

Beyond Shipbuilding

Building a Maritime Industrial Partnership between India and South Korea



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ABOUT THIS REPORT

India moves nearly 95 percent of its trade by sea and builds 0.07 percent of the world's ships. South Korea builds more than a quarter of them and is running short of workers to do it. Beyond Shipbuilding argues that this asymmetry underpins the partnership and that shipbuilding is the least explored pillar of the India-Republic of Korea relationship.

Drawing on interviews with the Shipyard Association of India, Indian Navy officers, Hindustan Shipyard, Hanwha Ocean, KIEP, and KRIVET, the report maps both industries and assesses the recent run of agreements, from the Cochin Shipyard and HD KSOE memorandum to the VOYAGES framework and the proposed Thoothukudi mega-shipyard. Its central caution is that memoranda are momentum, not outcomes. The report closes with a phased plan for the first twenty-four months, from institutional groundwork to co-development and joint production.

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ABOUT THE REPUBLIC OF KOREA CHAIR AT CSDR

The Republic of Korea Chair at CSDR aims to enhance the understanding and cooperation between India and the Republic of Korea through research and policy engagement. Launched in Jan 2025 with a grant from the Korea Foundation, the Chair aims to raise broader awareness and deepen understanding of the India-ROK relationship, which remains limited despite growing governmental engagement.

AUTHOR

Dr. Torunika Roy

EXECUTIVE SUMMARY

This report analyzes the structural asymmetry between the Indian and South Korean shipbuilding industries and the case for converting it into a durable industrial partnership. Indian scale, demand, and demography align with Korean technology, production systems, and institutional depth, and the complementarity is strong enough to support a relationship that goes beyond a commercial transaction. The report separates commercial shipbuilding from naval shipbuilding throughout, because conflating them is the most common error in assessments of Indian capability: India designs and builds destroyers, frigates, and submarines domestically while remaining marginal in large commercial tonnage. It also states the measurement basis for every market-share figure it uses, since gross tonnage, compensated gross tonnage and deadweight tonnage, and orders, completions and orderbook, yield materially different pictures of the same industry.

India carries nearly 95 percent of its trade by volume by sea and builds 0.07 percent of the world's gross tonnage, ranking fifteenth. Indian-flagged vessels carried about 7.8 percent of its overseas trade in 2018-19, down from 40.7 percent in 1987-88, and payments to foreign carriers approach six lakh crore rupees (USD 68.8 billion) a year. The Union Cabinet approved a 69,725 crore rupee (USD 8.0 billion) package in September 2025, comprising a Shipbuilding Financial Assistance Scheme, a Maritime Development Fund, and a Shipbuilding Development Scheme, alongside five greenfield clusters. Interviews conducted for this report identify the binding constraints as finance, at nine to ten percent against four to eight percent in competitor economies; a thin supplier ecosystem; insufficient large dry docks; import dependence for more than 95 percent of marine engines; and labor productivity rather than labor availability.

South Korea occupies the opposite position and faces the opposite problem. It accounted for 27 percent of world gross tonnage completed in 2025, second globally, supported by roughly 2,700 marine equipment firms supplying about 90 percent of domestic demand. Its shipyard workforce, however, fell 38 percent between 2014 and 2024, from 203,441 to 125,636, amid the world's lowest fertility rate and a society that crossed the super-aged threshold in December 2024. China took 63 percent of global new orders in compensated gross tonnage in 2025, against Korea's 21 percent, and Korea's component trade deficit with China more than tripled in five years.

The report argues that the recent run of agreements, from the Cochin Shipyard and HD KSOE memorandum of July 2025 to the VOYAGES framework, the Thoothukudi mega-shipyard and the workforce plan with KOICA, has created a broad architecture that now requires implementation rather than expansion. Its central caution is that memoranda represent momentum, not outcomes, and the discontinuation of the HD KSOE block fabrication joint venture in August 2026 illustrates this. Sustaining the partnership will require managing a genuine expectations gap, in which Indian participants weigh technology transfer and localization while Korean firms weigh commercial viability, regulatory predictability and managerial autonomy. The report closes with a phased plan across twenty-four months that could be considered by the two governments.

INTRODUCTION

For nearly three decades, shipbuilding has been viewed as a primary driver of commercial industrialization. Globalization massively boosted shipbuilding by creating an interconnected world economy, which relies on maritime transport for global trade. However, several events have fundamentally altered the idea of economic interdependence, compelling states to develop and enhance their domestic industries. Events such as the COVID-19 pandemic, US-China trade war, Russia-Ukraine War, and supply-chain disruptions have exposed the vulnerabilities of excessive dependence. Consequently, states are increasingly viewing critical industrial sectors not merely as economic assets but as strategic capabilities.

Notably, more than a century ago, Alfred Thayer Mahan argued that sea power rests on three interlocking elements: production, the shipping that carries it, and the overseas markets and bases that sustain both.¹ Although the strategic environment has evolved substantially since Mahan's time, his central insights still remain relevant. Shipbuilding has re-emerged as a geopolitical asset, lying at the intersection of economic security, industrial policy, and maritime strategy.

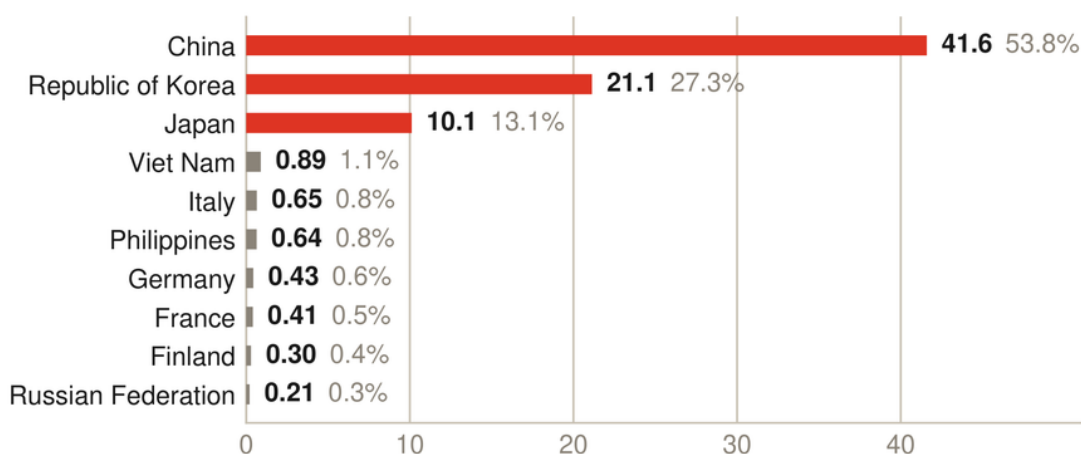
Shipbuilding, unlike manufacturing industries, is highly capital-heavy, technologically-sophisticated, labor-intensive, and deeply embedded within broader industrial ecosystems. An effective and competitive shipbuilding industry is founded upon extensive networks of equipment manufacturers, steel producers, financial institutions, logistics providers, research organizations, and a highly skilled workforce. Countries, which dominate global shipbuilding, have developed these interconnected ecosystems over decades through sustained industrial policies and technological innovation.

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Top 15 Shipbuilding Countries in the World (2025)

China, Korea and Japan built 94 percent of the world's tonnage in 2025

Gross tonnage of merchant ships completed in 2025, million GT, by country of build



World total 77.28 million GT, up 7.8 percent on 2024.

Türkiye, India, Norway and the United States drop out of the top ten; France, Finland and Russia enter it.

Current shipbuilding output of seven countries, 2025

Indicator	China	Korea	Japan	Viet Nam	Philippines	India	USA
Gross tonnage built, million	41.60	21.13	10.12	0.89	0.64	0.058	0.025
Share of world total, percent	53.82	27.34	13.09	1.15	0.83	0.07	0.03

Source: UNCTAD, UNCTADstat Data Centre, "Ship building: Merchant fleet built", US.ShipBuilding, updated 28 May 2026.

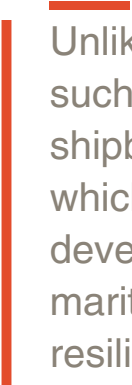
Gross tonnage of propelled seagoing merchant vessels of 100 GT and above completed in 2025, by country of build. UNCTAD calculations on Clarksons Research data.

India and South Korea approach shipbuilding from different starting points. India accounts for 0.07 percent of global shipbuilding output by gross tonnage, ranking fifteenth globally.² India completed 57,637 GT in 2025, against 41.60 million GT from China, 21.13 million GT from South Korea, and 10.12 million GT from Japan. Installed Indian capacity exceeds current output, at roughly 0.072 million GT.³ To advance India's maritime ambitions, the government has introduced initiatives such as the Maritime India Vision 2030, Maritime Amrit Kaal Vision 2047, and Sagarmala. These initiatives aim to make India a top-ten shipbuilding nation by 2030 and a top-five by 2047.⁴ However, despite efforts, India continues to face structural challenges related to financing, infrastructure, technological capability, automation, and supply-chain development.

On the other hand, South Korea ranks second in global shipbuilding,⁵ accounting for approximately 27% of global completions on a compensated gross tonnage (CGT) basis in 2024.⁶ It is South Korea's shipbuilding industry that has "anchored the country's export success for over half a century."⁷ Korean shipbuilders possess worldwide recognized expertise in LNG carriers, offshore engineering, naval shipbuilding, smart shipyard, and green shipping technologies. Despite its shipbuilding success, South Korea continues to face intense competition from China and challenges from labor constraints. An aging population and low fertility rates further add to existing obstacles such as rising production costs.

