support to bridge funding gaps in large-scale shipbuilding projects.
- **Relaxed ECB end-use restrictions**: Greater flexibility in how borrowed funds can be utilized.
- **Inclusion in the National Infrastructure Pipeline (NIP)**: Ensures priority treatment under national development plans.
- **Higher Foreign Direct Investment (FDI)** potential: Enhanced investor confidence and inflow of global capital.

These regulatory enablers complement financial incentives, making shipbuilding projects more bankable and attractive to both domestic and international investors.

Sectoral Impact and Strategic Outcomes

This policy reform is expected to significantly reduce the **cost of capital** for shipbuilding, incentivize domestic construction of large vessels, and promote Indian flagging. It will attract **foreign direct investment (FDI)**, support the growth of Indian shipyards, and contribute to building a robust national fleet. The move aligns with India's long-term maritime goals under the **Maritime India Vision 2030** and **Maritime Amrit Kaal Vision 2047**, positioning the country as a competitive player in global shipping and logistics.

2. Ship Recycling @Devarshi Datta

Ship recycling is not merely the disposal of obsolete vessels, it is a cornerstone of the **circular maritime economy**, ensuring that steel and equipment from retired ships are recovered and reintroduced into industrial use. Unlike conventional scrapping, recycling maximises value recovery while reducing environmental damage and energy consumption.

For India, the sector has strategic, economic and social importance. With the Alang - Sosiya cluster in Gujarat recognised as the world's largest ship recycling hub, India commands nearly one-third of the global market share. Beyond its size, India is the only major recycling nation to move decisively towards full Hong Kong Convention (HKC) compliance, positioning itself as a global benchmark for safe and sustainable ship recycling.

India's Competitive Advantage

- **Scale and Compliance**: Out of 153 plots at Alang, 131 are operational and 115 (about 88%) are HKC-compliant. This is the **highest number of compliant yards globally**, surpassing Bangladesh, Pakistan and Turkey.
- **Economic Role**: India processes about **6.2 million GT annually**, supplying **5 - 6% of national steel demand**
  A crucial contribution when India's total scrap consumption is projected to touch **34.7 mnt in FY2025**.
- **Social Impact**: More than **25000 workers** are directly employed at Alang, with another **1.5 lakh dependent on ancillary services** like transport, re-rolling mills and waste management.

Dual advantage of scale and compliance, ensures that India is not only the largest but also the **most credible** ship recycling hub as the HKC enters into force globally.

Strategic Importance for India

1. **Energy and Resource Security**

- Recycled steel requires **67% less energy** than steel from virgin ore.
- Every tonne of scrap **saves 1.37 tonnes of iron ore, 0.78 tonnes of coal and 0.27 tonnes of limestone**.

- By reducing dependence on imports (8.69 mnt in FY2024), recycling strengthens India's raw material security.

2. Industrial Growth & Make in India

- The Ship Recycling Act (2019) and Ship Recycling Rules (2021) created a robust compliance regime, giving Indian yards global recognition.
- Under upcoming **SBFA 2.0**, the proposed **Ship Recycling Credit Note** will link dismantling to shipbuilding, allowing recycled value to flow directly into Indian yards constructing new ships. This closes the loop in India's maritime industrial ecosystem.

Global Positioning

The **Hong Kong Convention (2009)** entered into force on **26 June 2025**, after ratification by 24 States representing over 45% of global tonnage. For India, which domesticated HKC through its **2019 Act**, this milestone validates its leadership.

- **India**: 115 HKC-compliant yards, 30 - 35% global share.
- **Bangladesh**: Largest by deadweight tonnage (approx. 40%), but compliance is limited.
- **Pakistan**: approx. 20% global share, slower in adopting HKC standards.
- **Turkey**: EU-listed yards, high compliance but <5% global capacity.
- **China**: Share has declined sharply after restricting foreign-flag recycling.

This shift makes India the **most attractive destination** for owners seeking compliant dismantling, especially as EU and IMO audits tighten.

Regulatory and Institutional Ecosystem

- **Ship Recycling Act, 2019** : Gives DGS the mandate as National Authority.
- **Ship Recycling Rules, 2021** : Covers yard authorisation, IHM, worker safety, hazardous waste management.
- **Merchant Shipping Act, 2025** : Integrates recycling yards into the definition of "ports," elevating them as critical maritime infrastructure.
- **ISO Standards** : Enforcement of ISO 9001, 14001, 30000, 45001 ensures system-driven compliance and international audit readiness.

- **DGS** (National Authority), **State Maritime Boards** (Competent Authority), **SPCBs/MoEFCC** (environmental safeguard), **Recognised Organisations** (IRS, ClassNK, RINA) and **IMO** (global oversight).

Alang - Sosiya: India's Recycling Backbone

- **History**: **Since 1982-83, 8870 ships beached and dismantled**, amounting to **70.5 million LDT** of recyclable material.
- **Current Operations**: approx. 350+ ships per year, **4.5 million LDT annually**.
- **Master Plan 2025- 2036**: Expansion by 10 km frontage; doubling capacity to **9.0 million LDT annually**; inclusion of housing clusters, waste zones and modern facilities.
- **Worker Welfare**: FSDF-backed DPRs for housing, sanitation, healthcare, skilling; wellness initiatives (***Poth Purnachakra Mei Yog***, ***Poth Purnachakra Mei Samman***) for holistic worker development.

Sagar Mein Yog is Poth Purnachakra Mein Yog for Ship Recycling Workforce

Sagar Mein Samman is Poth Purnachakra Mein Samman for Ship Recycling Workforce

Emerging Priorities

1. **Digitalisation Portal** : DGS - GMB managed portal for licensing, inspections, compliance and welfare monitoring.
2. **Green Steel Integration** : Certified scrap into low-carbon production lines, enabling India's steel sector to meet future global climate-linked trade norms.
3. **Worker Upskilling** : Structured induction, refresher and advanced training programmes with IRS as technical partner.
4. **Global Stakeholder Forum** : Proposed annual event at Alang to consolidate India's role as not just a recycling hub but a global thought leader.
5. **Financial Mechanisms** : Better utilisation of **FSDF** and rollout of **SBFA 2.0 Credit Notes** to incentivise compliant recycling and domestic shipbuilding.

Hong Kong Convention

The Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships (HKC), 2009 is the first global, legally binding instrument dedicated to regulating ship

recycling. It was adopted at a diplomatic conference in Hong Kong in May 2009, following joint efforts by the International Maritime Organization (IMO), the International Labour Organization (ILO) and the Basel Convention.

The Convention seeks to resolve the longstanding issues of unsafe, environmentally harmful dismantling practices in major recycling countries, while ensuring that ship recycling continues to play its vital role in the circular economy.

After over a decade of negotiations and slow progress in ratifications, the HKC finally entered into force on **26 June 2025**, marking a watershed moment for global maritime sustainability.

HKC Objectives

- Ships, when recycled, do not pose unnecessary risks to human health or the environment.
- Hazardous materials onboard ships are identified, tracked and safely managed.
- Ship recycling facilities are authorised, monitored and certified to meet international standards.
- The principles of worker safety, environmental protection and transparency are embedded into all stages of a ship's lifecycle.

Scope of HKC

The Convention covers the entire **lifecycle of ships** and recycling facilities:

1. **For Ships**
    - Must maintain a continuously updated Inventory of Hazardous Materials (IHM).
    - Subject to initial, intermediate and final surveys.
    - Must obtain an International Ready for Recycling Certificate (IRRC) before dismantling.
    - Ship-specific Recycling Plans tailored to each vessel.
2. **For Recycling Facilities**
    - Preparation of a Ship Recycling Facility Plan (SRFP) covering infrastructure, safety measures and emergency preparedness.
    - Yard-specific recycling plans for every vessel.
    - Certification and authorisation by national authorities.
    - Strict monitoring of hazardous waste handling, containment and worker safety.
3. **Enforcement Mechanisms**
    - Flag States, Port States and Recycling States empowered to conduct inspections and audits.
    - Reporting obligations to ensure transparency and traceability.

Ratifications and Entry into Force

The HKC entered into force on **26 June 2025** after meeting the three ratification thresholds:

1. Minimum **15 States**;
2. Covering at least **40% of global merchant shipping tonnage**;
3. Representing a recycling capacity of at least **3% of that tonnage**.

As of mid-2025, **24 States** have ratified. Together, they represent over **45% of global tonnage** and a majority of global recycling capacity.

S. No.	Name of Flag State
1	Bangladesh
2	Belgium
3	Republic of the Congo
4	Croatia
5	Denmark
6	Estonia
7	France
8	Germany
9	Ghana
10	India
11	Japan
12	Liberia
13	Luxembourg
14	Malta
15	Marshall Islands
16	Kingdom of the Netherlands
17	Norway
18	Pakistan
19	Panama
20	Portugal
21	São Tomé and Príncipe
22	Serbia
23	Spain
24	Türkiye

IMO Guidelines Supporting HKC

- 2011 Guidelines for Ship Recycling Plans (MEPC.196(62))
- 2012 Guidelines for Safe and Environmentally Sound Recycling (MEPC.210(63))

- 2012 Guidelines for Authorisation of Recycling Facilities (MEPC.211(63))
- 2012 Guidelines for Survey and Certification of Ships (MEPC.222(64))
- 2012 Guidelines for Inspection of Ships (MEPC.223(64))
- 2023 Guidelines for Inventories of Hazardous Materials (MEPC.379(80))

3. Maritime training and skilling @Sambit Mishra @Pranit Chute

Our seafarers have always been the wind in our sails. They are not just workers of the sea; they are custodians of our nation's maritime reputation. India already contributes close to **12% of the global seafaring** workforce one of the largest national contingents anywhere. This is a remarkable achievement, but we are not content with it. Our vision is ambitious to **cross 20%** in the coming years, to become the world's leading hub for maritime talent.

Raising the Quality of Training

To achieve this, we have embarked on comprehensive reforms to elevate every aspect of maritime education and training. The Directorate General of Shipping is deeply engaged in the ongoing revision of STCW standards, ensuring that our systems not only meet but exceed global benchmarks.

Let me share a few figures.

127 MTIs with valid Comprehensive Inspection Programme Certificates, categorized into:

- Pre-Sea courses: **59 institutes (46.5%)**
- Post-Sea Modular courses: **38 institutes (29.9%)**
- Post-Sea Competency courses: **30 institutes (23.6%)**
- India continues to be among the **top five suppliers of seafarers globally**

These numbers are not just statistics. They represent human stories, aspirations fulfilled, and a collective commitment to excellence.

To further strengthen our training framework and align with global standards, DG Shipping has comprehensively revised its core training manuals. **DGS Training, Examination and Assessment Program (**TEAP Manual) now provides a structured framework for Maritime Training Institutes, ensuring strict alignment with STCW standards and enhancing competency. The Maritime Shipping Manual reinforces safety management and crew competence, while four volumes of training manuals give MTIs clear guidance on modules and assessments. Equally, the ISPS Code Training Manual ensures our seafarers are fully equipped to meet international security requirements. Together, these revisions

reaffirm our commitment to producing world-class Indian seafarers with integrity, skill, and resilience.

Examination Reform Project

- DG Shipping is building a **fully digital examination ecosystem**, piloted at MMD Noida, to meet the future demands of maritime training and certification.
- Developed with **CDAC** as the technology partner and **NTA** as the exam management partner, ensuring transparency and fairness.
- **Secure computer-based testing, biometric authentication, encrypted question banks, and analytics-driven evaluation** — making the entire process standardized and future-ready.

We have strengthened our framework with **standardized exit examinations** for cadets and ratings, and digital assessments that eliminate human bias. Further, the **Comprehensive Inspection Programme** ensures that maritime training institutes are rigorously audited. Surprise inspections and scheduled audits verify that classrooms are not mere rubber stamps. We have withdrawn approvals from institutes that issued certificates without imparting real training, and even blacklisted promoters when required. Our stance is firm: *such institutes do not belong in the Indian maritime ecosystem*.

Transparency and Zero Tolerance for Fraud

Equally important is integrity. All seafarers are registered in the **Indian National Database of Seafarers (INDoS)**, where their training and certification records are logged. No certificate outside of a DGS-approved institute is valid. Shipowners, managers, and RPSL agencies must verify authenticity directly through our portals.

To aspirants and professionals alike, we say: choose only approved institutes. Our campaign "**Say NO to Fraud Maritime Institutes**" with the simple but powerful slogan *"**फर्जी संस्थान = नकली ट्रेनिंग, नकली करियर**"* has reached thousands of families, preventing them from falling prey to fake promises.

"Our zero-tolerance policy protects dignity and trust".

Instilling a Culture of Safety

Training is not only about technical competence. It is also about values. We impart the ethos of ***"Suraksha SarvaPratham" Safety First, Always"***. This credo is instilled in every maritime trainee, forming the backbone of vigilance, discipline, and preparedness. A certificate is a piece of paper.

Merchant Navy Career Promotion Campaign through this initiative, we aim to inspire young minds to explore the vast opportunities of a career in the Merchant Navy. An annual calendar of events has been finalized, and we will be reaching out to schools across the country to guide students, raise awareness, and showcase the Merchant Navy as a career of honor, discipline, and global opportunity.

Empowering Women in Maritime Careers

DG Shipping has consistently championed women's participation in the maritime sector through scholarships, policy reforms, and awareness programs. Scholarships of up to **₹1,00,000** are offered via the Maritime Training Trust to encourage women cadets and ratings in pre-sea courses.

