SHIPPING AND SHIPBUILDING INDUSTRY

Full Steam Ahead: A Cyclical Boom in Global Shipbuilding and Repair

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<mark>Highlights</mark>

- India and South Korea have joined hands to strengthen their position in the global shipbuilding market, aiming to counter China's 14-year-long dominance.
- A parliamentary committee observed that most private shipbuilding companies in India are struggling with minimal or no profits. Notable failures include Western India, Bharati Shipyard, and ABG Shipyard.
- Indian shipyards incur an additional cost burden of \$50–70 per tonne, making them less competitive globally.
- India currently has export orders of 1,47,000 tonnes, indicating growth potential if cost barriers are addressed.
- Out of the allocated ₹4,000 crore for the sector, only 6–7% has been utilized in the last 8 years, pointing to poor execution or lack of demand-side incentives.
- The Shipbuilding Financial Assistance Policy is being revamped to overcome cost disadvantages. It will now include Credit Notes for shipbreaking in Indian yards, promoting a circular economy.
- India aims to indigenously manufacture ships and become the 10th largest shipbuilding nation in the world by 2030.
- Shipbuilding Financial Assistance Policy (Version 2.0):
- a) The new version excludes warships.
- b) With India's entry into commercial shipbuilding, the revised policy is expected to be highly beneficial.
- c) According to P.R. Hari (MD, Garden Reach) in the FY2025 Q3 concall:
- d) A 2x increase in orders is expected within one year.
- e) A 4x increase is targeted over the next 4 years.

Academic Research Project – Not a Recommendation

What Is Ship Repair ?

Ship repair involves:

- Maintenance (regular check-ups)
- Repair and overhaul (fixing issues, replacing parts)
- Modification (upgrading existing ships)

The main objective is to maintain a ship's operational efficiency and ensure compliance with safety norms.

Global Shift: From Europe to Asia

Shipbuilding used to be a European strength. But over the decades, it has shifted to Asia — primarily South Korea, Japan, and China.

Why?

- Lower labor costs in Asia
- Strong government support making them globally competitive
- Creation of a complete industrial ecosystem, from R&D to exports

India's Current Position

India is currently a nascent player in global shipbuilding.

- Holds just 2% of the global share
- However, the future looks promising because of:
- Low manufacturing costs
- Skilled manpower
- Strategic location with a long coastline
- Policy support and government incentives

India may be a small player today, but strong cost advantages, skilled talent, and government backing could help it become a global leader in both shipbuilding and ship repair in the coming decades.

Shipbuilding: A Critical Part of India's Manufacturing Push

As India aims to become a global manufacturing hub and the world's 3rd largest economy, shipbuilding and ship repair will become crucial infrastructure. Ports and logistics matter, but ships form the backbone of global trade.

Global Shift in Shipbuilding

Historically, shipbuilding was dominated by Europe, but in recent decades, East Asia (China, Korea, Japan) has taken over.

Reasons:

- Advanced infrastructure
- High productivity
- Investment in R&D
- Strong policy and financial support
- A self-contained ecosystem capacity, tech, capital, regulations

India: Evolving Amidst Challenges

India is developing its shipbuilding sector but faces several challenges:

- Low commercial demand
- Limited access to cheap capital
- Outdated technology
- Shortage of skilled labor

Despite this, government and private players are trying to transform the sector.

India's Vision 2047

India's goal is to become a developed \$30 trillion economy by 2047.

This requires:

- Rapid growth in maritime trade
- Replacement of 70% of existing ships due to:
- Aging fleet
- Global green shipping norms requiring eco-friendly vessels

Growing Need for Ships

Shipbuilding industry challenges:

- Long gestation periods
- High capital costs
- Need for constant technology upgrades

Other key issues:

- Lack of clear frameworks on ownership, leasing, and flagging
- No dedicated development fund financing remains a major barrier
- A multi-layered approach is essential to address all challenges.

Green Shipping = Big Opportunity

Green shipping could make India a global leader by focusing on:

- Use of renewable energy
- Reduction in carbon emissions
- Adoption of sustainable practices

Collaboration is Key

India must build both domestic and international partnerships across:

- R&D
- Manufacturing
- Training

This will be essential for attracting investment and developing the ecosystem. To achieve Vision 2047, India must scale up and speed up shipbuilding. Green shipping and partnerships will be key enablers.