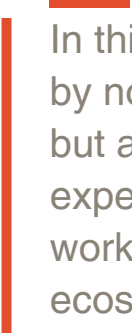
Against the backdrop of growing importance of shipbuilding, this report advances two central arguments.

First, this report argues that shipbuilding offers one of the least explored, most promising pillars of India-Republic of Korea (RoK) strategic cooperation. For a long time, scholarly critiques have argued that India-South Korea cooperation is usually short-term and profit-driven. However, shipbuilding goes beyond a transactional lens, serving as a major long-term pillar for India-South Korea strategic relations. Unlike conventional areas of cooperation such as electronics or automobiles, shipbuilding provides opportunities that simultaneously advance industrial development, technological upgrading, maritime security, and supply-chain resilience.



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India faces challenges in both acquiring advanced shipbuilding technologies and developing a competitive shipbuilding ecosystem that integrates infrastructure, logistics, finance, design, equipment suppliers, skilled labor, automation, and industrial clusters. In this context, South Korea contributes not only by transferring technology but also by sharing institutional experience, production systems, workforce development models, and ecosystem-building practices.



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Second, India-South Korea cooperation in shipbuilding allows both countries to achieve their maritime ambitions. Despite contrasting shipbuilding trajectories, the two countries complement each other, creating a basis for cooperation. South Korea has technological capabilities, advanced production systems, global shipbuilding experience, and industrial know-how. Meanwhile, India offers scale, market, demand, strategic geographic location, favorable policies, and an abundant workforce. These strengths could be leveraged to build a resilient maritime value chain and further strengthen the Special Strategic Partnership.

There are eight sections in the report. Following the introduction, section two situates shipbuilding within the broader maritime economy and discusses the rationale behind such cooperation between India and South Korea. Sections three and four assess the evolution and contemporary structure of the Indian and South Korean shipbuilding industries, their capabilities, advantages, and constraints. Building on the assessment, section five examines the principal areas of bilateral cooperation in shipbuilding. Section six evaluates the domestic and bilateral constraints that may impede deeper cooperation, drawing substantially on insights from stakeholder interviews. Section seven presents policy recommendations for strengthening the partnership. Finally, the report concludes by reflecting on the prospects for transforming the shipbuilding cooperation into a durable pillar of the India-South Korea strategic partnership.

WHY SHIPBUILDING MATTERS TODAY?

Shipbuilding is a cornerstone of economic security and industrial capability as ships facilitate global trade. Over 80% of world merchandise trade by volume moves by sea, through strategic shipping routes including the Suez and Panama Canals and the Strait of Malacca.⁸

Nonetheless, despite massive importance, only a few nations dominate the shipbuilding industry due to its complex demands including synchronized and integrated domestic capabilities, capital, technologies, financing, and workforce. To achieve the economies of scale, countries require a steady flow of orders. Shipbuilding involves high fixed costs and leading shipbuilding countries produce hundreds of vessels each year that allow them to lower costs, improve efficiency, and remain competitive.

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Overview of leading global shipbuilding countries⁹

Country	Share of world GT, 2025	Some key features
China	53.82	The largest global shipbuilder by gross tonnage, leading in all commercial cargo carrying segments except for gas carriers, where the Republic of Korea holds the majority share.
Republic of Korea	27.34	Second largest global shipbuilder by gross tonnage. Builds high-value, green and smart ships within the gas, container and tanker segments. A leader in the gas carrier segment.
Japan	13.09	A global leader in shipbuilding for many years that has lost market share over time. It focuses on smart and green ships mainly in the bulk carrier segment, with a presence in tanker and container segments.
Viet Nam	1.15	Builds bulk carriers, container ships and oil tankers.
Italy	0.84	Specializes in building cruise ships, superyachts and high-end passenger vessels.
Philippines	0.83	Builds mid-sized commercial vessels.

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Shares: UNCTAD, UNCTADstat, US.ShipBuilding, updated 28 May 2026, gross tonnage completed in 2025. Descriptions: UNCTAD, Review of Maritime Transport 2025, Table II.1, which carries 2024 shares; the descriptions are unchanged, the shares are updated.

However, dependence on a limited number of shipbuilding nations create strategic vulnerabilities, making domestic capacity enhancement and international shipbuilding partnerships indispensable.

Furthermore, growing maritime trade, changing energy flows, security concerns, decarbonization and technological advances are creating demand for a wider and more specialized range of vessels. These vessels include tankers, very large gas carriers (VLGCs), offshore vessels, platform supply vessels (PSVs), anchor handling tug supply vessels (AHTS), and dredgers.

Global container trade volumes grew 4.4% year on year in the first quarter of 2026. Growth was uneven: Asia-Europe volumes rose about 15%, while North American imports from the Far East fell 3.8%.¹⁰ This demand is driven by industrial investment in AI infrastructure, data centers, batteries, EVs, and renewable-energy technologies, which is generating additional manufacturing and cross-border movement of goods.

Green transition is creating demand for vessels powered by Liquefied Natural Gas (LNG), methanol, ammonia, hydrogen and batteries. Older steam-turbine and diesel-electric LNG carriers are gradually being replaced by more fuel-efficient vessels.¹¹ A 2026 report by Reuters mentioned that demand for LNG carriers is expected to rise due to the expansion of global LNG production. For instance, in the first quarter of 2026, 35 new LNG carriers were ordered, compared with 37 in the whole of 2025.¹²

Shipyards are now becoming more technologically advanced, with AI, robotics, automation, and smart shipyards. Therefore, future demand is not limited to more ships but for greener, smarter, and more specialized vessels.

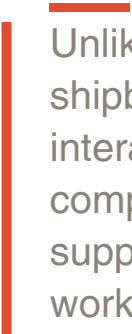
Why India-Korea Shipbuilding Cooperation Matters Now?

There has been a relatively limited development of India-Korea strategic cooperation. From South Korea's side, this is due to the traditional orientation of its foreign policy. Korea's geopolitical outlook has historically been shaped by its location amidst major powers such as the United States, Japan, China and Russia, and by continuing security challenge posed by North Korea. As a result, this has at times contributed to a degree of strategic myopia, limiting sustained attention to countries and regions beyond Korea's immediate strategic environment.¹³ From India's side, there is a historical oversight of Korea due to early Cold War friction, divergent foreign policies, and competing domestic priorities.

Nevertheless, South Korea's perception about India is evolving. India is increasingly viewed not simply as a large market, but as a potentially important global and strategic player. Its economic scale, growing international influence, role within an increasingly multipolar Asia order have enhanced its relevance for Seoul.

India also offers South Korea an additional avenue for economic and diplomatic diversification, as geopolitical and geo-economic competition intensifies, excessive concentration of production, investment and supply chains in any single market creates vulnerabilities. India, thus, assumes significance not simply due to the size of its domestic market, but as a potential production base, investment destination, and reliable industrial partner.

The emerging shipbuilding partnership should therefore be understood within this broader transformation in India-Korea relations. Unlike conventional bilateral trade, shipbuilding requires sustained interaction among governments, companies, financial institutions, suppliers, training institutions, and workers. It offers an opportunity to translate an increasingly positive strategic perception of India into a concrete form of long-term industrial cooperation.



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INDIA'S SHIPBUILDING LANDSCAPE

During the FY 2025-26, India's major ports under the Ministry of Ports, Shipping, and Waterways (MoPSW) handled "915.17 million tonnes (MT) of cargo," which surpassed the annual target of 904 MT.

14

While the numbers reaffirm India's growing maritime trade, they still fall short in justifying its limited presence in global shipbuilding. There remains a gap between India's growing maritime trade and its domestic shipbuilding capacity. A large share of India's overseas trade continues to be carried by foreign-flagged and foreign-built vessels. For instance, the share of overseas cargo carried by India-flagged vessels has fallen from 40.7% in 1987-88 to about 7.8% in 2018-19.¹⁵

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India's Shipbuilding Indicators

Indicator	Latest Figure	What it indicates	Source
Share of Indian trade transported by sea	Nearly 95% of India's trade by volume and around 70% by value	Indian economy is highly dependent on maritime transport for international trade	Ministry of Ports, Shipping and Waterways ¹⁶
Cargo handled at major Indian ports	915.17 million tonnes (MT) of cargo during FY 2025–26	The scale of India's maritime trade and port activity	Ministry of Ports, Shipping and Waterways ¹⁷
Total Indian port capacity	2,769.32 MTPA (FY 2024-25, major and non-major ports)	India has expanded its physical port-handling infrastructure	Ministry of Ports, Shipping & Waterways ¹⁸
Size of Indian-flagged fleet	India has a fleet of 1,552 Indian-flagged vessels, totaling 13.65 million Gross Tonnage (GT). (November 2024)	India's domestic merchant fleet remains relatively small compared with the scale of its maritime trade	Press Information Bureau (PIB) ¹⁹

Indicator	Latest Figure	What it indicates	Source
Indian ships' share of India's trade	About 7.8% of overseas trade in 2018-19.	Most of India's international cargo is carried aboard foreign vessels	Press Information Bureau (PIB) ²⁰
Annual payment to foreign shipping companies	About ₹6 lakh crore (USD 68.8 billion) a year (2025)	Dependence on foreign carriers creates a substantial foreign-exchange outflow	The Economic Times ²¹
India's global shipbuilding share	0.07% (2025, share of world gross tonnage completed)	India remains a marginal player in global shipbuilding despite its large maritime economy	S&P Global ²²
India's global shipbuilding rank	15th (2025, gross tonnage completed)	Gap between India's maritime ambitions and current shipbuilding capacity.	Federation of Indian Chambers of Commerce and Industry ²³