Crew Welfare, Diversity, and Well-Being

Even as we train for skills, we **must care for the soul behind the skill** – the seafarer's welfare. The DGS has placed **crew welfare and well-being at the forefront** of its agenda. Our seafarers are recognized as **"key workers",** and the human element of shipping is paramount. In recent years, we have launched innovative programs to support their mental, physical, and social well-being. One flagship initiative is **"Sagar Mein Yog,"** which addresses ten dimensions of seafarer wellness from physical and mental health to social and spiritual well-being ensuring that our sailors remain healthy and resilient whether at sea or on shore. Complementing this is **"Sagar Mein Samman,"** a gender inclusion drives to promote and support **women in shipping**. I am proud to share that this campaign has led to the number of women seafarer registrations from just **1,669 in 2015** to **14,255 in 2024**. This is a truly transformative leap toward gender diversity and empowerment in our maritime workforce.

India's Maritime Digital Transformation and Governance

India's maritime sector is undergoing a major digital transformation, with the Directorate General of Shipping introducing technological interventions to modernize training, governance, and workforce development. These reforms aim to empower trainers and trainees, ensuring that maritime education and operations go beyond traditional boundaries.

Key Elements of Digital Transformation

1. **MTI Modules & Helpline Support**
    - Introduction of 3+ digital modules for Maritime Training Institutes (MTIs).
    - A helpline and escalation matrix ensures quick resolution of issues and improved accountability.
2. **Learning Management System (LMS)**

- Digital learning platforms for course delivery, monitoring, and progress tracking.
- Enables remote learning and blended training methods.

3. **Web-Based Simulation**

   - Use of simulation technologies to provide practical, hands-on training in a safe and controlled environment.
   - Enhances operational readiness and decision-making skills.

4. **Digitization of Training and Assessment Records (TAR)**

   - Moves away from manual records to digital documentation of training and evaluations.
   - Ensures transparency, easy verification, and data-driven insights.

5. **Centralized Attendance System (CAS 2.0)**

   - Real-time attendance tracking for trainees across institutes.
   - Strengthens monitoring and reduces discrepancies.

Advanced Technological Interventions

6. **Analytics for Decision Making**

   - Adoption of data analytics tools to generate insights for policy-making and institute performance improvement.

7. **Dynamic Batch Sizing**

   - Optimizing training batches using technology for efficient resource utilization and personalized learning.

8. **Placement & Job Portal**

   - Launch of an authentic, centralized job portal for seafarer placements.
   - Reduces dependency on intermediaries and ensures transparent hiring practices.

9. **AI & Immersive Technology Strategy**

   - Integration of artificial intelligence, VR, and AR into training for immersive and interactive learning experiences.

10. **Faculty Development Programs**

    - Digital tools and structured programs to continuously upskill maritime faculty, ensuring they remain updated with global best practices.

IMPACT

- Enhances efficiency, transparency, and accountability in maritime training and governance.
- Prepares a future-ready workforce equipped with modern skills.
- Aligns India's maritime sector with global best practices in digitalization.
- Reinforces India's position as a leading supplier of skilled seafarers worldwide.

4. Maritime casualty management @Mehar Kalra + @Shriya Khelurkar

Overall Situation & Trends

- Between January–August 2025, a total of 151 incidents were reported to the DG COMM Centre. This is already close to the 186 incidents reported in 2024.
- At the current pace, 2025 is expected to exceed last year's total.
- The data shows a steady increase in reporting: from 153 incidents in 2023 → 186 in 2024 → 151 by August 2025.
- The 21.6% rise in 2024 over 2023 indicates not more accidents at sea, but rather greater awareness and willingness to report promptly.
- This reflects a shift toward transparency and accountability in India's maritime sector.

Strengthening of Reporting Mechanism

- The DG COMM Centre is functioning as a centralized platform for reporting both marine and non-operational incidents.
- In 2025 (till August), 66 marine casualties and 85 non-operational incidents were reported.

- Prompt reporting enables the Directorate to assess severity, prioritize actions, and respond quickly.
- This approach is helping create a clearer and more reliable system for casualty management and maritime safety.

Case References & Effective Response

- In major incidents such as *MSC ELSA 3, WAN HAI 503, INTERASIA TENACITY,* and *MT FULDA*:
    - The Directorate launched **immediate response measures**, minimizing potential escalation.
    - Effective coordination was achieved with the **Indian Coast Guard, Indian Navy, Coastal State Authorities, Ship Owners, Salvors, P&I Insurers, and other partners**.
    - **Critically, none of these incidents led to oil spills or environmental damage**, a testament to the effectiveness of swift and well-coordinated action.

Institutional Role & Preparedness

- DG Shipping acts as the **nodal authority for maritime casualty management**, safeguarding **life at sea, marine ecosystems, and navigational safety**.
- The Directorate's **structured crisis management protocols** ensure rapid mobilization of resources and effective **multi-agency cooperation**.
- This framework positions India to manage complex maritime risks while maintaining alignment with **international safety norms**.
- India's approach continues to emphasize a **safety-first culture**, in line with **IMO conventions and global best practices**, reinforcing its role as a **responsible maritime nation**.

5. Crewing 12 % to 20 % @Rituraj Sarma & @Aishwarya Malve

India stands among the **top five maritime nations globally** in terms of supplying trained and qualified seafarers to the international shipping industry.

As of 2020, Indian nationals accounted for nearly **12% of the world's total seafaring workforce**, highlighting India's significant role in sustaining the global maritime supply chain. Recognizing this strength, the **Maritime India Vision (MIV) 2030** has set a clear target of

increasing India's contribution to **20% of the global pool of seafarers**. This ambitious goal reflects the Government's commitment to expanding training capacity, enhancing maritime education, and creating better opportunities for Indian youth in the sector.

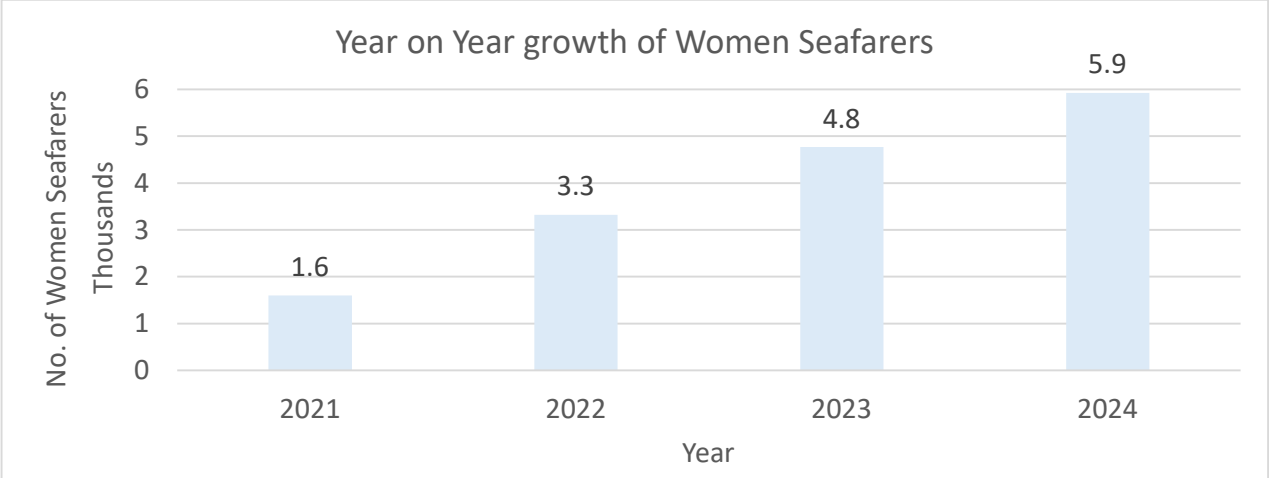
Progress towards this vision is already visible. As of 2024, India has a robust base of **3,07,901 active seafarers**, marking a steady growth in numbers and underscoring the country's rising stature as a global hub for maritime talent.

The chart below illustrates the year-on-year growth in the number of active Indian seafarers.

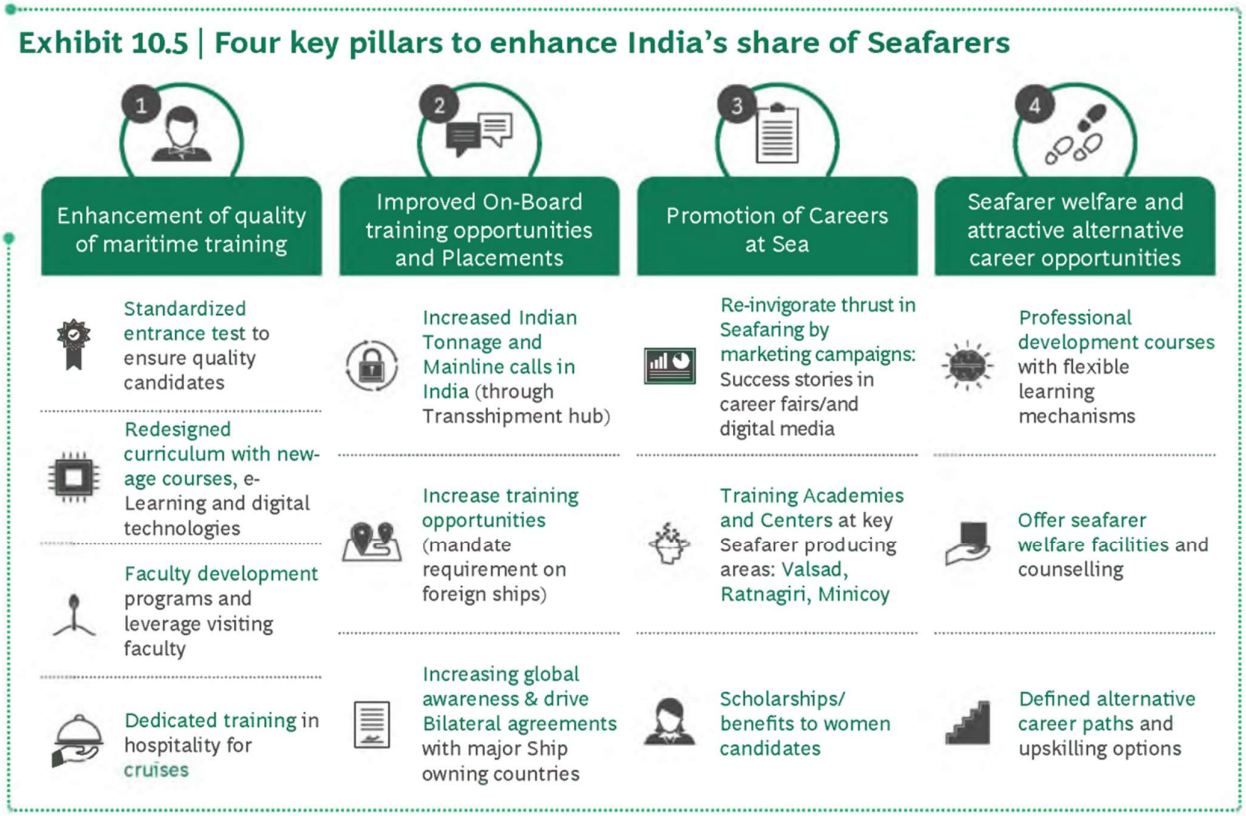
While India has made impressive progress in expanding its overall seafaring workforce, the **representation of women in the sector remains comparatively low**. As on 2020, women account for **less than 0.5% of the total active Indian seafarers**. However, the **Maritime India Vision (MIV) 2030** sets an ambitious target to raise this share to **2–3% of the total workforce**, reflecting a strong commitment to promoting gender inclusivity in the maritime industry.

Over the past decade, the growth of women seafarers in India has been remarkable. Their numbers have risen from just **341 in 2014** to **2,557 in 2024**, registering an extraordinary **growth of 649%**. This surge demonstrates both the increasing interest among women in maritime careers and the sector's evolving openness to gender diversity.

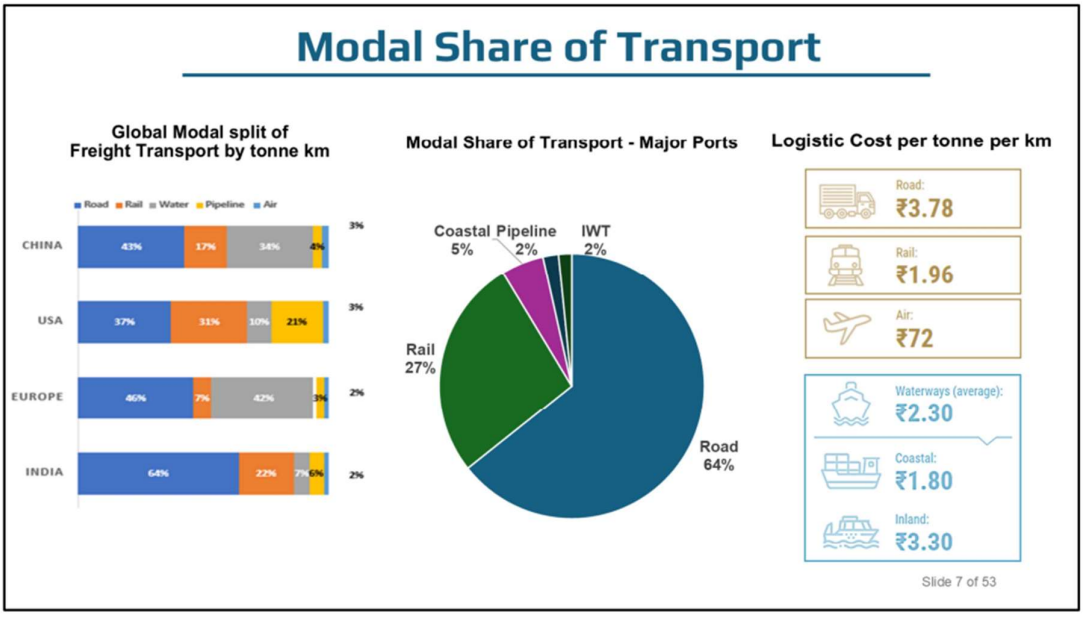
The chart below presents the **trend in the total number of active Indian women seafarers**, showcasing this rapid and encouraging upward trajectory.