India in the Global Shipbuilding Market (2024 Snapshot)

2024: Demand Surge

Shipbuilding demand surged in 2024. Contracts worth \$204 billion were signed — the highest in 17 years.

Orders came for:

- Container ships
- Gas carriers (LNG/LPG)
- Cruise ships
- Bulkers (for commodities)
- Small vessels

Top 3 Shipbuilding Nations in Asia

1. China

- Built over 50% of global merchant ships in 2023 (36 million Gross Tonnage)
- Built 150 of the biggest container ships
- Overtook Japan and South Korea by 2010

2. South Korea

• Produced 18 million GT

3. Japan

• Produced 10 million GT

These three dominate global shipbuilding.

Asia-Pacific: No. 1 Region

Asia-Pacific was the largest shipbuilding market in 2024, followed by Western Europe.

India's Role

India's current share is small, but it holds significant potential. Being part of the Asia-Pacific, India can ride the next wave of growth if it:

- Improves infrastructure
- Strengthens policy execution

1. Asia-Pacific – Global Leader in Shipbuilding

CAGR Growth: 4.93% (2025–2033)

Why So Powerful?

East Asia — China, South Korea, and Japan — dominate due to:

- Large, highly efficient shipyards
- Capacity to build all types of ships
- Shipyards fully booked until 2028, reflecting massive demand

Green Maritime Focus:

- Rising demand for eco-friendly ships using LNG, dual-fuel, and low-emission technologies
- Push driven by global climate targets (GHG net-zero by 2050)

China Highlights:

- #1 in shipbuilding by deliveries and order books
- Retiring old warships; introducing advanced, multi-mission naval ships (anti-air, anti-sub, anti-ship)
- Leads in bulk carriers, oil tankers, and container ships
- Strong modernization + geographically distributed shipyards

South Korea Highlights:

- 60% of orders are for dual-fuel ships (LNG + traditional fuels)
- Technological edge in green & high-tech ships
- Focused on reducing CO_2 , NO_x , SO_x , and particulate emissions

2. Europe – Focus on Cruise Ships & Tech

CAGR Growth: 4.8% (2025-2033)

Challenges:

Tough competition from Asia puts revenue under pressure

Focus Area:

- Specializes in passenger ships/cruise liners for the Baltic, Channel, and Mediterranean
- 75% of Europe's trade uses cargo ships, but they are mostly built in Asia

Germany Highlights:

- #1 in European shipbuilding
- 2800+ companies involved in maritime/shipbuilding sectors
- 9 major shipyards serve the German Navy
- Trend toward autonomous (driverless) cruise ships

Other Key Players:

Italy, France, Russia - involved in marine electronics and specialized vessels

3. North America – Defence & Offshore-Focused Growth

CAGR Growth: 2-3% (2025-2033)

Growth Drivers:

Increased investment in naval shipbuilding Rising demand for commercial cargo vessels Expanding offshore oil & gas exploration

United States Highlights:

- Government is the biggest client for shipbuilders
- Rising geopolitical tensions = Higher defense budgets = Boost to shipbuilding
- Embracing digital twin tech & automation
- Focus on hybrid propulsion and LNG-powered ships

Canada:

• Expanding via its National Shipbuilding Strategy

Mexico:

• Emerging as a hub for small & medium vessels

Region	Growth Rate	Focus Areas	Specialties
Asia-Pacific	4.93% CAGR	Dual-fuel,LNG,Defence Ships	Booked till 2028, Full-Scale Modernization
Europe	4.8% CAGR	Cruise Ships, Passenger Ferries	Germany Leads, Emphasis on autonomous & tech-driven ships
North America	2-3% CAGR	Naval & Commercial Cargo Ships	US Defense-led growth, Canada's ship strategy, Mexico's niche in small vessels

The Industry Has Ample Headroom for Growth" – What Does It Mean?

This means that India's shipbuilding industry has a lot of potential to grow.

Right now, India holds a very small share in the global shipbuilding market, but in the future, it has the opportunity to grow significantly.

What is India's Current Situation?