Source: GOI

Brief History

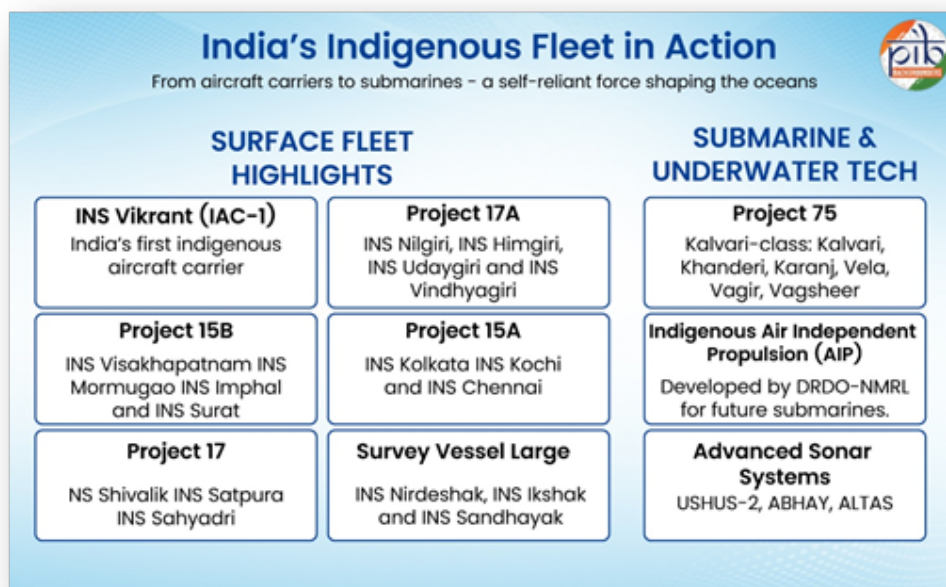
The reason behind India's limited footprint in the global shipbuilding industry can be traced to the colonial history. Scholars like Cynthia Deshmukh has written that India's natural resources such as teak forests and a network of rivers "provided India with the where-with-all to be a ship-building and seafaring nation."²⁴ However, the British "prohibited commercial shipbuilding, imprisoned capitalists who built or operated ships, imposed corporal punishments on workers, and persecuted Indian companies like Swadeshi and Scindia."²⁵

Moreover, British navigation law refused to recognise Indian sailors as British mariners and required British ships to carry a three-quarters British crew. This placed Indian-built and Indian-crewed vessels at a significant disadvantage, further weakening India's indigenous shipping and shipbuilding industry.²⁶

²⁷

Despite the colonial setback, independent India gradually rebuilt shipbuilding capabilities. Although the commercial and private shipbuilding industry have remained comparatively limited, India developed expertise in naval shipbuilding. A major milestone was achieved when Garden Reach Shipbuilders & Engineers (GRSE) delivered the first warship built in independent India, the seaward defence boat INS Ajay, in 1961.²⁸ Since then, Indian shipyards have progressed from smaller vessels to sophisticated frigates, destroyers, corvettes, submarines, fleet-support vessels, and aircraft carriers. Such development is supported by public-sector shipyards such as GRSE, Mazagon Dock Shipbuilders Limited (MDL), Cochin Shipyard Limited (CSL), and Hindustan Shipyard Limited (HSL).²⁹

India's Indigenous capability in Naval Shipbuilding



Source: PIB ³⁰

India's major shipbuilding companies, FY 2026, naval and defence yards

Rank	Company	Revenue, estimated	Share of top ten
01	Mazagon Dock Shipbuilders	USD 1.30 billion	40.1%
02	Cochin Shipyard	USD 597.83 million	18.4%
03	Garden Reach Shipbuilders & Engineers	USD 489.13 million	15.0%
04	L&T Shipbuilding	USD 380.43 million	11.7%
05	Goa Shipyard	USD 163.04 million	5.0%
06	Hindustan Shipyard	USD 152.17 million	4.7%
07	Chowgule & Company	USD 65.22 million	2.0%
08	Shoft Shipyard	USD 43.48 million	1.3%

Rank	Company	Revenue, estimated	Share of top ten
09	Titagarh Rail Systems, marine	USD 32.61 million	1.0%
10	Udupi Cochin Shipyard	USD 27.17 million	0.8%

Source: India IPO. Rebuilt from the source table; the figures are unchanged. The ten shares sum to 100 per cent.

India's strengths

Despite a limited global footprint in shipbuilding, India is not starting from scratch. It possesses a strategic geographical location along major east-west shipping routes and has a coastline of 11,098.81 km.³¹ Its demographic edge provides India a favorable labor cost advantage. Also, the government has come up with several key measures, such as the Financial Assistance Policy on Shipbuilding, Maritime Development Fund, Grant of Infrastructure Status, and the **Atmanirbhar** Policy, for strengthening the sector.³²

Under the Union Budget 2025-26, the Government of India has announced measures and adopted a four-pillar strategy. The government has approved a comprehensive package of ₹69,725 crore (about USD 8 billion) to strengthen domestic shipbuilding capacity, maritime financing, skilling, and job creation.

Composition of the 2025 shipbuilding package

Three instruments make up India's ₹69,725 crore shipbuilding package

Approved by the Union Cabinet, 24 September 2025, ₹ crore



The Maritime Development Fund is a ₹20,000 crore Maritime Investment Fund plus a ₹5,000 crore Interest Incentivization Fund.

India's Emerging Strengths in Shipbuilding

Area of Strength	Data	Why is it important?
Location	India has a coastline of 11,098.81 km, 12 operational major ports, and 217 notified non-major ports. ³³	It sits astride major Indian Ocean shipping routes connecting East Asia, West Asia, Africa, and Europe. The large coastline also provides a natural location for shipbuilding, ship repair, and maritime services.
Government Support	Maritime India Vision 2030: a comprehensive 10-year blueprint to develop India's maritime sector, Sagarmala Project: an initiative to promote port-led development Maritime Amrit Kaal Vision: a comprehensive and long-term plan launched by the Ministry of Ports, Shipping, and Waterways to transform India into a global maritime powerhouse. Financial Support: ₹69,725 crore (USD 8.0) Billion comprehensive package, including a Shipbuilding Financial Assistance Scheme (SBFAS) of ₹24,736 crore (USD 2.84 billion) to reduce cost disadvantages of Indian yards Maritime Development Fund (MDF) of ₹25,000 crore (USD 2.29 billion), comprising a ₹20,000 crore Maritime Investment Fund (MIF) and a ₹5,000 crore (USD 574 million) Interest Incentivization Fund (IIF) for long-term financing, and a Shipbuilding Development Scheme (SbDS) of ₹19,989 crore (USD 2.29 billion) to establish greenfield clusters, expand existing yards, and raise domestic shipbuilding capacity to 4.5 million GT annually. ³⁴	The government policies address major weakness such as high construction costs, expensive financing, and insufficient shipyard capacity.
New Clusters	Five greenfield shipbuilding clusters are under development, in Andhra Pradesh, Gujarat, Tamil Nadu, Maharashtra and Odisha. The Porbandar, Gujarat cluster will cover nearly 2,000 acres, integrate shipyards with ancillary manufacturing and common infrastructure, and target 1.2-1.5 million GT annual capacity. ³⁵ In Andhra Pradesh, Dugarajapatnam cluster in Tirupati district, is planned with capacity of 1.20 million GT per year. ³⁶ The Thoothukudi, Tamil Nadu cluster will be anchored by a proposed mega shipyard with an envisaged 2.5 million GT annual capacity. ³⁷	Clusters can help in developing the integrated ecosystem and economies of scale.

Area of Strength	Data	Why is it important?
Workforce and demography	India has a large working-age population and comparatively abundant labor. Shipbuilding also has an estimated employment multiplier of 6.4, while 92,697 candidates have been trained, skilled or upskilled over three years ³⁸	Provides an advantage in a labor-intensive industry, particularly as established shipbuilding countries like South Korea and Japan face aging populations and labor shortages.
Industrial Ecosystem	India has established capabilities in steel, heavy engineering, machinery, electrical equipment and manufacturing.	Provides India an existing industrial foundation to develop shipbuilding supply-chain.
Existing Naval Shipbuilding Capabilities	India designs and build sophisticated naval platforms domestically, including frigates, anti-submarine warfare vessels and other complex warships.	India already possesses significant ship-design, engineering, and complex construction capabilities, which can support broader maritime industrial development.

Source: GOI

Weaknesses

Despite ambitions, availability of skilled labor, and government push, the domestic shipbuilding sector of India has structural challenges. This section analyses multiple interviews of stakeholders from the industry and secondary literature to discuss the weaknesses of Indian shipbuilding industry.

Interviews are conducted from staff of the Shipyard Association of India, Indian Navy officers and advisors, marine engineers, Hindustan Shipyard Limited, Hanwha Ocean, Korea Institute for International Economic Policy (KIEP), and Korea Research Institute for Vocational Education & Training (KRIVET).

Financial Constraints

Shipbuilding requires substantial upfront investment while payments are realized only after vessel delivery. Thus, access to affordable long-term finance becomes critical for competitiveness. However, in India, shipbuilders face significant financial disadvantage compared to their counterparts in East Asia. Indian shipbuilders pay high interest rates for loans.³⁹ They typically borrow at around 9-10%, compared with 4-8% in the major shipbuilding nations.⁴⁰

Another major constraint is the high collateral requirement for bank guarantees. Indian financial institutions are reported to require collateral worth 30-35% of the guarantee value, whereas competing shipbuilding countries often require little or no collateral due to stronger state-backed credit mechanisms.

Weak Industrial Ecosystem and Supply Chain

One of the interviewees noted that “successful shipbuilding countries do not simply have shipyards, they have complete manufacturing ecosystem.”⁴¹ However, India currently lacks a “well-integrated maritime cluster with shipyards, component suppliers, and advanced R&D facilities.”⁴²

India requires advanced marine equipment manufacturers, specialized supplier networks, integrated industrial clusters, design houses, and component manufacturers.