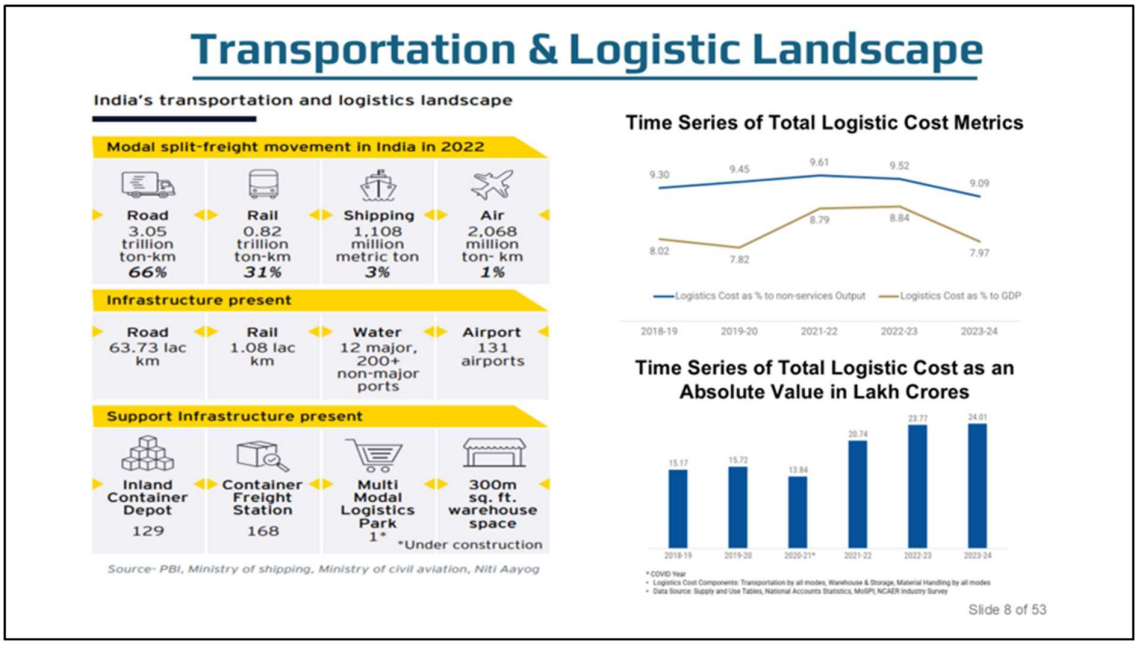
According to the MIV 2030, four pillars have been identified to enhance India's share in Global Seafarers-



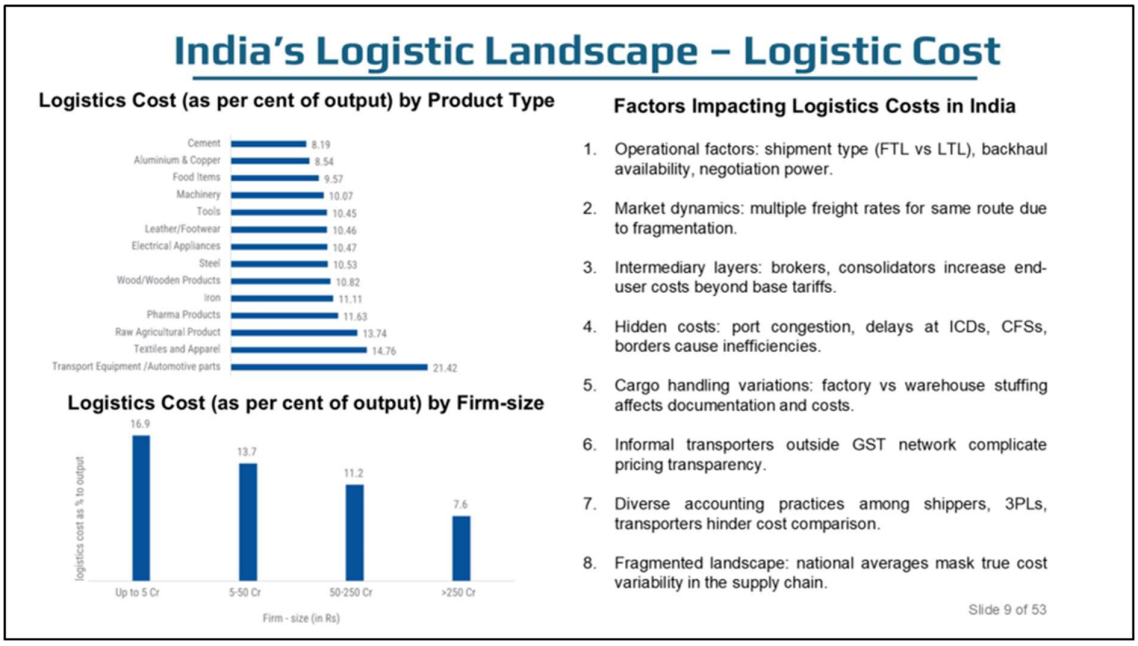
6. Multi modalities shift @Shubham Kadam + @Jay Dohare +@Aneena Rose



- Modal share of transport gives us a clear comparative picture of freight movement patterns worldwide and in India—and underscores the opportunities for efficiency gains in our logistics sector.
- As seen in the global modal split, India relies more heavily on roads, with 64% of our freight moving by road, compared to 43% in China, 37% in the USA, and 46% in Europe. In contrast, many leading economies use a much higher share of rail, water, and pipelines for freight, reflecting a more balanced and cost-efficient modal mix.
- When focusing on cargo movements at major ports, road transport again dominates at 64%, followed by rail at 27%, with coastal, pipeline, and inland waterways making up just a small fraction.
- This heavy road reliance contributes to higher logistics costs, with road transport costing ₹3.78 per tonne-kilometre, while rail is nearly half at ₹1.96, and coastal shipping even lower at ₹1.80.
- The message is clear: to optimize costs and sustainability, India must accelerate the shift towards rail and water-based modes, which offer proven economic and environmental gains.
- Strategic investments in multimodal infrastructure can help rebalance this modal share—making logistics more competitive and propelling India's trade and economic growth.



- India's logistics is undergoing a transformative multi-modal shift, focusing on integrating waterways, railways, and road transport to reduce costs and promote sustainability. The modal share of freight in 2022 is approximately:
  Road: 64%
  Rail: 27%
  Inland Waterways: ~2% (now rising)
  Key targets and recent achievements:
- Cargo movement on inland waterways surged from 18.1 MMT in FY 2013–14 to a record 145.5 MMT in FY 2024–25, marking a CAGR of over 20.8%.
- Development of multi-modal terminals at Varanasi, Sahibganj, and Haldia connects river ports directly with rail and road, boosting efficiency.
- National Waterways have increased from 24 to 29 between 2014 and 2025, driving a strategy for sustainable, cost-effective freight.
- India aims to reduce logistics cost from 13% to 14% of GDP, to 8% to 10% of GDP, by 2030. It is estimated that a 10% reduction in indirect logistics cost will result in 5% to 8% rise in exports.
- India's freight forwarding and logistics market is projected to grow at a CAGR of 5.65% from FY2026 to FY2033, reaching USD 21.06 billion by FY 2033. Dedicated Freight Corridors (DFCs) aim to double rail freight share from 30% to 45% by 2030, with over 1,000 km of DFC track already commissioned in 2025.



- India's logistics cost landscape is characterized by considerable variation across both product types and firm sizes. As seen on the left, logistics costs as a share of output are lowest for products like cement and aluminum, but rise dramatically for automotive parts and textiles, reaching over 21%.
- Similarly, smaller firms incur logistics costs of nearly 17% of output, much higher than large enterprises. There are several factors driving these differences: Operational aspects like shipment sizes, backhaul opportunities, and negotiation strength directly impact costs.
- Market fragmentation means there are often multiple rates for the same route, with many brokers and intermediaries adding extra layers of expense. Hidden costs from delays at ports, ICDs, and state borders further erode efficiency. Differences in how cargo is handled, as well as the role of informal transporters outside the GST network, make pricing less transparent.
- Additionally, diverse accounting practices and fragmented reporting mean national averages rarely reflect actual operating costs on the ground. To enhance competitiveness, it is critical to address these structural and operational inefficiencies, making Indian logistics more cost-effective and equitable for all stakeholders.

7. Digitalisation (Maritime Single window) @Bhanu Pratap Singh + @Shriya Khelurkar

Benefits of MSW:

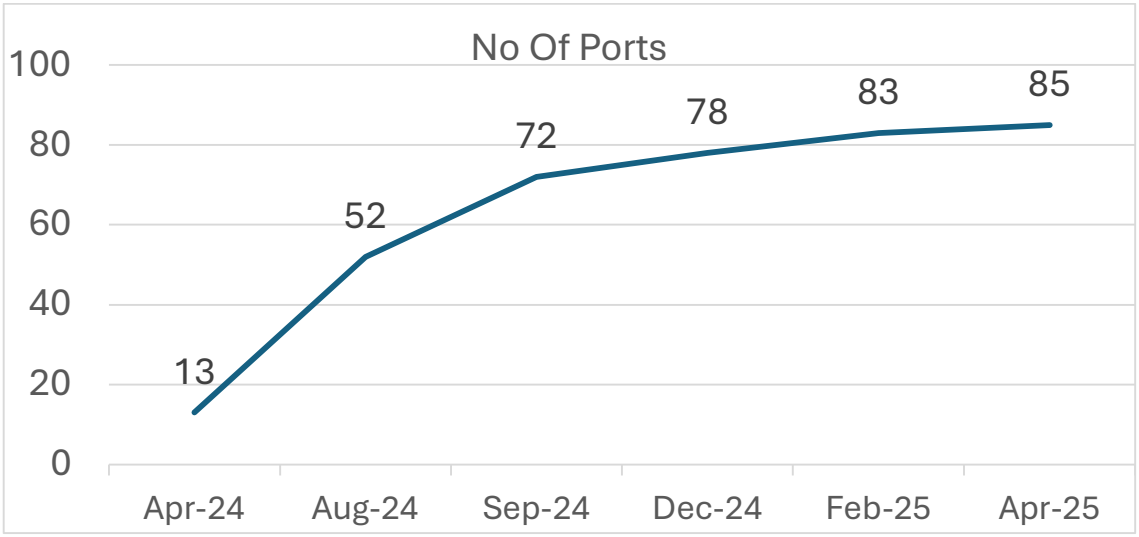
- Centralized Platform: Single-window submission for all regulatory documents, reducing duplication and simplifying communication.
- IMO Compliance: Aligned with FAL Convention, supporting international regulatory standards and easing port clearances.
- Efficiency: Reduced time and effort required for documentation and clearance procedures
- Compliance : Improved compliance with international regulations and standards
- Digitalization & Automation: Replaces paper-based processes, accelerating ship and cargo clearance through automated workflows.
- Secure & Accurate Data: Ensures data integrity with encrypted submissions, minimizing errors and fraud risks.
- Audit Trail & Traceability: Maintains a secure digital log for review, performance monitoring, and dispute resolution.
- Integration with Other Systems: The MSW can connect with other national and international systems, facilitating better coordination among different regulatory agencies.

Current status of MSW:

- In August 2025 monthly report, 75% vessel calling India has reported on MSW system
- 85 Ports have been successfully on-boarded to the Maritime Single Window system.

Stakeholder		Integrated
Designated Ports	**85 Exim Ports**	Yes
Immigration		Not Integrated
Customs		Not Integrated
PHO		Not completely Integrated

Ports processing documents through the MSW:



Month wise comparison MSW Reports in NLP

8. Decarbonisation and Tonnage transition @Devarshi Datta

Decarbonization & Green Shipping

The drive to decarbonise shipping is now global and irreversible. The IMO has set a clear course towards net-zero emissions by or around 2050, with milestone targets for 2030 and 2040. For India, this is not just about meeting international compliance. It is about strengthening the competitiveness of our fleet and ports, securing energy independence and positioning the country as a leader in the emerging green maritime economy. Our strategy rests on the **National Green Shipping Policy (NGSP)**, the **Future Fuel Strategy** and the proposed **National Port Sustainability Council (NPSC)**. Alongside these, the roll-out of **shore power supply (cold ironing)** and a fair, well-designed **Market-Based Measure (MBM) framework** complete the stack for India's green transition.

National Green Shipping Policy (NGSP)

The NGSP is India's umbrella framework for decarbonisation. It goes beyond broad declarations and lays down concrete actions for ships, ports, fuels, finance and people.

Key elements under NGSP:

- **Green Ships & Compliance:** Green ship certification, mandatory MRV (Monitoring, Reporting, Verification) of emissions, lifecycle carbon reporting, pathways for retrofits and newbuilds, pilot projects for zero/near-zero (ZNZ) fuel vessels.