India holds only 2% of the world's total ship tonnage (i.e., the cargo-carrying capacity of ships)

India's share in global ship ownership is just 1.2%, compared to:

Greece – 17.8%

China – 12.8%

Japan – 10.8%

Tonnage refers to the carrying capacity of ships (how much cargo they can transport)

What is Flag of Registration?

Every ship is registered under a country's flag – this is called "Flag of Convenience" Ships choose countries where:

Taxes are lower

Laws are more relaxed

Operating costs are cheaper

As a result, very few ships are registered under the Indian flag — India holds only 0.77% of the global ship registry.

Top 5 Ship Registration Countries (Flags):

- Liberia
- Panama
- Marshall Islands
- Hong Kong
- Singapore

These countries offer financial and regulatory benefits, making them more attractive for registration.

Huge Foreign Exchange Outflow from India

- 95% of India's international cargo is transported through foreign-owned ships
- In FY23, this resulted in \$75 billion going abroad just in freight charges
- This number is expected to cross \$100 billion soon

Imagine if these ships were Indian — this money would stay within the country, boosting our own economy.

What Is the Indian Government Doing?

In 2016, the government launched a scheme called:

Shipbuilding Financial Assistance Policy (SBFAP) Goal:

- Provide a level playing field to Indian shipyards compared to global competitors
- Applicable for both domestic and export ship orders

Impact So Far:

- 39 Indian shipyards have received orders for 313 vessels
- Total order value: ₹10,500 crore
- Financial assistance given by the government: ₹337 crore
- The policy is valid till 2026

Factors Driving Growth of India's Shipbuilding Industry

India's shipbuilding sector is being driven by a combination of global and domestic factors. Let's break them down one by one:

Global Factors (Happening across the world)

Factor	Explanation
Trade price volatility	Freight prices are fluctuating globally. So, countries want their own ships to keep costs under control.
Increasing global trade	Global trade is rising every year – and trade needs ships to move goods.
Asia-Pacific dominance	Asia (China, South Korea, Japan) already leads the shipbuilding industry. India has the chance to become part of this powerful ecosystem.
India's strategic location	India's position between the East and West makes it ideal to become a global shipping hub.
Labour cost advantage	Skilled labour in India is cheaper compared to Western countries – a strong competitive edge.
Environmental pressures	Countries want greener ships with lower emissions. If India builds eco-friendly ships, it can attract global demand.
Shifting energy mix	Ships are moving from diesel to LNG, hybrid fuels, hydrogen – this creates opportunities for new ship designs.
Ageing assets	Many old ships globally are nearing retirement – they need to be replaced, offering big opportunities for Indian shipyards.
Demand for all types of ships	Demand is growing for all kinds – cargo ships, oil tankers, cruise ships, etc.
Digital & cyber risks	Modern ships need smart systems and cybersecurity – boosting innovation in design and ship tech.

Domestic (India-Specific) Growth Drivers

Factor	Explanation
Government support	Policies like SBFAP, Make in India, Green Ports are pushing domestic shipbuilding.
Strategic focus by Ministry of Ports	The Ministry is making shipbuilding a priority sector.
Skill development & R&D	Both government and private players are investing in skilled manpower and shipbuilding research.

Tech-Driven Transformation (New Era, New Technologies)

Technology	What It Enables
AI (Artificial Intelligence)	Automates ship design, supply chain management, and predictive maintenance.
ML (Machine Learning)	Improves energy efficiency and helps in predictive maintenance planning.
IoT (Internet of Things)	Enables real-time ship monitoring and remote diagnostics.

Importance of the Shipbuilding Ecosystem

Shipbuilding is not just about constructing a ship — it's a highly complex, multi-step process that needs coordination, technology, skilled labor, and strong logistics.

Step-by-Step Shipbuilding Process:

Step	What happens here?
Design	The blueprint of the ship is created — its size, structure, and purpose (cargo, cruise, defense, etc.).
Planning	Detailed timeline, resource allocation, and responsibilities are defined.
Procurement	Engines, metal, wires, pipes, electronics — all sourced from different vendors.
Construction & Fabrication	Actual building begins — steel cutting, bending, welding the ship's body.
Outfitting	Installation of interiors, navigation systems, and safety equipment.
Commissioning	Testing phase to ensure all systems work correctly.
Delivery	The ship is handed over to the client.
Maintenance	Regular checks post-delivery for safety and efficiency.