Infrastructure Constraints

Modern shipbuilding requires extensive physical infrastructure, including dry docks, heavy-lift cranes, fabrication facilities, waterfront access, and logistics connectivity.

However, Indian shipyards are smaller and less automated and there is a shortage of large dry docks. This leads to high production costs and longer construction times, and discourages private investment. Also, the industry did not have “infrastructure status” till recently, due to which long-term financing was not extended by banks.⁴³

Skilled Manpower and Productivity

Currently, India has around 19,000 personnel working in Indian shipyards. Under government initiatives, a target has been set to upskill 50,000 maritime workers. However, there remains a gap between current workforce capabilities and international standards.⁴⁴

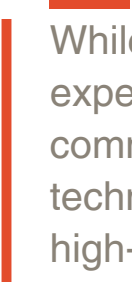
Experts also stress that India’s challenge is not labor availability but labor productivity. Findings from the interview include shortage of advanced welders, lack of robotic welding experience, limited automation skills, inadequate production planning, and difficulty in retaining skilled workers. For instance, workers frequently migrate from Uttar Pradesh and Bihar to coastal shipyards, but retention remains difficult due to accommodation, wages, and working conditions.



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Technology Gaps and Import Dependence

While India has developed considerable expertise in naval shipbuilding, commercial shipbuilding remains technologically dependent in several high-value segments.



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Many shipyards still rely on older production systems and adopt new technology slowly. India lacks domestic capabilities in advanced ship design, LNG containment systems, smart production systems, and green propulsion technologies. India also remains dependent on imports for several critical marine components. India imports more than 95% of the marine engines installed on commercial ships, primarily from Germany, Finland, Japan, and South Korea. In 2022-23, CSL spent about ₹450 crore (USD 52 million) on imported engines.⁴⁵ Other imported components include propulsion systems, navigation systems, and specialized equipment.

Moreover, whereas global shipbuilding is transitioning towards AI, robotics, digital twins, smart shipyards, automated welding, etc., Indian shipyards have adopted these technologies only to a limited extent.

Weak Commercial Shipbuilding Base

There is a dominance of the public sector in India's shipbuilding sector. India's three largest shipyards, MDL, CSL, and GRSE, primarily construct naval vessels. While these shipyards have developed strong capabilities in defense shipbuilding, India's commercial shipbuilding sector remains comparatively underdeveloped.⁴⁶

The decline of private shipyards following the financial distress and insolvency of firms such as Bharati Shipyard, ABG Shipyard, and Pipavav Shipyard weakened India's commercial shipbuilding capacity. As a result, Indian shipping companies procure a substantial share of large commercial vessels from overseas builders.

Policy and Regulatory Bottlenecks

Administrative procedures for commercial shipbuilding remain cumbersome. Many times, foreign firms struggle to understand India's regulatory framework, subsidy structure, and approval processes. Some

challenges include, multi-level approvals, procurement delays, fragmented governance, policy uncertainty, and limited coordination between central and state governments.

A recurring theme across interviews with Indian industry representatives is that India's principal constraint is not the absence of demand, policy ambition, or labor availability. Rather, the country's commercial shipbuilding sector continues to suffer from a combination of structural financial constraints, weak industrial ecosystem and supply chain, infrastructure constraints, lack of skilled workforce and productivity, technology gaps and import dependence, weak commercial shipbuilding base, and policy and regulatory bottlenecks.



A recurring theme across interviews with Indian industry representatives is that India's principal constraint is not the absence of demand, policy ambition, or labor availability.

This underscores the relevance of South Korea as a valuable partner, not only because of its technological leadership but also due to the robust institutional framework and integrated industrial ecosystem it has developed over several decades.⁴⁷

SOUTH KOREA'S COMPETITIVE ADVANTAGE

In November 2025, South Korea's largest shipbuilder, HD Hyundai became the world's first shipbuilding company to deliver 5,000 ships.⁴⁸ In the same year, South Korea accounted for 21% of global new vessel orders measured in compensated gross tonnage.⁴⁹ In the first half of 2026, South Korea's three major shipbuilders, HD Korea Shipbuilding & Offshore Engineering (HD KSOE), Hanwha Ocean and Samsung Heavy Industries, "achieved a combined revenue exceeding USD 20 billion and secured new orders of over USD 30 billion".⁵⁰ These milestones highlight the country's expertise in shipbuilding, especially delivering commercial and naval vessels on schedule and within budget.

Brief History

South Korea's entry to the shipbuilding club is relatively recent. In the 1960s, the shipbuilding industry remained small and was largely focused on wooden vessels. However, under Park Chung-hee's export-oriented industrialization strategy, the country moved to steel shipbuilding. Park recognized that expanding trade would require greater domestic shipping capacity, which led him to introduce the Shipbuilding Promotion Law in 1967, which extended an earlier 1958 statute, enabling state subsidies and loans to domestic shipbuilders.⁵¹

The 1973 Shipbuilding Development Plan aimed to make South Korea self-sufficient in vessels, increase ship exports, and build new shipyards. Under the plan, shipbuilders received preferential financing, government guarantees for foreign loans, tax incentives, and complementary investments in infrastructure and steel production.⁵² For instance, Hyundai Heavy Industries (HHI)'s Ulsan shipyard was built in support with government-backed financing, ultimately becoming the world's leading shipbuilder by 1983.⁵³

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Initially, Korean shipbuilding companies relied on foreign designs and expertise. The firms sent their personnel to Japanese shipyards for acquiring design and shipyard-construction know-how. At the same time, South Korea also invested in domestic training and gradually developed a domestic supplier ecosystem. By the end of the 1990s, 70%-80% of supplies, such as engines, machinery, and electronics, were sourced domestically.⁵⁴ Additionally, shipbuilding capabilities initially developed for commercial steel vessels were subsequently applied to indigenous warship construction during the

1970s. Over time, this created an integrated ecosystem in which major firms could participate in both commercial and naval construction.⁵⁵



Additionally, shipbuilding capabilities initially developed for commercial steel vessels were subsequently applied to indigenous warship construction during the 1970s.

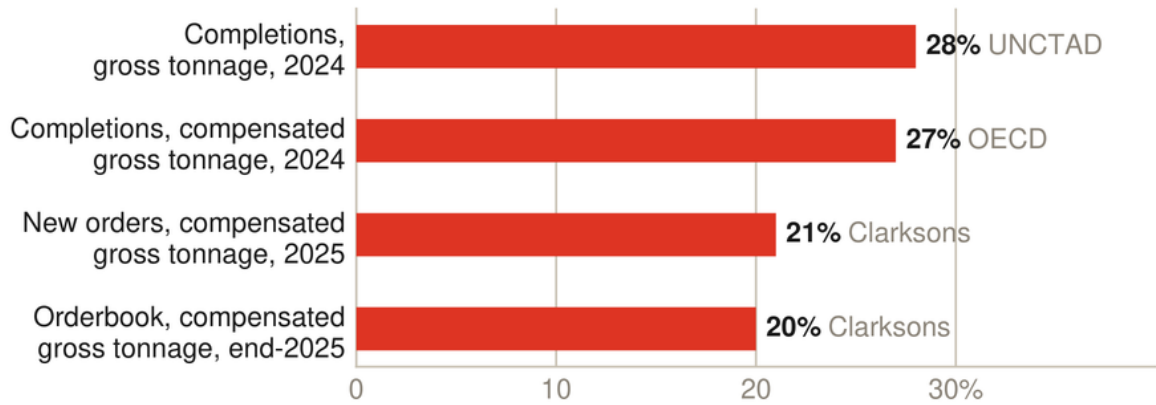
South Korea's Strengths

South Korea's shipbuilding profile differs from India's. Like India, South Korea is a highly trade-dependent maritime economy. A bulk of its trade moves by sea and supported by major gateway ports, particularly Busan. In 2025, Busan port handled 24.88 million Twenty-foot Equivalent Unit (TEU) of container cargo, an all-time high and a third consecutive year of growth.⁵⁶

However, in comparison to India, South Korea has a more integrated and mature shipbuilding ecosystem. South Korea specializes in high-value vessels such as LNG carriers and ultra-large container ships. It also possesses a supporting industrial base: about 2,700 marine-equipment companies employing some 73,000 workers as of 2019, supplying about 90% of the equipment used by Korean shipyards, although many of those suppliers are licensees of foreign companies.⁵⁷

As the second largest shipbuilding country, South Korea took 21% of global new orders in compensated gross tonnage in 2025. Particularly, companies such as HD KSOE secured orders worth USD 18.16 billion for 129 vessels, Hanwha Ocean won orders valued USD 9.83 billion for 20 VLCCs and 13 LNG carriers, and Samsung Heavy Industries reached 76% of its USD 9.8 billion annual order target for nine LNG carriers, nine shuttle tankers, nine container ships, two ethane carriers, 11 crude oil tankers, and one offshore production facility.⁵⁸

South Korea's global share is 20 to 28 percent, depending on the measure



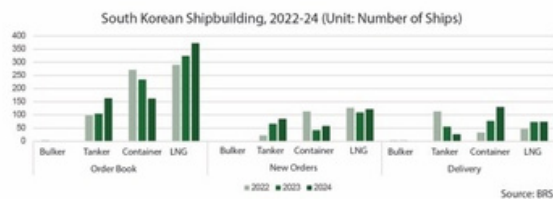
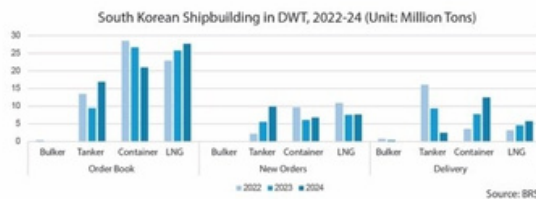
The four measures are not interchangeable.
Each answers a different question.