- **Green Finance Stack:** Enhanced SBFA support for green ships and retrofits, risk-sharing mechanisms for conversions, subsidies for OPS and bunkering infra and creation of innovation and talent funds.
- **Fuel Policy Levers:** Phased carbon pricing on marine fossil fuels, blending mandates for biofuels and e-fuels, national-level fuel reporting and targeted support for green shipping corridors.
- **Green Ports:** OPS (shore power) deployment, renewable integration, real-time environmental dashboards, green certification and indexing of ports.
- **Corridors & Clusters:** Bilateral and domestic green shipping corridors with neighbouring countries, linked with production and supply of future fuels.
- **People & R&D:** Structured training for alternative fuels, safety manuals, skill development programmes and R&D partnerships with shipyards and research institutes.

Future Fuel Strategy

The Future Fuel Strategy is very clear: there is no single winner fuel. India needs a **portfolio approach** where LNG and biofuels are short-term bridges, methanol and ammonia scale up in the 2030s and hydrogen and electricity come in where feasible.

- Multi-fuel pathway is essential. Different trade type and ship types will need different fuels.
- Heavy infrastructure investment is required. Approx $ 80 Billoon for fuels till 2050, approx. $ 10 Billion for Shore Power Supply infrastructure by 2035.

Fuels separately:

- **LNG / Bio-LNG:** Immediate bridge option. LNG in use, dual-fuel engines available. Gradually transitions to bio/e-LNG.
- Demand: approx.. 0.66 MT in 2030, dropping to approx. 0.30 MT in 2050.
- **Methanol:** Emerging as a major candidate for green corridors. Lower toxicity, easier storage than ammonia.
  Demand: approx. 0.037 MT in 2030 to approx. 0.27 MT by 2050.
- **Ammonia:** The big long-term fuel for deep sea trades. High energy density, zero carbon emission at point of use. Safety handling is the challenge.
  Demand: approx. 0.025 MT in 2030 to approx. 4.4 MT by 2050.
- **Hydrogen:** Limited but important role in short-sea and specialised vessels.
  Demand: approx. 0.026 MT in 2030 to approx. 0.30 MT by 2050.
- **Biofuels:** Short-term low-hanging fruit. Can be blended with conventional fuels to meet CII/EEXI compliance and used in pilot green corridors.

National Port Sustainability Council (NPSC)

Ports are the physical frontlines of the green transition. The NPSC is designed to be the **apex body** that sets standards, monitors performance and ensures accountability.

Parameters & Metrics under NPSC:

- **Green Port Index (GPI):** Ranks ports based on renewable energy use, OPS integration, waste management and emissions reduction.
- **Port Readiness Level (PRL):** Assesses if a port can safely handle bunkering of methanol, ammonia, hydrogen and other alt-fuels.
- **Shore Power Readiness Indicator (SPRI):** Tracks % berths OPS-enabled, MW capacity and utilisation rates.
- **Environmental Ship Index (ESI):** Links cleaner vessels to port rebates and incentives.
- **National GHG Inventory:** A consolidated emissions database for all major and non-major ports.
- **Audit & Certification:** Periodic sustainability audits and certifications to align Indian ports with global benchmarks.

NPSC basically makes sustainability measurable and bankable—so that ports compete not only on cargo handling but also on climate performance.

Market-Based Measures (MBM)

MBMs are where the economics of decarbonisation become real. The idea is to put a price on emissions and give flexibility through trading. Ships are measured, verified and allocated units. If they emit less, they get credits. If they emit more, they must buy credits. This creates a global carbon market where efficient players are rewarded and laggards pay.

- **Surplus units:** Ships that perform better than their cap generate extra credits.
- **Deficit units:** Ships that cross their cap must purchase credits.
- **Trading:** Units can be exchanged, ensuring overall compliance at lowest cost.
- **ZNZ multipliers:** Ships using zero/near-zero fuels get bonus credits, making early adoption financially viable.

Two-Tier Model (India's proposal)

India supports a **Tier-1 / Tier-2 approach** to keep the system fair:

- **Tier 1:** A flat levy or contribution applied universally on fossil marine fuels. This creates a predictable revenue stream for the IMO Net Zero Fund.
- **Tier 2:** A performance-based element, where ships are rewarded or penalised based on their actual emissions versus assigned targets. This ensures efficiency gains and early movers benefit.

This structure prevents MBMs from being only a "tax." Instead, it makes them a balanced mix of levy + reward, with both carrots and sticks.

India's stance

India's negotiation line is anchored in **CBDR-RC (Common But Differentiated Responsibilities - Respective Capabilities)**. Developed countries, with higher historical emissions and greater financial muscle, must take on a larger share of the cost and contribute more to the Fund. Developing countries like India should get fair access to the revenue for **capacity-building, infra and technology transfer**.

Why this matters for India

- Ensures MBM revenues flow back into real projects like fuel hubs, OPS infra and R&D.
- Shields Indian trade from distortion by regional regimes like EU-ETS.
- Creates a pathway for India to emerge as a **green fuel supplier** (hydrogen, ammonia, methanol).
- Makes transition costs more predictable for owners and ports.

Shore Power Supply (Cold Ironing)

Shore power, or "cold ironing," allows ships at berth to switch off their auxiliary engines and draw electricity directly from the port grid. This avoids burning marine fuel while docked, which is a major source of local air pollution and carbon emissions in port cities.

For India, shore power is both a public health measure and a decarbonisation step. It cuts CO_2 along with SOx, NOx and particulate matter right where populations are densest. The IMO encourages OPS as a short-term GHG measure and NGSP has identified it as a priority for Indian ports.

Key points:

- OPS reduces greenhouse gases and improves air quality in port areas.
- Investment need is estimated at **approx. $10 billion by 2035** to roll out across major ports.
- Requires renewable-backed grid supply and storage to avoid shifting emissions "from ship to shore."
- Metrics include: % berths OPS-enabled, MW capacity installed, annual utilisation hours.

Tonnage Transition in India

India's shipping fleet is at a crossroads. The average age of our vessels is high, with a significant share above 20 years. Older tonnage not only faces higher operating costs and safety concerns, but also struggles to comply with new IMO rules like **EEXI** and **CII**. This means the

way forward cannot just be fleet renewal in numbers, it has to be a structured **tonnage transition** where India gradually shifts from older, fuel-inefficient vessels to a younger, greener and more competitive fleet.

The transition is not only about replacing ships, but about **what powers them**. Conventional heavy fuels will steadily give way to **non-conventional and low/zero-carbon fuels**. The immediate step is squeezing efficiency out of existing ships, followed by using **biofuels and LNG** as bridge options. Over the 2030s, **methanol and ammonia** are expected to become mainstream for deep-sea shipping, while **hydrogen and electrification** can serve coastal and short-sea segments. By 2050, Indian tonnage must be largely running on these **future fuels** if we want to stay competitive in global trade.

The **National Green Shipping Policy (NGSP)** and the **Future Fuel Strategy** already give us this pathway. Ports are being prepared with OPS (shore power), bunkering terminals and readiness for methanol, ammonia and hydrogen. On the fleet side, schemes like **SBFA 2.0** and the proposed **Ship Recycling Credit Note** will channel funds from retiring old vessels into building greener ships in Indian yards. This creates a full loop:recycle responsibly, reinvest in green tonnage and reduce dependence on imported fossil fuels.

- **Short term (till 2030) :** Fleet renewal, LNG and biofuel use, energy efficiency retrofits.
- **Medium term (2030 - 2040):** Methanol and ammonia take centre stage, OPS mainstreamed.
- **Long term (2040 - 2050):** Large-scale ZNZ fleets, hydrogen in select trades, India as a green fuel hub.

In short, the tonnage transition is about more than replacing old ships. It is about **building a modern fleet powered by non-conventional fuels, aligned with India's net zero targets and resilient against future carbon costs**.

Indian Tonnage Transition - Age Norms & SIS

India's shipping tonnage is at a critical turning point. With an average fleet age of **17.5 years** and nearly **31% of vessels older than 20 years**, the sector faces rising compliance risks, higher detentions and loss of competitiveness in global trades. A blanket age-based phase-out would directly impact almost a third of the fleet, especially bulk carriers, oil tankers and offshore/coastal vessels that remain essential for trade and connectivity.

The **Sustainability Indexing of Ships (SIS)** framework provides a more balanced pathway. Instead of judging ships on age alone, SIS evaluates operational, technical and environmental performance across multiple parameters:

- **CO_2 Emission Reduction / CII Ratings** : incentivises ships with A/B ratings and year-on-year CO_2 improvements. Currently, 61% of foreign-going Indian vessels fall into C/D/E categories, showing the scale of required improvement.

- **EEXI Compliance** : approx94% of foreign-going vessels are compliant, especially tankers and bulkers. Coastal vessels lag far behind (approx. 10%).
- **Shore Power Readiness (OPS)** : still negligible, but OPS-ready vessels will gain future credits as ports invest in cold ironing.
- **Low-Carbon Fuel Integration** : uptake of biofuels, LNG and ZNZ fuels remains near-zero, but SIS gives the highest weightage (25 points) to ships using them.
- **Energy Efficiency Devices** : encourages fitting retrofits like boss cap fins, variable frequency drives and hull coatings.
- **NOx/PM Compliance** : Tier II is common; Tier III is rare.
- **Green Recycling Commitments** - ensures end-of-life vessels go to HKC-compliant yards, reinforcing India's leadership in sustainable recycling.
- **PSC/FSI Records** : directly linked to detentions. Vessels >20 years account for **68% of detentions** despite being only 30% of fleet.

Transition Impact

- **Foreign-going vessels (236 total):**
  - 44% above 20 years, 14% above 25 years.
  - Without SIS: up to 50% risk of phase-out, especially in bulk and tanker sectors.
  - With SIS: only ~10 - 12% immediate impact, as well-performing ships with CII/EEXI and clean PSC records qualify for extension.
- **Coastal vessels (641 total):**
  - 39% above 20 years, 24% above 25 years.
  - Without SIS: nearly 40% would exit, severely affecting domestic connectivity and offshore support.
  - With SIS: impact reduces to approx. 8 - 10%, preserving essential capacity while pushing upgrades.

Why SIS Matters

- **Balances renewal and continuity** - filters out poor performers while giving compliant older ships more life.
- **Improves competitiveness** - CII/EEXI-aligned ships remain eligible for premium trades and long-term charters.
- **Strengthens India's flag reputation** - fewer detentions, stronger PSC records.
- **Supports decarbonisation** - incentivises CO_2 reduction, OPS, biofuel use and energy devices.
- **Responsible recycling** - ensures old ships exit via HKC yards, reinforcing India's recycling leadership.

9. Ease of doing business and facilitation- registration etc, E Samudra @Bhanu Pratap Singh

'Carriage of Goods by Sea Bill, 2024', is an attempt to modernise, update legal framework as well as enhance Ease of Doing Business (EODB) in India's maritime sector.

The passage of this bill is a significant step toward strengthening India's legal foundation for maritime commerce. It not only promotes investor confidence but also positions India as Viksit Bharat.

EoDB and Trade Facilitation Angle:

India's trade logistics ranking:

World Bank's Logistics Performance Index (LPI) 2023 – India ranked 38th out of 139 countries (a jump from 44th in 2018).

However, maritime legal outdatedness has been a weak spot flagged by global investors.

Cost competitiveness:

1. As per UNCTAD, efficient legal and operational frameworks can reduce transaction costs by up to 10–15%.
2. India's average turnaround time at ports has already improved from 102 hours in 2013–14 to 26.58 hours in 2022–23 (MoPSW). With a modern carriage law, contractual and liability disputes will reduce, cutting further delays.

Global Benchmarking:

1. **Singapore, UK, and EU** have already updated carriage laws in line with modern conventions, making them attractive shipping hubs.
2. India's step will harmonise its framework with these jurisdictions, providing **legal certainty to foreign investors, shipping lines, and insurers**.

Expected Impact:

1. **Ease of Doing Business:** Reduced litigation, faster dispute resolution, and recognition of digital trade documents.
2. **Trade efficiency:** Better integration with **Sagarmala, Gati Shakti, and Bharatmala** initiatives for seamless multimodal logistics.
3. **Investment attractiveness:** Global players prefer jurisdictions with **modern legal certainty** in contracts and cargo liability.
4. **Support to exporters/importers:** Particularly for MSMEs, who often face high costs due to legal disputes and outdated processes.

Role of E-Samudra in Context of Carriage of Goods by Sea Bill, 2024

The **Carriage of Goods by Sea Bill, 2024** focuses on modernisation, digitalisation, and efficiency in India's maritime trade. **E-Samudra**, being the **DG Shipping's digital portal**, plays a pivotal role in ensuring that these reforms are implemented seamlessly.

1. Digitalisation of Trade Documentation

- The Bill provides legal recognition to **electronic transport documents** (e-bills of lading).
- **E-Samudra** can serve as the **national digital platform** for issuance, verification, and tracking of such documents, thereby enabling **paperless trade**.
- This also reduces fraud, duplication, and delays in cargo clearance.

2. Transparency & Ease of Doing Business

- Integrating **cargo carriage documentation** into the platform aligns with **India's EoDB push**, offering a **single window** for stakeholders – shipowners, freight forwarders, exporters, and regulators.

3. Integration with Multimodal Logistics

- Since the Bill recognises **multimodal transport**, E-Samudra can act as a **linking digital chain** across ports, customs, shipping lines, and inland transport.
- By using APIs, it can connect with **ICEGATE (Customs), Sagarmala digital platforms, and PM Gati Shakti National Master Plan systems**.