India's Ship Repair Industry – Current Status and Scope

- Global Market Size: ~\$12 billion
- India's Share: <1%
- Future Potential: Could reach \$40 billion by 2030, especially with growth in India and Southeast Asia.

What's the Current Status (2019–24)?

Type of Yard Ships Repaired (2019–22)

Private yards 725 ships

Govt./PSUs 448 ships

But, in 2022–24, major dry docks (Mumbai, Vishakhapatnam, Paradip, Deendayal) have seen low activity.

Key Challenges India Faces:

- High cost: 1.4x higher than Dubai/Southeast Asia
- Slow turnaround: 1.4–1.6x slower repair time
- Lack of advanced technology
- Shortage of skilled labor
- Limited availability of spare parts
- High financing costs
- Limited capability to handle various vessel types

India's Vision: Become a Green Shipbuilding Hub by 2030

India aims to become a sustainable and low-emission shipbuilding power by 2030.

1. National Centre of Excellence in Green Port & Shipping (NCoEGPS)

- Promotes marine pollution control & sustainable resource use
- Works under UN's SDG 14 (Life below water)
- Drafts regulations and tech roadmap for green shipping in India
- Provides R&D support to the Ministry of Ports, Shipping & Waterways

2. Green Tug Transition Programme

Phase 1: Hybrid Green Tugs (diesel + green fuels) Phase 2: Methanol, ammonia, hydrogen-fueled tugs

Targets:

By 2025 – green tugs operational in all major ports By 2030 – 50% of all tugs should be green

3. PM Gati Shakti & Green Logistics

- Multi-modal connectivity (rail, road, sea, air)
- Goal: 30% reduction in carbon emissions per tonne of cargo by 2030

4. GreenVoyage2050 (India + Norway + IMO)

India = lead country in this global decarbonization project Launch: May 2019 Recognizes India's role in leading low-carbon marine transition

5. Green Ship Manufacturing – Cochin Shipyard Ltd

- Already building methanol and hydrogen fuel cell ships for Germany, Norway, Netherlands, Cyprus
- Directly aligned with India's Net Zero 2070 target

6. LNG as a Green Fuel

Benefits of using LNG in marine sector:

- Up to 20% lower CO2 emissions
- Significantly lower SOx and NOx pollutants
- Green methanol also emerging as a promising fuel for ships and aircraft

7. Harit Nauka Guidelines

- Promotes clean fuel adoption in inland waterway vessels
- Encourages low-emission, environment-friendly tech

8. Best Practices: South Korea's Green Shipping Model

From 2025, ships in EU routes must buy carbon credits (ETS system) South Korea's plan:

- First green shipping route (Korea–USA)
- Methanol/ethanol-fueled ships (HMM leading)
- Zero-carbon Busan New Port Pier 7

9. India's Port-Specific Green Initiatives

Port	Initiative
Paradip, Deendayal, VOC Port	Will become Hydrogen Hubs (storage, handling, generation) by 2030
Mormugao Port	First Indian port to offer incentives based on Environmental Ship Index (ESI)
Harit Shrey Scheme (2023)	Ships with better ESI scores get port charge discounts

Where are the Opportunities?

These very challenges present big opportunities if tackled with the right reforms and investments.

Strategic Measures That Can Accelerate Growth:

Strategy	Expected Benefit
Utilize domestic demand	Encourage Indian shipping companies to repair locally
PPP under Atmanirbhar Bharat	Joint investments in repair clusters
RoFR (Right of First Refusal)	Indian shipyards get preference on contracts > ₹200 crore
Ship Repair Clusters	Co-located facilities: dry docks, spares, labor, etc.
Free Trade Zones	Reduce import costs of parts/machinery
Lower GST & Customs	Make repair and stocking parts cheaper
Use digital tech & robotics	Cut down both cost and repair time

Revelation from Shipbuilding: The Power of Cycles

Everything Is Cyclical – Everything Moves in Cycles

One big reality of the investing world — everything works in cycles. Be it the economy, an industry, or a company — their rise and fall moves like waves. If we can understand the pattern of the cycle and figure out which stage we are in, we can:

- Predict the next wave,
- And strategically position our portfolio accordingly.