South Korea's Commercial Shipbuilding Capacity

South Korean Commercial Shipbuilding Capacity



	LNG Carrier	Oil Tanker	Container	Bulker	Ro-Ro
Length (m)	280 ~ 345	245 ~ 330	150 ~ 400	150 ~ 360	150 ~ 250
Beam (m)	45 ~ 54	34 ~ 55	25 ~ 60	30 ~ 65	25 ~ 40
Draft (m)	11 ~ 12	20 ~ 28	10 ~ 16	10 ~ 25	8 ~ 10
Dead Weight Tonnage (DWT)	70,000 ~ 170,000	80,000 ~ 320,000	20,000 ~ 240,000	35,000 ~ 400,000	10,000 ~ 50,000
Cargo Capacity (cu m)	140,000 ~ 180,000	79,500 ~ 318,000	33,000 ~ 792,000	up to 200,000	up to 140,000
Average Cost Estimate	\$230 mn ~ \$265 mn	\$65 mn ~ \$135 mn	\$90 mn ~ \$230 mn	\$35 mn ~ \$70 mn	\$60 mn ~ \$140 mn
Average Build Time	1.5 ~ 2 years	1.5 ~ 2 years	1.25 ~ 1.5 years	1 ~ 1.5 years	1.5 ~ 2 years



STIMSON

Source: Stimson

- i. All data based on open-source information compiled up to Nov 2025.
- ii. Measures are averages of reported vessels constructed in South Korean shipyards.
- iii. Typical time from order to delivery is about 3 to 4.5 years but if necessary, vessels can be delivered faster.

South Korea's Competitive Advantage

Strength	Data/ Evidence	Why it matters
Global Scale and Market Position	South Korea has some of the world's largest shipyards and major shipbuilding groups, notably HD Hyundai, Hanwha Ocean, and Samsung Heavy Industries. Some of these yards at Ulsan, Geoje, Busan, and Okpo have created enormous production capacity and economies of scale.	Large-scale production spreads fixed costs across multiple orders and enables simultaneous construction of several large vessels.
Specialization in high-value vessels	South Korea specializes in technologically complex and higher-value vessels, including LNG carriers, VLCCs, container ships, and increasingly low-carbon vessels. ⁵⁹	Increases South Korea's competitive advantage in technology and quality.
Engineering, quality, and delivery reliability	South Korea invests in ship design, green fuels, and maritime technologies. Some Korean advantages include strong engineering capabilities, rigorous quality control, and reliable delivery performance.	Korean shipbuilders gain advantage in complex and technically demanding orders.
Green Shipbuilding leadership	South Korea is moving toward alternative-fuel and zero-carbon vessels. Current programs focus on LNG, ammonia, hydrogen propulsion, autonomous vessels and AI-enabled systems. ⁶⁰	Positions the country strongly as environmental regulations accelerate replacement and upgrading of the global fleet.
Digitalization and Smart Shipyards	Yards are developing smart shipyards using digital twins, AI, and IoT, AR and robotics. Korea aims for a 50% automation rate in production processes by 2040, including automation of welding, painting, and block assembly	Improves productivity, construction precision and efficiency while helping compensate for labor shortages and high labor costs.
Strong R&D and Public-Private Investment	Public-Private R&D cooperation is strong in South Korea. Between 2019 and 2023 the government invested 0.9 trillion won and private companies a further 1.2 trillion won in R&D.	Sustained investment allows firms to move into new technologies rather than competing primarily on price.
Integrated Marine-equipment ecosystem	Korea has around 2,700 marine-equipment companies, and about 90% of marine equipment is sourced domestically, though many suppliers are licensees of foreign firms.	Strong domestic suppliers reduce reliance on foreign firms.

Strength	Data/ Evidence	Why it matters
Strong Steel and Industrial Supply Chain	Korea has established domestic maritime-equipment and steel supply chains.	Korea possesses supporting infrastructure that benefits the industrial ecosystem.
Government Support and Ship Finance	Government support includes regulatory frameworks, R&D programs, and financial help. KEXIM and K-Sure provide export financing and risk mitigation, while the K-Shipbuilding Strategy and Super Gap Vision 2040 support zero-emission ships, autonomous vessels, and smart shipyards.	Government initiatives are helpful because the industry is capital intensive and Korean yards compete internationally for large orders.
Global Expansion	Korean shipbuilders are partnering with countries like India, US, Vietnam, and Saudi Arabia, for overseas production.	Combines Korean technology and expertise with overseas labor, markets, and production capacity.

Source: OECD 2026

Challenges

Despite possessing shipbuilding expertise and advanced technological prowess, South Korea faces challenges, such as labor shortage, rising costs, dependence on external demand, and competition from China, which create hurdles in sustaining its technological leadership.

Labor Shortages

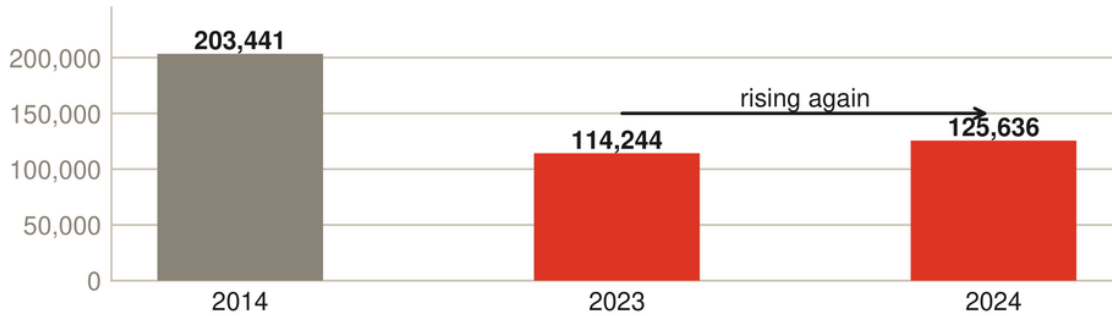
One of the most serious challenges in South Korea's shipbuilding industry is its labor shortage. Also, South Korea faces a paradox. Its shipbuilders continue to secure global orders but the domestic labor pool is increasingly becoming constrained.

According to the OECD report, the Korean shipbuilding workforce has continued to decline, shrinking by about 38% between 2014 and 2024.⁶¹ In 2014, there were 203,441 employees; by 2024 the number had fallen to 125,636. Employment has been rising again since 2021. Also, as of 2023, foreign workers account for approximately 15% of the workforce at major shipyards. To mitigate labor shortage, major shipyards are integrating smart technologies such as AI, robotics, and augmented reality.⁶² Korea is also partnering with countries like India and USA to train shipbuilding workforce.

Shipyard employment in the Republic of Korea

Korea's shipbuilding workforce is 38 percent below its 2014 peak

Number of shipyard employees, Republic of Korea



OECD Table 1.1 publishes these three years; Box 1.1 notes that employment began rising again in 2021.

AeiROBOT starts shipyard trials of humanoids at HD Hyundai Heavy Industries Shipyard in Ulsan for fire watching and material transport⁶³



Source: Chosun Biz

Korea's shipbuilding continues to face a labor shortage due to the country's population decline. South Korea has the world's lowest fertility rate, 0.80 in 2025, up from 0.75 in 2024, and became a super-aged society in December 2024; 21.2% of the population was over 65 in 2025. Due to the low birthrate, "the economically active population (aged 15-64) began to decline from the late 2010s, reducing the overall labor market size, and the number of workers started to decrease."⁶⁴ Also, when the shipbuilding industry struggles, wages fall, making the industry more unattractive. Currently, Korean shipyards are getting orders, but there are not enough people to build the ships.⁶⁵

To solve this issue, South Korea is turning toward foreigners. As of 2023, foreign workers account for about 15% of the workforce at Korea's major shipyards and about 20% across the shipbuilding industry as a whole. Most are from Vietnam, the Philippines, Indonesia and Sri Lanka. They are granted E-7 or E-9 visas, which permit legal residence and employment in Korea.⁶⁶

Ulsan, the center of Korea's shipbuilding industry, is also struggling due to a labor shortage. In 2026, Hyundai Heavy Industries had around 208 vessels in its production backlog. However, its yards reportedly operated at only 78% of theoretical production capacity in the fourth quarter of 2024. The average production worker in Ulsan's shipyards is already 48.3 years old, while around 34% of the skilled-trades workforce could become eligible for retirement by 2030. At the same time, Ulsan's shipbuilding cluster lost about 1,800 skilled welders, who moved to other industries. The subcontracting ecosystem, which supplied and trained workers, has also weakened. It has declined from around 4,200 firms in 2015 to roughly 2,800 in 2024.⁶⁷

Moreover, many vacancies have gone unfilled. In 2024, Ulsan's shipbuilding cluster had 14,300 vacancies but filled only 8,900 positions.⁶⁸ The roles that face the most severe shortages are automated welding technicians and supervisors, floating offshore wind structural engineers, and dual-propulsion engineers. The OECD report noted that Koreans are reluctant to take physically demanding and dangerous jobs like shipbuilding.

Green transition is also affecting shipbuilding recruitment in South Korea. Green shipbuilding creates demand for digital engineering, chemical engineering, and alternative fuel system design skills. However, current workers are trained in traditional metalworking and have limited digital proficiency. Automation is also changing the type of labor required, including a greater need for robotics technicians.⁶⁹

Rising Costs

In 2024, labor costs in Korea were 5% higher than in Japan and 2.3 times higher than in China, measured as average annual wages across the total economy⁷⁰. The higher labor costs and rising steel prices continue to erode Korea's global competitiveness.