4. Regulatory Oversight & Dispute Reduction

- With electronic records hosted on E-Samudra, carrier–shipper obligations and liabilities can be **monitored in real time**.
- This creates an **audit trail** of documents, reducing disputes and arbitration costs (a major objective of the 2024 Bill).

5. Statistical Backbone for Policy

- India handles about **1.6 billion tonnes of cargo annually (2023–24, MoPSW)**.
- With E-Samudra capturing **digital carriage contracts, bill of lading records, and dispute data**, policymakers can:
    - Track **cargo flows in real time**
    - Identify bottlenecks in **contract enforcement**

- Benchmark efficiency against global practices

While the **Carriage of Goods by Sea Bill, 2024** lays the **legal foundation**, **E-Samudra operationalises it**. Together, they:

- **Digitise** carriage contracts and documentation
- **Reduce disputes and transaction costs**
- **Enhance transparency and global confidence** in India's maritime system
- **Directly boost Ease of Doing Business** in shipping and trade logistics

10. Legislative reforms @Karan Gandhi

India's maritime sector is undergoing a transformative shift, driven by bold legislative reforms that replace colonial-era regulations with a forward-looking, globally aligned legal framework. These reforms are not just about rewriting laws—they are about rewriting India's maritime future.

By aligning with international best practices, we are creating a policy environment that fosters ease of doing business, enhances investor confidence, and strengthens India's position as a trusted maritime hub. These reforms are paving the way for sustainable growth, innovation, and competitiveness—ensuring that our maritime sector is not only future-ready but future-leading.

Merchant Shipping Act, 2025 – Modernizes maritime regulations by broadening the definition of vessels, easing ownership norms, and aligning India's shipping framework with global standards, thereby strengthening maritime capabilities.

Indian Ports Act, 2025 – Replaces the century-old 1908 Act, introducing a modern regulatory framework for port operations, management, and environmental safeguards. It ensures tariff transparency and mandates pollution control and disaster management plans at ports.

Coastal Shipping Act, 2025 – Enhances the role of coastal and inland shipping, promoting efficient use of waterways as a sustainable, cost-effective transport mode that reduces logistics costs and congestion. Environmentally, coastal shipping is the most carbon-efficient transport mode—85% cleaner than road and 50% better than rail—making it vital to India's sustainability goals. Economically, it helps cut logistics costs (currently 13–14% of GDP vs 8–9% in advanced economies) while decongesting road and rail networks. India's coastal fleet doubled in 30 years (515 vessels in 1994 to 1,056 in 2024; 188% rise in GT) but half the fleet is over 20 years old, underscoring the need for modernization. Cargo movement reached 187.22 MT in FY24 (22.9% of total port cargo), led by POL, containers, and iron ore. The Act's provisions—such as a National Coastal and Inland Shipping Strategic Plan and a National Database for Coastal Shipping—

combined with digital innovations like the Maritime Single Window, will strengthen supply chain security, attract investment, and improve ease of doing business.

Bills of Lading Bill, 2025- This bill simplifies legal documentation in shipping, reducing disputes and improving the ease of doing business. By cutting down red tape, it paves the way for smoother maritime trade operations.

Carriage of Goods by Sea Bill, 2025- Replacing the 1925 Act, this legislation adopts the Hague-Visby Rules, bringing India in line with international practices. It is designed to minimize litigation and strengthen maritime trade ties, particularly supporting agreements such as the India–UK CETA.

11. Green field and brown field clusters for build and repair @Akshay S +@Devarshi Datta +@Ankush Raj

India's maritime sector holds immense strategic and economic potential. With a vast coastline of over 11,098.81 km, a network of major and non-major ports, and growing demand for coastal and international shipping, the country is well-positioned to emerge as a global maritime hub. However, despite its natural advantages, India's contribution to global shipbuilding remains modest, and the sector faces challenges such as fragmented infrastructure, limited skilled manpower, and lack of integrated industrial ecosystems.

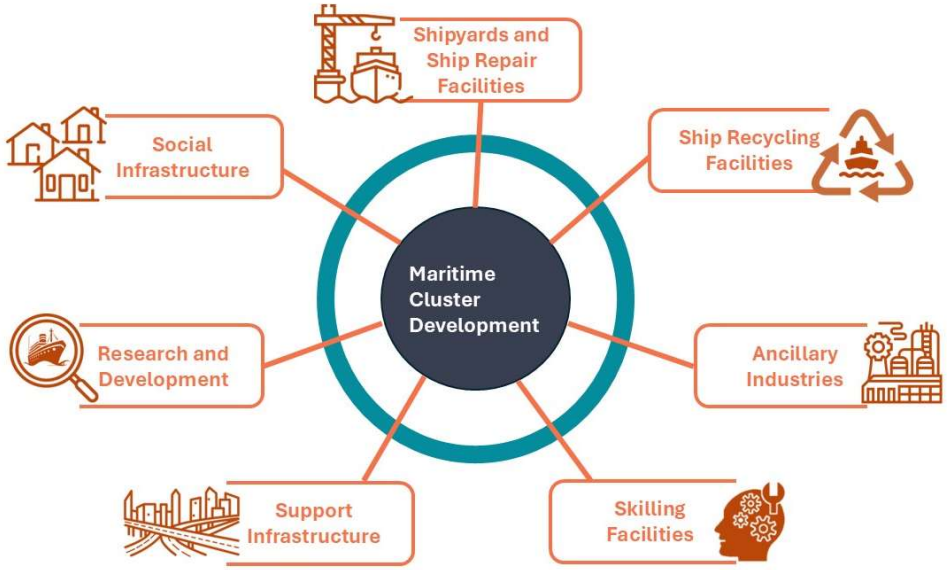
To address these gaps and unlock the sector's full potential, the Government of India is promoting the development of Maritime Clusters—integrated zones that consolidate shipbuilding, repair, recycling, ancillary industries, skilling, and support infrastructure. This approach is inspired by successful global models in countries like South Korea, Japan, and China, where maritime clusters have driven industrial growth, innovation, and employment.

The initiative aligns closely with national policy frameworks such as the Maritime India Vision (MIV) 2030 and the Maritime Amrit Kaal Vision (MAKV) 2047. MIV sets ambitious targets to enhance India's shipbuilding capacity, increase coastal and inland waterway traffic, and improve port efficiency. MAKV builds on this foundation with a long-term vision for sustainable, inclusive, and technologically advanced maritime development. Maritime clusters are central to achieving these goals, offering a scalable and replicable model for industrial growth along India's coastline.

By fostering co-location of industries and services, maritime clusters reduce logistics costs, improve access to raw materials and skilled labor, and accelerate project execution. They also create synergies across the value chain, promote innovation through shared R&D facilities, and support workforce welfare through integrated social infrastructure.

Maritime Cluster Development

The concept of **Maritime Cluster Development** involves creating comprehensive industrial zones that bring together all essential components of the maritime ecosystem. The development of maritime clusters is envisioned as a transformative strategy to consolidate and strengthen India's shipbuilding and maritime services ecosystem. These clusters will integrate key industrial, technical, and social elements to create a self-sustaining environment for growth. By co-locating essential infrastructure and services, maritime clusters will enhance operational efficiency, foster innovation, and support workforce development—laying the foundation for a globally competitive and resilient maritime economy.



Key Components of Maritime Clusters

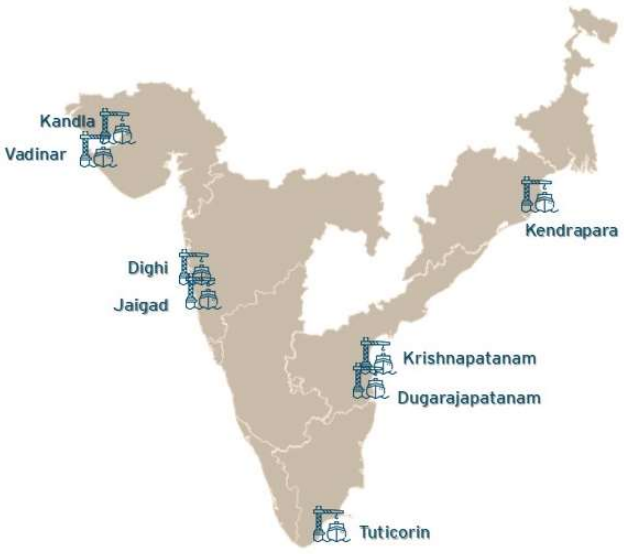
- **Shipyards and Ship Repair Facilities**: These form the core of the cluster, enabling construction and maintenance of a wide range of vessels—from coastal ferries and offshore support vessels to large ocean-going ships. Facilities include dry docks, slipways, shiplifts, floating docks, fabrication workshops, blasting and painting chambers, and integration units.
- **Ship Recycling Facilities**: Environmentally compliant recycling yards will be integrated into the clusters to support India's growing role in global ship dismantling. These facilities will adhere to international standards such as the Hong Kong Convention, ensuring safe and sustainable operations.

- **Ancillary Industries**: A diverse range of support industries will be encouraged to set up within the clusters. These include manufacturers of navigation systems, propulsion equipment, safety gear, electrical and electronic components, environmental control systems, firefighting tools, medical supplies, and ship operation accessories. Repair workshops and overhauling service providers will also be part of the ecosystem.
- **Skilling Facilities**: Dedicated skill development centers will train personnel in shipbuilding, welding, marine engineering, electrical systems, and other relevant trades. These centers may be operated by government agencies such as the Maharashtra Maritime Board (MMB) or by private entities, ensuring a steady supply of trained manpower.
- **Support Infrastructure**: Clusters will include integrated logistics hubs, planning and production offices, equipment storage, and transport connectivity. This infrastructure will facilitate efficient movement of goods and services within and beyond the cluster.
- **Research and Development**: Engineering R&D centers, testing laboratories, and startup incubation hubs will be established to promote innovation, technology transfer, and product development. These facilities will support shipyards and ancillary industries in adopting advanced manufacturing techniques and sustainable practices.
- **Social Infrastructure**: To ensure holistic development, clusters will include housing, healthcare, education, and recreational facilities for workers and their families. This will help attract and retain skilled talent while fostering community development and well-being.

Together, these components create a robust and self-sustaining maritime ecosystem that can drive industrial growth, generate employment, and enhance India's competitiveness in the global maritime sector.

Identified Sites in India for Greenfield Clusters

The **Directorate General of Shipping (DGS)**, in collaboration with the Maharashtra Maritime Board and other stakeholders, has identified several strategic locations for maritime cluster development. These sites have been selected based on proximity to major ports, availability of land, and potential for industrial expansion.



The identified sites for Maritime Cluster Development

1. **Kandla (Gujarat)** – A major port with strong connectivity and industrial infrastructure, ideal for shipbuilding and repair.
2. **Vadinar (Gujarat)** – Known for its deep-water access and oil terminals, suitable for offshore vessel construction.
3. **Dighi (Maharashtra)** – Emerging port infrastructure along the Konkan coast, with potential for integrated maritime development.
4. **Jaigad (Maharashtra)** – Deep-draft port with proximity to industrial zones, promising for shipyard and recycling facilities.
5. **Tuticorin (Tamil Nadu)** – A well-established port with skilled workforce and inland transport connectivity.
6. **Krishnapatnam (Andhra Pradesh)** – A fast-growing port city with modern infrastructure and strategic location.
7. **Dugarajapatnam (Andhra Pradesh)** – Identified for greenfield port development, with potential for cluster-based industrialization.
8. **Kendrapara (Odisha)** – Located near Paradip Port, being explored for ship recycling and ancillary industry development.

These sites are currently being visited and evaluated by DGS teams to assess feasibility, land availability, and stakeholder interest. The final selection will be based on techno-economic studies and alignment with national maritime goals.

12. Blended Finance and investment for the sector @Akshay S S @Ankush Raj

India's maritime sector is a strategic engine of economic growth, contributing approximately 4–4.5% to the national GDP. With 95% of trade by volume and 70% by value carried through the seas, the sector underpins India's global trade, energy security, and geopolitical positioning. As the country pursues ambitious goals under the Maritime India Vision (MIV) 2030 and Maritime Amrit Kaal Vision (MAKV) 2047, financing emerges as the foundational enabler of transformation.

Maritime infrastructure—ports, shipyards, vessels, logistics corridors, and training institutions—requires long-gestation, capital-intensive investment. Unlike sectors with rapid returns, maritime assets yield benefits over decades, demanding patient and structured capital. Financing is not just a support function—it is the driver of maritime modernization, sustainability, and competitiveness. Without innovative financing models, India risks falling short of its potential to become a global maritime leader.

Current Maritime Financing Landscape

India's maritime financing ecosystem is currently fragmented across institutions with limited specialization:

- **Commercial Banks** offer loans for ship acquisition and port development but at higher interest rates and shorter tenures than global norms.
- **EXIM Bank of India** supports shipbuilding exports and offshore projects, though its scale remains modest.
- **IIFCL** and **NIIF** fund infrastructure projects, including ports and logistics, but have limited exposure to shipping.
- **State-run entities** often rely on budgetary allocations or international borrowing, which restricts flexibility and scalability.

Despite these mechanisms, the sector faces a significant financing gap. The estimated investment requirement under MIV 2030 is **₹3.5 lakh crore**, while current financial flows cover only a fraction. The absence of dedicated maritime finance institutions and limited access to global capital markets further constrain growth.