Howard Marks' 3 Laws of Cycles

Howard Marks, in his famous book The Most Important Thing, explained three key truths about cycles:

- Progress is never in a straight line it always curves.
- History doesn't repeat, but it does rhyme.
- Market cycles move around an average line sometimes way above, sometimes far below.

Until we experience multiple cycles ourselves, we don't realize how powerless we are against them.

Investing is like surfing -

You can't control the wave, but with the right timing and skill, you can ride it beautifully.

How to Find Cyclical Opportunities?

When demand shoots up and supply is limited, that's when the upswing of the cycle begins — and that's your opportunity! Clue: Watch Capital Expenditure (Capex)

When capex in the supply chain starts to rise, it means demand is coming.

Global shipbuilding orders growing rapidly, but delivery volume remains steady



Example: Shipbuilding Industry

Demand Side (Shipping Companies):

During COVID, US stimulus packages increased consumer spending. People started buying more goods \rightarrow export orders surged \rightarrow demand for shipping skyrocketed.

But — due to supply chain issues, ships were not available \rightarrow This pushed freight rates to record highs.

Shanghai Container Freight Index:

- From ~1000 in 2020
- To ~5000 in 2021 (a 400% jump!)
- Shipping companies made massive profits,
- They started placing orders for new ships (also due to ESG concerns).

Supply Side (Shipyards):

In the past decade, the shipbuilding industry went through heavy consolidation.

Active shipyards:

From 700 in 2007 \rightarrow to only 300 now

Production capacity:

From 160 million tons \rightarrow to just 80 million tons So, demand went up, but supply remained tight \rightarrow Ship prices steadily started rising

China Newbuilding Price Index (CNPI):

- 2020: 773
- 2023–24: 1048 (36% increase) Today, shipyards are booked with advance orders till 2027!

Everything runs in cycles.

- If you understand which phase of the cycle, we're in you can spot opportunities.
- Take shipbuilding as an example when demand suddenly spiked and supply was tight, a perfect cyclical opportunity was created.
- Understanding cycles isn't just important for investing it's key to understanding how the world works."

Understanding the Magnitude of the Cycle

- Bigger the Cycle = Bigger the Return Potential
- The larger and longer a cycle is, the longer its growth and profitability window which creates solid opportunities for investors.

A recap of past shipbuilding cycles (including estimates after 2022)



Source: Maritime Economics3E, Clarksons, Shenwan Hongyuan Securities Research

Shipbuilding Cycles: Long & Predictable

Since World War I, each shipbuilding cycle has lasted 20–30 years. Why? Because that's the average life of a ship — they need to be replaced.

The last peak came in 2011.

Now in 2024:

- 53% of ships are over 20 years old
- By 2030: This number will hit 70% Meaning: Huge demand for fleet renewal is coming.

IMO 2030 Carbon Emission Targets

The International Maritime Organization (IMO) has mandated: "Reduce carbon emissions by 2030."

This means: Phase out old, polluting ships and bring in clean-energy ships

Top shipping companies have already started ordering clean ships in advance — because they know that shipyard capacity is limited.

The Supply Side Reality

X After the 2008 financial crisis:

The industry lost ~40% of its capacity. Many shipyards either shut down or were repurposed.

And starting new shipyards isn't easy:

- Land acquisition takes time
- Setup takes ~2 years
- Clients are cautious about placing orders with new shipyards

Capacity expansion limitations:

- Japan & Korea: Small coastlines, expensive labor, strict environmental norms
- China: Labor cost advantage, but hard to expand further in short-term
- Vietnam & ASEAN: Face climate, infrastructure, and trust issues

Net result: Supply will stay tight for the next few years.



Timing the Opportunity – When to Invest?

- Cycle identified
- Magnitude understood
- Now comes the key: Enter at the right time

Ship Prices Up, Costs Down — The Perfect Combo Ship prices have steadily risen since 2021 \rightarrow +36% growth

Time to build a ship = 2 years

- Orders placed in 2021–22 will bring revenue in 2023–25
- So, there's clear revenue visibility for 2 years

The Steel Cost Game Steel plates are a major raw material.

In 2020–21, prices were very high.

Now — steel prices are ~20% lower than 2021 average

Lag time: Shipyards order steel 3–6 months in advance So, the ships being delivered now were built with cheaper steel

- Revenue \uparrow
- Cost \downarrow
- Result: Profitability boom is coming