Similarly, steel prices in Korea are 20% higher than in China but 48% lower than in Japan.⁷¹ Higher costs obstruct South Korea's road to profitability as it increases prices for new container ships. Shipbuilders struggle to persuade customers who have already signed contracts to pay more.

To offset rising steel costs, shipbuilding companies often raise new shipbuilding prices. In the second half of 2021, South Korean steelmakers proposed raising shipbuilding plate prices by 64%, to 1.15 million won a tonne, citing higher raw-material costs.⁷²

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Overdependence on Global Demand for Exports and lack of stable domestic orders

South Korea's shipbuilding industry is one of the central drivers of its export-oriented economy. Nonetheless, such external orientation may create vulnerability especially for shipbuilding companies in Korea that are also export-oriented.

As ships are capital intensive durable goods, their demand is highly cyclical. Outside conditions like global merchandise trade, freight rates, shipping company profitability, replacement cycles, energy demand, and environmental regulations impact overseas orders. A downturn in global trade can translate quickly into fewer orders for Korean yards. Deterioration and high volatility in shipping markets are thus a threat to the industry.⁷³

Outside conditions like global merchandise trade, freight rates, shipping company profitability, replacement cycles, energy demand, and environmental regulations impact overseas orders.

For instance, the 2016 collapse of Korea's Hanjin Shipping illustrates a broader weakness in the linkages between domestic shipping and shipbuilding industries. The disappearance of the world's seventh largest shipping company meant more than the loss of an individual customer for Korean yards.⁷⁴ It weakened a source of stable domestic orders, opportunities to maintain experience across different vessel categories, and demand for domestic marine-equipment suppliers. On the other hand, China fostered both large shipping companies like China Ocean Shipping Company (COSCO) and domestic shipyards by ordering various ships from them.⁷⁵

Most importantly, while Korea depends mostly on the competitiveness of individual private shipbuilding companies, China's shipbuilding expansion is accompanied by coordinated development of shipping, ship finance, equipment manufacturing, and shipbuilding capacity. Chinese state-owned and private financial institutions support domestic yards through the provision of refund guarantees, which help Chinese shipbuilders expand their orderbooks and production capabilities.⁷⁶

Competition from China

As per the OECD report, China's rapid rise pushed "its global orderbook share to around 69%, leaving Korea with only 16%" in 2024.⁷⁷ That pairing should be read with care: on Clarksons' compensated gross tonnage series the end-2025 orderbook split was 62% China to 20% Korea, and 69 against 16 corresponds much more closely to the two countries' shares of new orders in 2024. Around 2000, China accounted for under 5% of global shipbuilding output, while Japan and South Korea dominated the industry.⁷⁸ However, with cheap inputs and labor, China quickly upgraded its shipbuilding capability.

By 2010, on a deadweight-tonnage basis, China overtook South Korea as the largest shipbuilding nation. In 2025, China accounted for 53.8% of the gross tonnage of commercial ships delivered worldwide, against 27.3% for South Korea and 13.1% for Japan.⁷⁹ In 2025, according to China's official statistics and measured in deadweight tonnage, China accounted for 56.1% of global shipbuilding completions, 69% of new orders and 66.8% of the global order backlog. On Clarksons' compensated gross tonnage series for the same year, South Korea took 21% of global new orders and China 63%.⁸⁰

Top three shipbuilding nations and their shares



Source: The Chosun Daily

China's lead in shipbuilding is posing a serious threat for South Korea. China is challenging South Korea's competitive model. Korea ceded much of its lower-cost mass market to China while retaining an advantage in technologically sophisticated, high-value vessels. However, this path is becoming less secure due to competition with China.

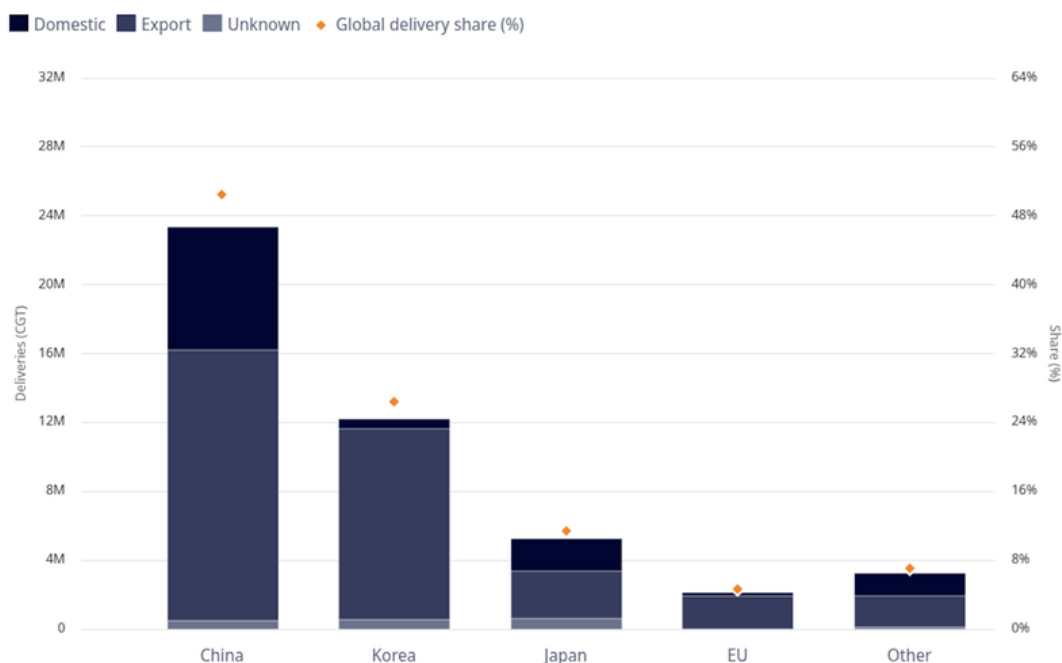
Weakening Domestic Shipbuilding Ecosystem and Dependence on Chinese Components

South Korea's three major shipbuilders, HD Hyundai Heavy Industries, Hanwha Ocean, and Samsung Heavy Industries, remain strong players. However, the concentration of production in large shipyards is accompanied by pressures on smaller and medium-sized yards and on domestic marine-equipment manufacturers. The number of domestic shipyards has reportedly fallen to around 12, while China has more than 200.⁸¹

The weakening of domestic suppliers could increase dependence on imported intermediate components. Already, South Korea's trade deficit with China across 60 representative shipbuilding components increased from USD 817 million in 2019 to USD 2.63 billion in 2024, more than tripling within five years.⁸² This is expected to create a supply-chain vulnerability.

China's Growing Dominance in Shipbuilding

Builder economies of vessels delivered in 2025



Source: Clarksons, [World Fleet Register](#) January 2025.

© OECD

Source: OECD

China has an enormous cost advantage. Its manufacturing wages are more than three times lower than Korea's, as per the OECD. In an OECD analysis of 1,777 orders placed between January 2020 and December 2024, Chinese-built containerships of 7,000 to 9,000 TEU were priced nearly 10% below those of other major shipbuilding economies; the largest product tankers, of 110,000 to 120,000 deadweight tonnes, were around 14% below; and LNG carriers were around 5% below.⁸³ Thus, for Korean shipyards, competing on price is increasingly difficult.

Chinese government also provides massive support to its shipbuilding companies. In 2024, Chinese shipbuilding companies received about USD 1.3 billion in subsidies, representing 84% of the total subsidies to the global shipbuilding sector recorded in the OECD's MAGIC database, which exceeded USD 1.5 billion that year.⁸⁴ Now, Korean firms have to compete with Chinese yards whose lower labor costs are reinforced by extensive state support.

China is now gradually moving toward Korea's high-value segments as it is diversifying beyond conventional bulkers, tankers, and containerships, and expanding into gas carriers, cruise ships, and alternative-fueled vessels.⁸⁵ It is no longer competing on price basis but also on technologically advanced segments.



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AREAS OF COOPERATION

Such asymmetry between capabilities and their individual challenges for India and South Korea can be taken together to understand how both countries can cooperate and enhance their shipbuilding industries. While India may gain technology and skills, Korea may acquire demand diversification, younger workforce, new-production capacity, and supply-chain diversification.