Challenges in Maritime Financing

Several structural and market-level challenges hinder maritime financing in India:

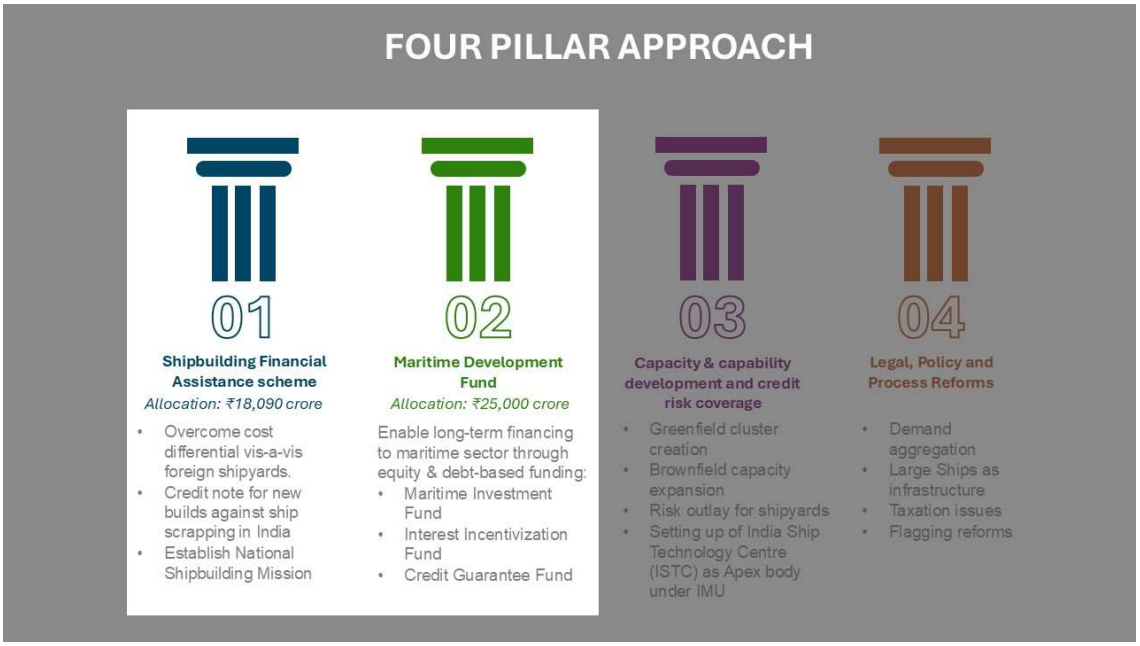
- **Capital Intensity and Long Gestation**: Maritime projects require large upfront investments with repayment cycles extending over 15–25 years.

- **High Risk Perception**: Shipping is viewed as volatile due to cyclical freight rates, fluctuating asset values, and global trade exposure, deterring banks from offering competitive loans.
- **Lack of Specialized Finance Mechanisms**: India lacks dedicated ship finance institutions or leasing platforms, unlike global peers such as Germany, Korea, or China.
- **Environmental Compliance Costs**: Transitioning to green fuels and retrofitting vessels for IMO compliance involves significant costs, with limited ESG-linked lending structures in India.
- **Underdeveloped Capital Markets**: Few maritime-focused bonds, funds, or InvITs exist, restricting long-term investment avenues.

These challenges necessitate targeted policy interventions and innovative financing instruments to unlock sectoral growth.

Government Interventions in Maritime and Shipbuilding

To address these gaps, the Government of India has launched two major financial support mechanisms:



Maritime Development Fund (MDF)

With an allocation of **₹25,000 crore**, the MDF is designed to provide low-cost, long-term finance to the maritime sector through equity, debt, and venture capital. Its scope includes:

- **Growth Financing**: For fleet acquisition, port and jetty development, shipyards, inland/coastal waterways, and allied infrastructure like roads and ICDs.
- **Development Support**: Funding for R&D, technology upgrades, design and engineering, consultancy, and promotional activities.
- **Marketing and Credit Support**: Long-term credit facilities for market development and customer incentives.
- **Distress Assistance**: MDF can take over stressed assets or vessels and support turnaround strategies for loans declared non-performing.

Shipbuilding Financial Assistance (SBFA) Scheme

Also allocated **₹18,090 crore**, the SBFA aims to overcome cost differentials with foreign shipyards and incentivize domestic shipbuilding. Key features include:

- **Subsidy Rates**:
  - Standard vessels: 14–15%
  - Large vessels (>₹100 crore): 20%
  - Green fuel-powered vessels: 30%
  - Electric/hybrid vessels: 20%
- **Ship Breaking Credit Note**: Shipowners receive a credit note worth 40% of the scrap value of a ship dismantled in India, which can be used as a rebate for building a new vessel domestically.

Emerging Opportunities: Maritime Financing through GIFT IFSC

The **Gujarat International Finance Tec-City (GIFT IFSC)** is emerging as a strategic hub for maritime financing in India. As the country's first operational International Financial Services Centre, GIFT IFSC offers a globally competitive ecosystem for ship leasing, chartering, and investment. Regulated by the International Financial Services Centres Authority (IFSCA), it provides streamlined oversight and ease of doing business, making it attractive for maritime stakeholders seeking long-term financial solutions.

GIFT IFSC offers several financial incentives to maritime entities, including a **10-year income tax holiday** within the first 15 years of operation and **capital gains tax exemptions** on ship sale and lease transactions. Its ship financing structure supports **bareboat chartering, time chartering, and finance leasing**, enabling fleet expansion without heavy upfront capital. These benefits, combined with access to global capital and flexible financial instruments, position GIFT IFSC as a key enabler of India's maritime ambitions.

To support this growth, the **Governerment** has introduced reforms such as the **Merchant Shipping Act 2025**, which simplifies vessel registration and liberalizes ownership norms, and the **Coastal Shipping Act 2025**, which removes licensing requirements. Additionally, the **Chartering and Leasing Portal** launched by DGS enhances transparency, digitizes approvals, and connects stakeholders on a centralized platform—further strengthening GIFT IFSC's role in maritime financing and operations.

13. International Cooperation @Karan Gandhi

Emerging Global Order and India's Role- Insights from MAKV 2047

As Hon. Prime Minister Shri Narendra Modi stated at the Global Maritime India Summit 2023, "In the changing world order, the world is looking towards India with new aspirations." This sentiment reflects the growing recognition of India's potential as a global maritime leader.

Our mantra is clear: "Make in India – Make for the world." This approach emphasizes our commitment to not only enhancing our domestic capabilities but also positioning India as a preferred destination for global trade and investment.

A central pillar of this theme is India's deeper engagement with the International Maritime Organization. Plans include establishing a dedicated IMO cell and appointing a domain technical representative at the IMO headquarters in London. This step will enable India to play a more proactive role in shaping international maritime rules and ensure that the country's perspectives on safety, environmental sustainability, digitalization, and fair trade are strongly reflected in global policy.

Alongside its IMO engagement, India is pursuing high-impact bilateral partnerships to advance technology and sustainability goals. These include collaborations to develop the nation's first Polar Research Vessel, joint projects with Japan on smart islands, maritime training, shipbuilding investments, and heritage initiatives such as the National Maritime Heritage Museum at Lothal. Such initiatives highlight how global partnerships contribute directly to India's technological progress and maritime heritage.

On the regional and multilateral front, India is strengthening its role through major connectivity projects and alliances. The operational Chennai–Vladivostok maritime corridor and the proposed India–Middle East–Europe Corridor are set to enhance trade linkages across regions, while frameworks like BIMSTEC provide a platform for wider maritime integration. These efforts complement India's larger ambition to secure sea lanes, promote green shipping, and ensure fair opportunities for the Global South.

In sum, Maritime Amrit Kaal Vision 2047 positions India as not just an emerging maritime nation, but a collaborative global leader.

International Cooperation Initiatives

India is steadily enhancing its role at the International Maritime Organization (IMO) through a multi-pronged strategy. This includes appointing a **Domain Technical Representative** at the IMO headquarters in London to ensure consistent technical engagement and representation in key discussions on emissions, safety, and seafarer welfare. Complementing this, India plans to nominate **Senior and Junior Professional Officers (SPOs & JPOs)** under the IMO's programme to support negotiations, draft position papers, and strengthen India's technical presence in committees like MEPC and MSC.

Domestically, India is expanding its **shadow committee structure** to include a broader range of stakeholders—government, industry, academia, and NGOs—ensuring well-rounded and technically sound positions for IMO meetings. These committees will align with specific IMO areas such as safety, environment, and training, and will help develop position papers and build national capacity through regular consultations and workshops.

India also aims to secure **leadership roles** in IMO committees by ensuring consistent participation and technical contributions. This long-term strategy involves grooming officers with deep knowledge of IMO procedures and ensuring their sustained involvement in intersessional and formal meetings.

On the academic front, initiatives like the **C.P. Srivastava Chair and Fellowship** at WMU and IMLI, research funding, scholarships, and exposure visits for young professionals are building a pipeline of maritime experts. The proposed **IOCE-SMarT Centre** in Mumbai will serve as a regional hub for sustainable maritime training and innovation, potentially hosting an IMO Regional Presence Office for South Asia. Together, these efforts reflect India's commitment to shaping global maritime governance and preparing for a greener, more resilient future.

International Economic Corridors

Economic corridors are vital for India's trade and economy as they enhance connectivity between key industrial hubs, ports, and markets, reducing transportation time and costs. By facilitating smoother movement of goods and services, these corridors boost domestic manufacturing, attract foreign investment, and strengthen regional and global trade linkages. They also create employment opportunities, stimulate infrastructure development, and support India's vision of becoming a more integrated and competitive economy in the global supply chain.

India-Middle East-Europe Corridor (IMEC)

The **India-Middle East-Europe Corridor (IMEC)** is a strategic initiative aimed at enhancing connectivity between India, the Middle East, and Europe through integrated

sea and rail routes. This corridor enables faster movement of goods, reduces transit times, and strengthens India's position as a key player in global trade. By linking Indian ports like Mumbai with major hubs in the UAE, Saudi Arabia, and Greece, IMEC fosters **efficient supply chains** for energy, industrial, and consumer goods.

IMEC also supports **regional cooperation**, allowing India and partner countries to align customs procedures, logistics practices, and maritime regulations. This corridor is not only about trade efficiency but also about **economic integration, technology transfer, and sustainable logistics solutions**. Through IMEC, India reinforces its commitment to secure, predictable, and environmentally conscious shipping routes connecting Asia, the Middle East, and Europe.

North-South Transport Corridor (NSTC)

The **North-South Transport Corridor (NSTC)** is a multi-modal project connecting India with Russia and Europe via Iran, Azerbaijan, and the Caspian Sea. It significantly **reduces travel time and transport costs** compared to traditional routes through the Suez Canal. For India, NSTC provides an alternative access point to Central Asia and Europe, ensuring **resilient trade routes** even during global disruptions.

NSTC is more than just a trade route; it enhances **regional cooperation in infrastructure, customs, and logistics management**. India's active participation in NSTC planning demonstrates its role as a facilitator of **strategic trade corridors** and strengthens ties with partner nations. By integrating rail, road, and maritime transport, the corridor supports **sustainable and reliable supply chains** for both industrial and consumer markets.

Northern Sea Route (NSR)

The **Northern Sea Route (NSR)**, along the Arctic coastline of Russia, offers India a **strategic alternative for shipping to Europe**. This route significantly shortens travel distances, reducing fuel consumption and carbon emissions for long-haul maritime transport. India's engagement in NSR-related discussions helps secure **access to emerging Arctic trade opportunities** while supporting global climate-conscious shipping practices.

Participation in NSR cooperation allows India to contribute to **maritime safety standards, environmental protection protocols, and Arctic navigation guidelines**. As climate change opens new Arctic shipping lanes, India's involvement ensures that the country can balance **commercial benefits with sustainable maritime governance**, enhancing its influence in northern maritime corridors.

Kaladan Multimodal Transport Project

The **Kaladan Multimodal Transport Project** connects India's eastern states with Myanmar through a combination of river and road transport, linking **Sittwe port in Myanmar to India's northeast**. This project shortens transport distances, improves cargo movement, and strengthens India's **regional connectivity** with Southeast Asia.

Kaladan also promotes **economic development, trade facilitation, and strategic cooperation** with Myanmar. By integrating waterways and road networks, the project ensures seamless logistics, enabling India to leverage its northeastern region for both domestic and international trade. This corridor is an important component of India's **Act East Policy**, enhancing economic, cultural, and strategic linkages in the Bay of Bengal region.

Galathea Bay Project

The **Galathea Bay Project** focuses on developing a **strategic maritime hub in the Bay of Bengal**, aimed at boosting port infrastructure, logistics, and regional connectivity. It enables faster handling of cargo, strengthens trade routes with Southeast and South Asia, and improves **maritime safety and operational efficiency**.

The project also emphasizes **sustainability and environmental protection**, incorporating modern port management systems, real-time navigation data, and safe cargo-handling practices. Galathea Bay enhances India's **maritime influence in the region**, acting as a gateway for trade, research, and emergency response operations while fostering stronger economic cooperation with neighbouring countries.