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India and South Korea: Shipbuilding Industry Comparison

Indicator	India	South Korea
Global Position	15 th on gross tonnage completed in 2025 Aims to become top 10 by 2030 and top 5 by 2047	2nd-largest shipbuilding country globally in 2025
Global Shipbuilding Presence	0.07% of world gross tonnage completed (2025)	In 2024, South Korea accounted for approximately 27% of global completions on a compensated gross tonnage (CGT) basis.
Shipbuilding Capacity	Largest reported shipyard: Cochin Shipyard- 200,000 DWT; HSL and Swan Defence- 80,000 DWT each (2024-25)	Estimated national capacity: 13.2 million CGT under OECD’s 3-year methodology, 21.5 million CGT under 15-year methodology
Gross tonnage completed, 2025	0.058 million GT (installed capacity about 0.072 million GT)	21.13 million GT
Industry Structure	Mix of public and private yards, major naval yards remain predominantly public sector	Consolidated around HD Hyundai, Hanwha Ocean, Samsung Heavy Industries
Industry Concentration	Fragmented, substantial differences in capacity between major and smaller yards	Three largest groups account for more than 90% of national completions. Top 10 account for 99.7% of capacity under OECD’s 3-year methodology (2024).
Largest Shipbuilder	Cochin Shipyard Ltd with 200,000 DWT	HD Hyundai-44.1% of Korean capacity

Indicator	India	South Korea
Order Book	517 Ships/ 797.35 thousand DWT among reporting companies (2024-25)	Large export-oriented orderbook, Korea consistently accounts for roughly 20-30% of global orders and completion.
Public/private composition of Indian orderbook	Public sector companies had orders of 191 ships of 456.83 thousand DWT. Private sector companies had orders of 326 ships of total 340.52 thousand DWT.	Predominantly private corporate shipbuilding groups
Major vessel strengths	Stronger in naval vessels, patrol vessels, smaller/specialized commercial vessels, emerging capacity in larger commercial ships	LNG carriers, ULCS, FPSOs, offshore vessels, naval vessels, and sophisticated green ships
Naval Shipbuilding	Significant indigenous capability in aircraft carriers, destroyers, frigates, submarines and specialized vessels.	Auxiliary, corvette, frigates, destroyer, and submarines
Commercial Shipbuilding	Comparatively weak, particularly in large, complex and high-value vessels.	Globally competitive, particularly in technologically complex and high-value vessels
Marine-equipment ecosystem	Developing, significant dependence on imported critical equipment/components	Around 2,700 marine-equipment companies, employing about 73,000. Domestic industry supplies about 90% of Korean shipyard' marine-equipment demand
Industrial clusters	Developing shipbuilding clusters; ecosystem remains relatively fragmented	Highly integrated shipbuilding and marine-manufacturing clusters linked to steel, equipment, design, R&D
Automation / smart yards	Early/Developing stage	Advanced digitalization, production automation, smart yards, autonomous systems, and digital design
Green Shipbuilding	Emerging, some green vessels being built, but significant reliance on imported technology and limited alternative-fuel infrastructure	Major competitive focus, strong capabilities in LNG, methanol-ready, ammonia-fueled and zero-carbon vessel technologies.
Ship Repair/ MRO	In 2024-25, out of 580 ships, 272 ships were repaired by private sector companies and 308 ships were repaired by public sector companies	Domestic firms account for about 70% of Korean ship repair market
Workforce	18,000 – 20,000 direct workers Top global supplier of operational seafarers (more than 300,000)	Roughly 100,000 domestic workers Workforce fell from 203,441 in 2014 to 125,636 in 2024, severe skilled-labor shortage

Indicator	India	South Korea
Government Initiatives	Maritime India Vision 2030, Maritime Amrit Kaal Vision 2047, shipbuilding financial assistance, and Maritime Development Fund	K-Shipbuilding Strategy and K-Shipbuilding Super Gap Vision 2040
Weakness	Scale, productivity, finance, technology, supplier ecosystem, and capacity for complex commercial ships	Shrinking workforce, shortage of young/skilled workers, high costs, and dependence on global demand
Opportunity	Rapidly growing domestic maritime demand, naval demand, workforce, and government investment	Alternative-fuel vessels, digital shipbuilding, overseas production, and new markets
Threat	Difficulty competing with established shipbuilding countries	China's rapid technological and capacity expansion

Sources: India Figures: Ministry of Ports, Shipping and Waterways, Statistics of India's Shipbuilding and Ship Repairing Industry 2024-25

South Korea figures: OECD, Peer Review of the Korean Shipbuilding Industry 2026

Existing Cooperation

Major Areas of Recent India-South Korea Shipbuilding Cooperation

Area	Agreement or Initiative	Purpose	What India Gains?	What South Korea Gains?
Commercial Shipbuilding	CSL-HD KSOE Comprehensive MoU, July 2025 ⁸⁶	Joint exploration of newbuilding opportunities in India and overseas, cooperation on larger commercial vessels	Acquires experience in large and sophisticated commercial shipbuilding	Accesses India's expanding market and opportunities to jointly pursue international orders
Technology, design, and production	CSL-HD KSOE MoU (2025), Shared Vision for Operation of Yard Assisted Growth with Efficiency and Scale (VOYAGES), 20 April 2026 ⁸⁷	Cooperation in ship design, equipment, production engineering, technical expertise, quality and productivity	Addresses technology and productivity gaps in Indian yards	Allows Korean firms to internationalize their engineering, design, and production capabilities.
Company-level workforce training	CSL-HD KSOE MoU (2025),	Upskill workers and strengthen shipbuilding training systems	Creates workers capable of operating modern yards at international standards	Develops an overseas workforce familiar with Korean technologies and production practices

Area	Agreement or Initiative	Purpose	What India Gains?	What South Korea Gains?
Institutional workforce development	MoPSW-KOICA Plan of Implementation April 2026 ⁸⁸ Backed by research support from the KRIVET	Workforce mapping, skill-gap assessment, HRD master planning, vocational training and institutional development	Builds a sustainable skilled-workforce pipeline for India's shipbuilding expansion	Korea transfers accumulated industrial and vocational-training expertise to its emerging Indian production partnership
Brownfield/yard upscaling	CSL-HD KSOE MoU (2025), VOYAGES	Improve productivity and capacity utilization of existing yards and support large-vessel construction A Block Fabrication Facility (BFF) in Kochi is planned over about 80 acres, with 120,000 MT annual capacity, although the associated HD KSOE joint venture was discontinued in August 2026.	Makes better use of existing Indian infrastructure	Provides Korean companies with additional production opportunities outside Korea
Greenfield production capacity	HD KSOE-National Shipbuilding & Heavy Industries Park Tamil Nadu NSHIP-TN and Sagarmala Finance Corporation Limited MoU, 20 April 2026 ⁸⁹	Develop, finance, construct, and operate proposed 2.5 million GT per year shipyard at Thoothukudi	Adds large-scale modern shipbuilding capacity	Fits HD Hyundai's plans of diversifying its overseas production bases
Components and ancillary ecosystem	VOYAGES KOMEA Mumbai Presence ⁹⁰ Korean Marine-equipment cooperation	Encourage Korean maritime equipment firms and suppliers to participate and potentially localize in India	Helps reduce component dependence and develop a domestic supplier ecosystem	Provides Korean equipment companies with a new production location
Maritime Equipment	BEML, HD KSOE and HD Hyundai Samho MoU, December 2025 ⁹¹	Joint design/manufacture of conventional and autonomous maritime and port crane in India	Builds specialized maritime-equipment capabilities	Expands Korean technology and equipment businesses to India

Area	Agreement or Initiative	Purpose	What India Gains?	What South Korea Gains?
Finance and Investment	Thoothukudi tripartite arrangement involving Sagarmala Finance, ⁹² VOYAGES	Connect Korean industrial expertise with Indian financing and infrastructure	Addresses the capital-intensive nature of shipyard development	Reduces barriers to Korean participation in large Indian projects
Ports, shipping, and, logistics	VOYAGES, India-RoK Cooperation 2026	Link shipbuilding with ports, shipping, and maritime logistics	Helps India develop an integrated maritime-industrial ecosystem	Creates opportunities for Korean companies beyond vessel construction
Smart and green shipbuilding	VOYAGES Proposed greenfield/ JV cooperation Samsung Heavy Industries (SHI)-Swan Defence and Heavy Industries (SDHI) MoU (September 2025) ⁹³	Advanced manufacturing, digital shipbuilding, automation, and green technologies Cooperation on commercial vessels including tankers, gas carriers, and container ships	Allows India to leapfrog towards modern production systems	Provides an overseas application for technologies through which Korea seeks to retain competitive against China

These agreements together address not only ship construction but the wider requirements of a competitive shipbuilding industry, which includes yards, workers, technology, components, finance, ports, and orders.

How do these initiatives go beyond commercial cooperation to long-term industrial partnership?

The CSL-HD KSOE MoU goes beyond a single vessel order and envisages joint exploration of newbuilding opportunities in India and overseas, sharing of Korean technical expertise, improvement of productivity and capacity utilization, and joint efforts to strengthen the shipbuilding workforce.⁹⁴

The relationship is gradually moving towards the creation of actual production capacity, the proposed Thoothukudi mega-shipyard involves HD KSOE, NSHIP-TN, and Sagarmala Finance, envisaging the joint development, financing, construction, and operation of a shipyard with an annual capacity of about 2.5 million GT. Korean expertise is getting linked with Indian capital, infrastructure, workers, and vessel demand, creating a possibility of a continuing production relationship.

Also, the VOYAGES agreement covers a massive trade and technology partnership, focusing on modernizing shipyards and building commercial ships. Under the framework, South Korea will share its advanced shipbuilding technology and automation tools with Indian yards to help India scale up its maritime manufacturing. The deal also includes building port infrastructure, manufacturing heavy port

equipment, training local workers, among others.⁹⁵

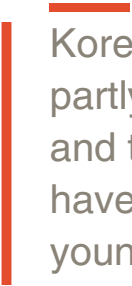
Most importantly, the emerging partnership should not be understood simply as an arrangement in which Korea provides technology while India provides cheap labor. HD Hyundai has viewed India as part of its international growth strategy. Chairman Chung Kisun has described India as a “key pillar” in the company’s strategy to diversify its overseas production bases.⁹⁶ Hence, Korea sees India as a potential production location. This matters because Korean shipbuilders face domestic labor constraints, along with competition from China’s enormous scale and lower-cost production.

Workforce development is one of the strongest components of the partnerships. The 2025 CSL-HD KSOE agreement already included workforce upskilling, but the MoPSW-KOICA Plan of Implementation expanded it in April 2026. The project seeks to conduct workforce mapping and skill-gap assessments and develop an HRD strategy and training architecture for India’s shipbuilding and marine sector.⁹⁷

These agreements do not intend to send Indian workers to work permanently in Korean shipyards. Their principal motive is to develop a skilled shipbuilding workforce in India. Nevertheless, they have important implications for Korea.