14. Cruise liners and pleasure crafts @Aishwarya Malve @Rituraj Sarma

Indian Cruise sector has the potential to grow by **8X over the next decade** owing to rising demand and disposable incomes. Development of the cruise sector will also lead to significant regional development and economic growth. There are majorly **three focus areas** to enhance India's cruise tourism ecosystem, potential creation of 2,00,000+ new jobs, meet the expectations of cruise visitors and cruise line industry, and provide momentum for infrastructure development:

1) Ocean and coastal cruise
    a. Development of five theme-based coastal and island circuits across pilgrimage, ayurvedic and heritage themes
    b. Development/ enhancement of Cruise Terminal infrastructure at 12 ports
    c. Establishing three dedicated cruise training academies in Goa, Kerala and West Bengal in partnership with global cruise lines
2) Island and lighthouse development
    a. Holistic development of island infrastructure and ecosystem across Andaman and Lakshadweep regions to turn them into attractive cruise destinations
3) Inland or River cruise
    a. Drive synergies across Central & State Govt, for development of inland waterways
    b. Development of com m unity jetties to boost growth: Arth Ganga model
    c. Operationalization of 60+ ferry terminals across National Waterways (NW s) and coastline with Stat governments
    d. Development of river cruise terminal infrastructure along 10+ prioritized circuits on 6 NWs

Key targets that need to be met to enable India to become a global hub for cruise tourism by 2030-

Exhibit 7.17 | Key Targets for Cruise Tourism Development

KPI metric	Current	Target[1] (2030)
Number of cruise passengers	4,68,000	>15,00,000
Number of ship calls made (Home + port call)	451	1,000
Number of global cruise-lines with "Home Port" in India	1	6
Operational waterways for river cruise movement	6	>10
Number of cruise training academies in partnership with cruise-lines	-	3

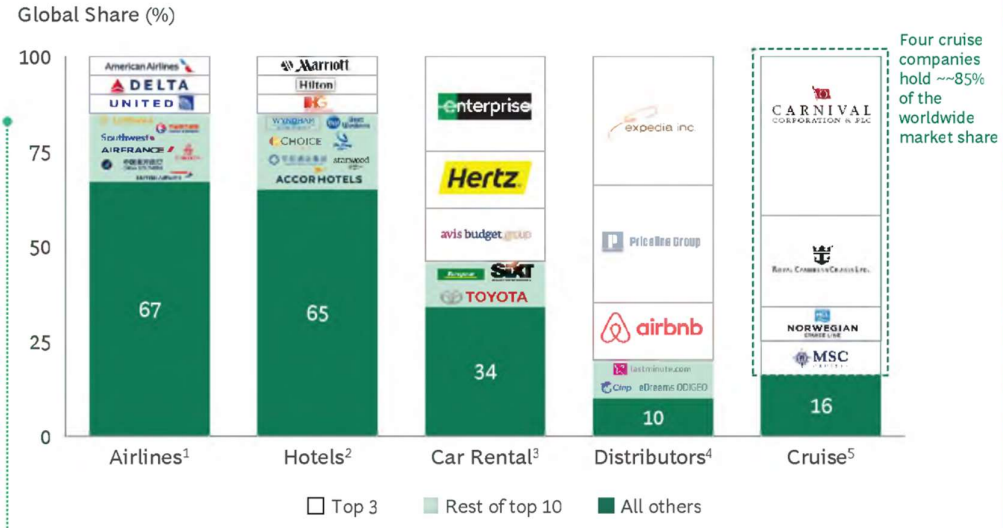
Source: Bermello & Ajamil Partner report, TA 6 group discussions

According to the MIV 2030,

Oceanic and Coastal Cruise:

Globally, the cruise industry has experienced a steady growth of 6% CAGR in the last few years, with new and premium cruises accounting for more than 50% of the current market. (As shown in below figure). The Indian cruise market is small but growing steadily driven by rising disposable incomes and government interventions.

Exhibit 7.1 | Industry-Wise Market Share in Global Tourism



1. Share of Global RPKs for 2015. Source: IATA, Airline Business 2. Share of global hotel rooms 2015. Source: STR, Hotels 325 Publication 3. Share of retail sales 2015. Source: Euromonitor 4. Share of global gross bookings. Source: Skift, PhoCusWright 5. Cruise industry news 2019 Annual report – 32nd edition

Island and Lighthouse Development:

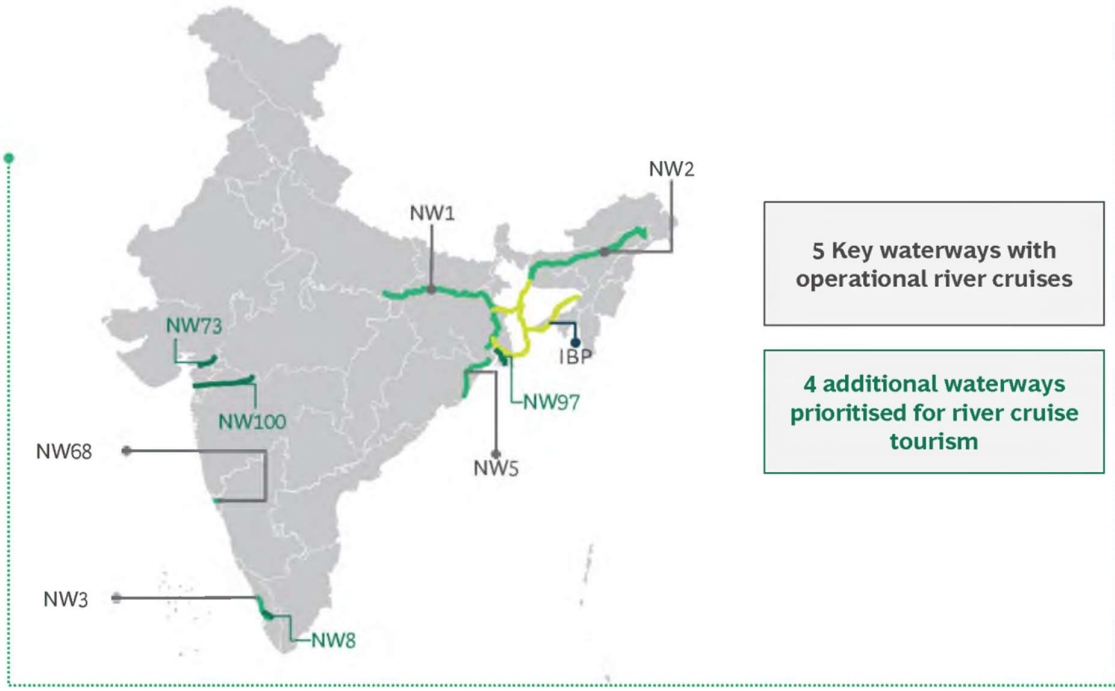
There are **190+ existing lighthouses** in India that can be integrated with ocean or coastal cruises to promote lighthouse tourism. Directorate General of Lighthouses and Lightships

(DGLL) and MoPSW have undertaken an ambitious project for the development of lighthouse tourism across India to revitalize the existing lighthouse facilities for alternative uses.

River and Inland Cruise:

The global River cruise market has grown at **~5%** over the last few years and is expected to constitute **-37%** of Cruise market by 2027. River cruise in India has significant untapped potential. Currently, only **5 National Waterways (NW)** are offering river cruises.

Exhibit 7.10 | Operational and proposed waterways for River Cruise in India



Sr. No.	National Waterway	Details
1	National Waterway 1: Ganga	Deployment of **13 vessels** with annual traffic of **12,000 passengers** in FY19
2	National Waterway 2 - Brahmaputra	Deployment of **four vessels** with annual traffic of **950 passengers** in FY19
3	National Waterway 68: Mandovi	-
4	National Waterway 3: West Coast Canal	-
5	National Waterway 5: East Coast Canal	-

15. Aggressive outreach globally and in all sectors - inland water, Ports, off Shore, etc @Aneena Rose

India's Expanding Maritime Footprint

India operates the world's 18th largest merchant fleet, comprising 1,545 registered vessels with a combined gross tonnage (GT) of 13.50 million as of December 2024. Despite this significant capacity, Indian-owned ships carried only 4.11% of the country's overseas trade during FY 2023–24. Since independence, the nation's shipping tonnage has grown nearly 80-fold from a modest 0.19 million GT in 1947 to over 15.18 million GT in 2024, reflecting steady progress in maritime capability.

Aggressive Global Outreach Initiatives

The Indian government is actively promoting the participation of domestic shipping companies on global trade routes. As of 2024, 489 Indian-flagged vessels, totalling 11.8 million GT, were engaged in overseas trade. Leading players in this segment include the Shipping Corporation of India (SCI) with 54 vessels (2.72 million GT) and Great Eastern Shipping with 43 vessels (1.90 million GT). These efforts underscore India's ambition to strengthen its global maritime presence.

Ambitions in Offshore and Energy Sectors

India is modernizing its offshore supply vessels and support crafts to cater to global energy majors and enhance competitiveness in offshore logistics. Policy measures such as the Right of First Refusal (RoFR) for Indian-built, flagged, and owned offshore vessels have improved market access for domestic shipyards, creating a favourable environment for indigenous manufacturing and service capabilities.

Port Modernisation and Multimodal Connectivity

India's port infrastructure comprises 12 major ports and 217 non-major ports, totalling 229 facilities. In FY 2023–24, these ports collectively handled 1,542.88 million tonnes of cargo, with major ports accounting for 819.29 million tonnes and non-major ports handling 723.59 million tonnes. Continuous capacity augmentation has positioned ports like Jawaharlal Nehru Port Authority (JNPA) among the world's top 25 container ports. Complementing this, significant investments in road, rail, and waterborne connectivity are enabling seamless last-mile logistics integration across the country.

Inland Waterways and Regional Integration

India's inland waterway cargo movement has witnessed remarkable growth, reaching 133.0 million tonnes in 2023–24, up from just 0.36 million tonnes in 1990–91. The country now has 111 National Waterways, with 18 identified as feasible for cargo movement and 25 for tourism under the National Waterways Act, 2016. States such as Assam (2,010 km), West Bengal (4,593 km), and Kerala (2,004 km) lead in navigable lengths. Private operators like PNP Maritime Services, JSW Jaigarh Port, and Vedanta Ltd. have significantly contributed to efficiency in the Inland Water Transport (IWT) sector, with PNP alone moving 4.8 million tonnes via IWT in 2023–24.

Shipbuilding and Ship Repair: Leveraging "Make in India"

India is focusing on strengthening indigenous shipbuilding capacity through major public and private shipyards such as Cochin Shipyard Limited (110,000 DWT), Hindustan Shipyard Limited (80,000 DWT), Goa Shipyard, Mazagon Dock, and others. In 2023–24, 410 new vessels were on order across these yards, while 201 ships were delivered. The Shipbuilding Financial Assistance Policy incentivizes green technologies, offering 30% support for green-fuel vessels and 20% for electric or hybrid propulsion systems, aligning with global sustainability trends.

Global and Regional Partnerships

India is actively collaborating with leading maritime clusters such as Rotterdam, Singapore, and Antwerp to facilitate knowledge exchange and technical expertise. Proactive EXIM outreach, digitalization initiatives, and the adoption of Port Community Systems are enhancing operational efficiency. Furthermore, alignment with international environmental and port security standards is ensuring India's maritime sector remains competitive and globally integrated.

Sustainability and Green Shipping

The Indian maritime industry is transitioning toward sustainable fuels such as methanol, ammonia, and hydrogen, particularly for coastal and short-sea shipping. National policies emphasize green retrofitting, electric and hybrid conversions, and strict compliance with IMO 2020 Sulphur regulations. Additionally, bunker fuel pricing mechanisms are being aligned with global best practices. These initiatives support India's commitment to the UN Sustainable Development Goals (SDG7, SDG9, and SDG13), promoting sustainable, resilient, and low-carbon logistics.

16. Security @Mehar Kalra +@Shriya Khelurkar

Maritime security stands at the heart of national resilience and global trade stability. Safeguarding our waters is not just a strategic necessity but an economic imperative. Rising piracy, illicit trafficking, and geopolitical tensions in key chokepoints demand a robust, technology-driven, and collaborative maritime security framework. Strengthening this domain ensures not only the protection of national interests but also positions India as a reliable maritime power in the Indo-Pacific.

Maritime Security Status

- The **International Ship and Port Facility Security (ISPS) Code**, ensuring maritime security through standardized safeguards.

Maritime security at Indian ports, highlighting key statistics and oversight measures. India has **74 ports that are ISPS compliant,** ensuring adherence to international maritime security standards. These ports' security is overseen by the Directorate General of Shipping, with plans to establish a Bureau of Port Security (BoPS) for centralized security audits and risk management, further strengthening port security frameworks.

In 2024, there were 81 reported security incidents across Indian ports, illustrating ongoing challenges in maritime security. Out of these, 18 incidents required intervention by the Indian Navy, predominantly involving the safety of Indian seafarers. This underscores the critical role of the Navy in maintaining maritime security and protecting personnel.

- **BoPS Integration:** Bureau of Port Security for audits, cybersecurity, drills, and annual Safety Performance Reports. On the port side, the integration of the Bureau of Port Security will establish a dedicated statutory body. Security Operation Centres in every major port will use AIS, drone surveillance, VHF, and CCTV systems to provide real-time tracking and multi-agency coordination with CISF, Customs, Port Police, and intelligence services. The integration of the Bureau of Port Security (BoPS) with the International Ship and Port Facility Security (ISPS) Code under the Directorate General of Shipping (DGS) marks a pivotal advancement in India’s maritime security framework. This strategic centralization streamlines oversight and enforcement, fostering uniformity in security protocols across all ports. With DGS’s regulatory expertise and authority, India is better positioned to manage complex security challenges while adhering to international standards set by the International Maritime Organization (IMO).

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).

Energy Security in Shipping

For India, decarbonisation is not only about meeting IMO targets. It is about **Energy Security**. Our economy has historically been an energy **deficit** economy, spending over **$150 billion annually on fossil fuel imports**. With the rapid expansion of **renewables (solar, wind)** and the scaling up of **green hydrogen, ammonia and methanol**, India has the chance to move from deficit to **energy surplus** and ultimately become an **energy exporter**.

- Hydrogen demand will rise from **0.026 MT in 2030 to 0.3 MT by 2050**.
- Ammonia from **0.025 MT to 4.4 MT**.
- Methanol from **0.037 MT to 0.272 MT**.
- LNG will peak at **0.66 MT in 2030** but taper to **0.3 MT by 2050** as bio/e-LNG takes over.

With green hydrogen costs projected at **$1.5–2.0/kg by 2030 in India**, compared to $3–6/kg in Europe and East Asia, we are set to be among the **lowest-cost global suppliers of maritime fuels**.

This transition strengthens India's **energy independence** while creating a new export economy. Green fuels can flow from Indian ports to buyers in **Europe, Japan, Korea**, generating forex inflows instead of outflows.

Energy security also links directly to the **UN Sustainable Development Goals (SDGs)**:

- **SDG 7 (Affordable & Clean Energy):** Expanding renewables and green fuels.
- **SDG 9 (Industry, Innovation, Infrastructure):** Building bunkering infra, OPS and port upgrades.
- **SDG 13 (Climate Action):** Cutting CO_2 emissions from shipping.
- **SDG 17 (Partnerships):** Collaborating globally on corridors, financing and technology.

17. Taxation Anomalies @Akshay S + @Ankush Raj

The Indian shipping industry, which already operates under significant tax burdens such as IGST on ship imports, double tax on the MRO services (GST on Reverse Charge Mechanism + Custom duty on the invoice value of the MRO), GST on cargo movement and TDS on seafarer employment, is at a distinct disadvantage due to the favourable tax treatment foreign shipping lines enjoy in their home jurisdictions as well as in India. These disparities have widened the competitiveness gap, placing Indian companies at a financial disadvantage despite their contribution to the national economy. Following table shows the overview of concerned anomalies:

Sr. No.	Operating Parameters for a coastal voyage	Indian flag ship	Foreign flag ship	Competitive advantage with	Remarks of the Directorate
1	Seafarers' wages taxation	Wages of Indian seafarers working on Indian flag ships in coastal waters are subject to Income tax and TDS provisions.	No tax on wages earned by Indian or Foreign seafarers working on foreign flag ships operating in coastal waters of India even for Indians working on foreign flag ships on the coast	Foreign flag ship Wages constituted a major part of the Opex.	(2) May consider lesser tax on earnings of Indian seafarers on Indian flag vessels (coastal or International)
2	Direct tax – Tonnage Tax Rate	Rate of tonnage tax is higher under the Indian Income tax High rate of tax on income OR Tonnage tax + training obligation	Lower rate of tonnage tax	Foreign flag ship For example: For an Aframax tanker, we would pay 12.5 lakhs in India but about 6400 Singapore dollars (about 3.9 lakh rupees)	(3) All the related & incidental transactions of the shipping business should be covered under the TT regime including the sale of ships and interests on the reserves of the shipping company

Sr. No.	Operating Parameters for a coastal voyage	Indian flag ship	Foreign flag ship	Competitive advantage with	Remarks of the Directorate
3	Direct Tax – Cadet Training Cost	Free Cadet training provided by Indian Ships under Tonnage Tax Scheme – We train 1.5 cadets for every 10 persons on board our vessels	No such training obligation on foreign ships by their maritime administration	Foreign flag ship	(4) No change may be needed as this helps in increasing experience for fresh cadets and in turn capacity building for Indian Seafarers.
4	IGST on import of ships	5% on the value of the ship	No GST on the acquisition of ships in their country Even if the foreign ship is operating in India no GST applies	Foreign flag ship	(5) Some sort of offsetting mechanism in form of subsidy may be considered.
5	Inability to offset input GST on goods procured	5% of the value of the goods (Bunkers, stores, spares) gets blocked in the Indian shipping company	Does not apply	Foreign flag ship	(6) Indian companies are unable to offset GST on input over goods/services procured across states. Blocked credits become a cost to the Indian shipping company. Needs to be addressed, appropriately.
6	GST on (freight) transport of cargoes between two Indian ports	5% on the value of the service	Does not apply – no GST is payable on coastal provided by foreign flag vessel	Foreign flag ship	Same as (5)

Sr. No.	Operating Parameters for a coastal voyage	Indian flag ship	Foreign flag ship	Competitive advantage with	Remarks of the Directorate
7	GST payable on maintenance, repair or overhaul (MRO) services procured overseas	From June 2021, the Indian flag shipping industry must pay 5% GST on Reverse charge basis on the dry docking and repair services procured abroad.	In most countries Ships are exempt from application of GST - Does not apply. Foreign ships are able to get MRO services in India without payment of levy.	Foreign flag ship	Same as (5)
8	5% IGST payable to Customs on the sum of (a) dry docking expenditure incurred outside India, plus (b) cost of insurance (c) freight (to &fro)	Despite paying GST on Reverse charge basis on MRO services availed overseas, Customs require Indian ship to pay this amount again under IGST. This levy is payable a second time on the same MRO service on conversion of the vessel to coastal and this amounts to double taxation.	Does not apply – since almost all maritime nations do not apply GST to Ships.	Foreign flag ship	Same as (5)
9	GST on Export freight services	Export freight services provided by Indian ship is liable to 5% GST	Does not apply.	Foreign flag ships though both compete for the same cargo	Same as (5)
10	GST on Import freight services	Export freight services provided by Indian ship is liable to 5% GST	Does not apply.	Foreign flag ships though both compete for the same cargo	Same as (5)

Sr. No.	Operating Parameters for a coastal voyage	Indian flag ship	Foreign flag ship	Competitive advantage with	Remarks of the Directorate
11	Cost and tenure of funds available to buy ships under the Indian flag	India does not have a dedicated Developmental Finance Institution to provide long-term, low-cost funding. Hence, Indian shipping companies depend on intermittent bank funding or overseas loans. Both these entities provide finance at higher costs and shorter tenures. Servicing these loans, needs higher daily cash flows and hence Indian companies are unable to be able to bid at L1 levels in the ROFR process.	Foreign ships get cheaper funds and for longer tenures which are commensurate to the commercial life of ships which is 25-30 years.	Foreign flag ship	(12) Subsidy support scheme is in place now and can potentially become handy to private investors. (Note.)
12	Procuring dry-docking services for statutory compliance	There is a 10% TDS payable on the dry- docking bill of Indian shipping companies because it is being termed as a "Technical Service" and not as a repair service.	Does not apply.	Foreign flag ship	(13) Dry-docking is done towards the upkeep and repairs of the vessel's hull and equipment. A vessel is required to be maintained up to the regulatory standard and dry-docking is a mandatory statutory requirement.

Sr. No.	Operating Parameters for a coastal voyage	Indian flag ship	Foreign flag ship	Competitive advantage with	Remarks of the Directorate
					These activities are and should be classed under 'Repair Activity'.

Annexure A: Compilation of Data points

1. India's Maritime Backbone

- India has an extensive network of inland waterways, rivers, canals, backwaters, and creeks, forming the lifeline of domestic and international trade.
- With a 11,098 km coastline (SoI, DST, NHO), 12 Major ports, and over 200 Non-major ports, the maritime sector handles 95% of India's trade by volume and 70% by value, underlining its role as the backbone of India's trade & commerce.
- In FY 2024-25, Major Ports registered an impressive annual growth rate of 4.3% in cargo handling, increasing from 819 million tonnes in FY 2023-24 to ~853 million tonnes in FY 2024-25. This growth highlights the resilience and capacity of Major Ports in accommodating rising trade volumes.
- In the year 2024-2025, all Indian Ports handled more than 16 million containers with JNPA ranked first among the major port in India. In addition, the Kolkata Port in Eastern region and Tuticorin Port in Southern region were ranked best among all the ports in respective region. Moreover, JNPA ranked among the top 50 container ports by World Shipping Council.
- The increase in traffic was driven by higher container throughput (10%), fertilizer cargo handling (13%), POL cargo handling (3%), and handling of miscellaneous commodities (31%) compared to the previous fiscal year.
- Recent development in maritime sector such as APMT investment of $1 Billion in Andhra Pradesh ports and Minister (Mr. Sarbananda Sonowal) of MoPSW announcement of 85% private participation in key ports by 2030 indicates the promising future in shipping sector.
- Financially, major ports earned a total revenue of ₹23,453.88 crore while maintaining a disciplined expenditure of ₹14,484.86 crore (FY 2023-24).
- Commodity-wise cargo traffic handling reflects the diversity of India's maritime economy, with top ports handling these commodities at their highest volume:
  - Deendayal Port: POL crude, petroleum products, and Food-grains.
  - Visakhapatnam Port: Fertilisers.
  - Paradip Port: Fertiliser raw materials, Iron Ore, and Coal.
- Paradip Port became India's largest major port by cargo volume in FY24, handling 145.38 million tonnes. It surpassed Deendayal Port Authority due to enhanced operational efficiency, record coastal shipping traffic, and a surge in thermal coal shipments.

- In addition, Indian ports improved their performance in terms of OSBD, TRT, PBD. by enhancing India's competitiveness in logistics.
    - **Output per Ship Berth Day (OSBD)** rose from **12,458 tonnes to 18,304 tonnes** over the decade.
    - **Average Turnaround Time (TRT)** improved by **48%**, reducing from **96 hours in FY 2014-15 to 49.5 hours in FY 2024-25**.
    - **Pre-Berthing Detention (PBD) Time (on port account)** improved by **~24%**, decreasing from **5.02 hours in FY 2014-15 to 3.8 hours in FY 2024-25**.
    - **Idle Time (%)** dropped by **~29%**, from **23.1% in FY 2014-15 to 16.3% in FY 2024-25**.
- Major Ports' financial performance improved by registering a **7.5% CAGR** over 10 years. Operating surplus nearly **tripled** by a **13% CAGR** over the same period. Operational efficiency also improved significantly, with the **operating ratio declining from 64.7% in FY 2014-15 to 42.3% in FY 2024-25.**
- As India expands its **global trade footprint** and **modernises logistics infrastructure**, FY 2024-25 stands as a testament to the Ministry's strategic vision and collaborative efforts of public authorities and private stakeholders. The Ministry of Ports, Shipping, and Waterways remains dedicated to **sustaining this momentum** and developing **globally competitive, digitally enabled, and environmentally sustainable ports** that will drive India's trade and economic ambitions into the future.

2. Strategic Reforms & Vision

- Initiatives such as Sagarmala, PM Gati Shakti, and Maritime India Vision 2030 are reshaping port infrastructure, logistics, and coastal shipping.
- Looking ahead to Amrit Kaal Vision 2047, India seeks to position itself as a central hub in global trade, supported by mega projects like Vadhavan Port and the Outer Harbour Project at VO Chidambaranar Port.
- The Maritime Development Fund with corpus more than USD 3 billion is driving investment in ports, shipping, and logistics.

3. Global Trade Connectivity

- The India-Middle East-Europe Economic Corridor (IMEC), announced at the G20 Summit, is a game-changing initiative connecting Europe, the Gulf, and India together representing over half of global GDP and 40% of the world's population.

- This corridor strengthens resilient supply chains and strategic connectivity, while also supporting Mediterranean-Indian Ocean cooperation.

4. International Partnerships

- India-Saudi Arabia JWG: Advancing shipping and logistics, harmonising trade via India's MAITRI digital platform.
- India-Japan-Australia SCRI: Building port-linked manufacturing and supply chain resilience.
- India-Denmark Green Shipping Centre of Excellence (2025): Jointly developing green corridors and fuel supply chains.
- India-Greece Partnership: Focus on blue economy principles and sustainable shipbuilding.
- Expanding FTAs with EU (services) and Australia (maritime goods) are shaping India's trade future.

5. Shipbuilding & Shipbreaking

- India's shipbuilding industry accounts for only 1% of global market share, but reforms are underway.
- With Shipbuilding Financial Assistance Policy 2.0 and $2.9B Maritime Development Fund, India is creating shipbuilding clusters, green vessel R&D, and shared infrastructure.
- India is the third-largest ship recycler by tonnage, with a 25% global market share in shipbreaking, showcasing its sustainability role.
- By 2035, investments worth $82 billion will modernise shipyards and support eco-friendly, high-tech vessels.

6. Green & Digital Transformation

- The 'Panch Karma Sankalp' (2024) promotes green tugs, hydrogen hubs, smart ports, and cruise facilitation portals.
- Deendayal and Tuticorin Ports will be developed as Green Hydrogen hubs.
- The Directorate General of Shipping (DGS) is rolling out a Learning Management System (LMS) for seafarer training, ensuring global compliance and upgradation.

7. Seafarers & Human Capital

- Indian seafarers represent 10% of the global maritime workforce, with rising global demand.

- The Merchant Shipping Bill, 2025, modernises training, certification, and dispute resolution in line with the Maritime Labour Convention (MLC).
- MoUs with organisations like ISWAN enhance seafarer welfare and safety, while new rules ensure training integrity within India to enhance exports in line with the 'Make in India' and self-reliance goals.

8. Economic & Industrial Linkages

- The Electronics Components Manufacturing Policy 4.0 (2025-2030) in Andhra Pradesh aligns with port-led infrastructure development, targeting $100 billion investment and boosting coastal economies.
- Maritime growth is not just about ships and ports, but about creating integrated ecosystems of trade, technology, and industry.

9. Maritime Focus for the Future

- Expanding port connectivity and trade infrastructure.
- Blue Growth: Strengthening partnerships in commerce and shipping.
- Driving sustainability and innovation in maritime trade.
- Ensuring social impact, governance, and sustainable development.