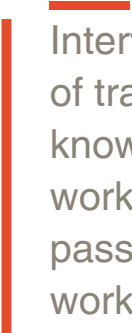
Interviews were conducted with a few researchers from the Korea Research Institute for Vocational Education and Training (KRIVET) involved in the 2026 MoU between the Ministry of Ports, Shipping, and Waterways (MoPSW) and the Korea International Cooperation Agency (KOICA) to boost skills in India’s shipbuilding sector. The interviews revealed that major Korean shipbuilding companies are interested in overseas investment, including in India, while India is simultaneously attempting to expand shipyard capacity, upgrade technology, and cultivate a skilled workforce.

Korean shipyards face labor shortages partly because difficult working conditions and the nature of shipyard employment have made the sector unattractive to younger Korean workers. In contrast, India faces the opposite problem. It has labor availability but needs to improve skills and productivity. The interviews highlighted that Indian shipyards have relatively low skill levels, aging equipment, and production systems.



Korean shipyards face labor shortages partly because difficult working conditions and the nature of shipyard employment have made the sector unattractive to younger Korean workers.

Also, Korea's aging shipbuilding workforce contains a large body of tacit industrial knowledge accumulated through decades of shipbuilding. Interviewees emphasized the importance of transforming the accumulated knowledge of Korea's experienced workforce into training that can be passed on to younger generations and workers in other countries.



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According to the interviews, the Korean project is considering broad areas, including developing India's wider shipbuilding ecosystem and clusters, integrating existing universities and vocational institutions into the training system, and incorporating emerging technologies such as AI, robotics, simulators, advanced welding, painting design, and electronics.

Workforce cooperation is also linked to Korea's broader interest in expanding production outside the country. Korean companies increasingly see India not only as a source of workforce, but as a potential manufacturing and shipbuilding base. Indian workers can be trained in Korean shipbuilding practices and employed in Korean-linked or joint-venture yards in India, combining Korean technology and expertise with India's workforce, lower production costs, and growing domestic demand.

Over time, such yards could also build ships for international customers. In this way, India can help Korea address its labor and cost pressures by providing an additional production base outside Korea, while India benefits from investment, technology, and skills.

MoUs represent momentum, not outcomes

The recent proliferation of agreements involving Korean and Indian shipbuilding companies demonstrates considerable commercial and political interest. However, the existence of MoUs should not itself be interpreted as evidence of successful industrial cooperation. Many initiatives remain at the stage of MoUs, feasibility studies, preliminary discussions, or proposed investments. Their significance will ultimately depend upon whether they translate into commercially viable and sustainable projects.

Previous India-South Korea industrial experiences provide lessons. Large-scale initiatives, including earlier POSCO steel investment plans, encountered considerable implementation difficulties.⁹⁸ The

shipbuilding partnership will also require careful and sustained management by governments and industry.

Thus, the objective should not simply be to increase the number of agreements, but to generate deeper forms of economic integration through technology absorption, workforce development, design capabilities, supplier networks, digital production systems, green technologies, and eventually joint production.

Focus Areas for Future Cooperation

Building on initiatives already underway in joint production, workforce skill development, maritime equipment, and related areas, India and South Korea could shape their shipbuilding partnership across several focus areas.

Joint Production of Commercial Vessels

Both India and South Korea can jointly design and construct selected commercial vessels, such as container ships, product and MR tankers, VLGCs, and LNG carriers. This is already envisaged in the existing CSL-HD KSOE partnership, which provides for jointly exploring newbuilding opportunities in India.⁹⁹

The 2026 VOYAGES framework further strengthens the case by encouraging Korean participation in design, production engineering, advanced manufacturing, quality, and yard operations. India's public-sector vessel acquisition pipeline exceeds 400 vessels.¹⁰⁰

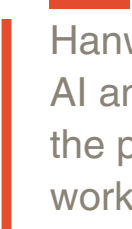


The 2026 VOYAGES framework further strengthens the case by encouraging Korean participation in design, production engineering, advanced manufacturing, quality, and yard operations.

CSL also signed a contract on 18 February 2026 with CMA CGM to build six 1,700-TEU LNG-fuelled container vessels for delivery between 2029 and 2031, which shows that Indian yards are entering more sophisticated commercial and green-vessel segments.¹⁰¹

Smart Shipyards and AI Cooperation

South Korea's shrinking, aging shipbuilding workforce is compelling companies to adopt digitalization. Hanwha Ocean has responded by using AI and robotics to capture and preserve veteran workers' practical knowledge.

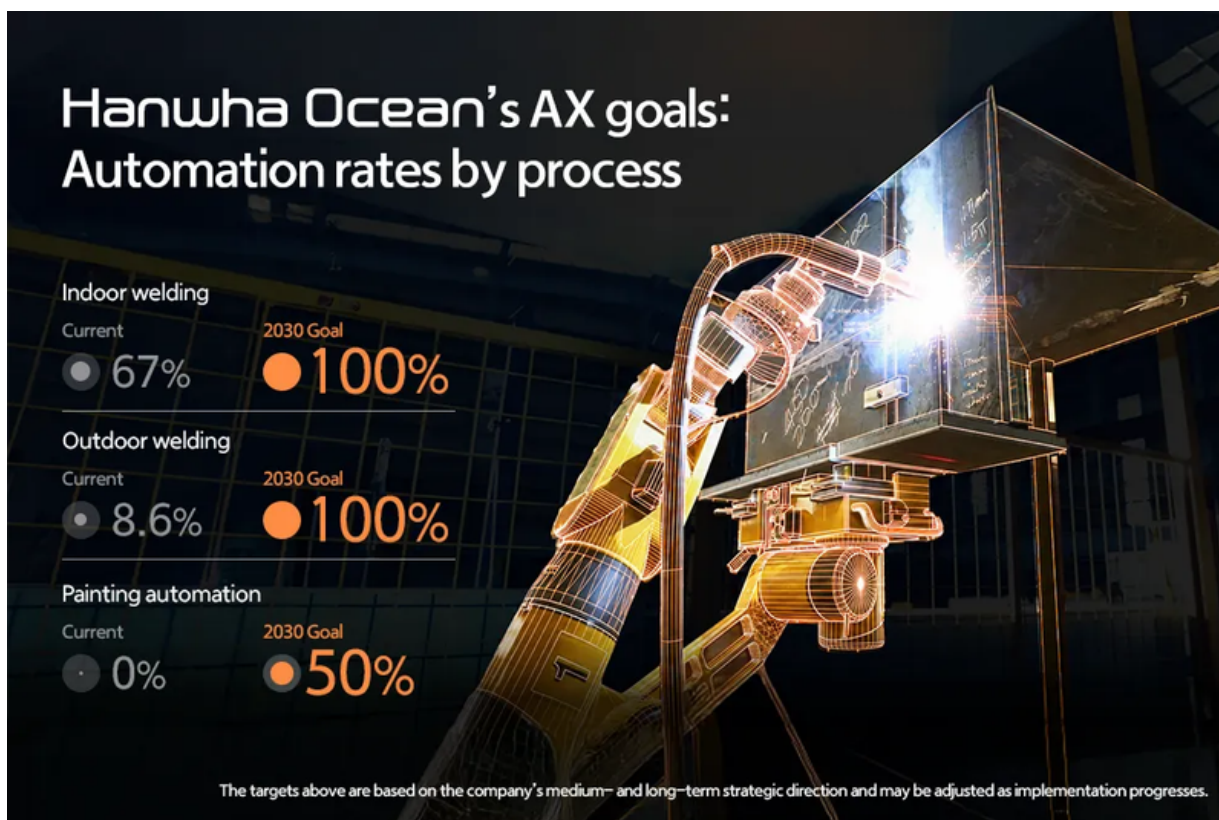


Hanwha Ocean has responded by using AI and robotics to capture and preserve the practical knowledge of veteran workers.

Welding is a core technology in shipbuilding. Hundreds of steel blocks are fitted together through welding. Even a slightly imperfect weld can compromise a hull's integrity. Steel plates also vary by as little as a millimeter, making the angle, speed, and movement of welding different each time. Due to this, accurate welding depends on the intuition of skilled workers rather than any manual.¹⁰² AI can help preserve this knowledge.

For instance, at its Geoje shipyard, the techniques and decisions of experienced welders are recorded as data and used to train an AI-assisted welding system. AI now supports around 67% of indoor welding, and Hanwha Ocean is targeting 100% by 2030. Notably, this does not necessarily remove workers from the production process. Robots perform hazardous and repetitive tasks, while skilled workers move towards supervising automated systems.¹⁰³

Hanwha Ocean's AI-Tech Goals



Source: Hanwha Ocean

Korean cooperation may help Indian yards combine workers with automation, AI, robotics, and digital production management. It would raise both productivity and safety. Korea may also internationalize technologies with a larger base in India.

Green Shipbuilding and Wider Green Supply Chain

India is driving a major push toward green shipbuilding under its various government initiatives. It is committing billions to eco-friendly maritime infrastructure, zero-emission alternative-fuel vessels (hydrogen, electric, and ammonia propulsion), and sustainable ship recycling through programs like the National Green Hydrogen Mission (NGHM).

The South Korean government is also reviewing a plan to partially cover expenses such as installation costs or insurance premiums when a Korean shipbuilder first uses new-technology equipment that is eco-friendly and autonomous.¹⁰⁴ Companies such as HD Hyundai have developed ammonia dual-fuel container-ship design. It is also developing hydrogen dual-fuel engines combined with fuel-cell hybrid propulsion.¹⁰⁵ Other Korean companies are working on Solid Oxide Fuel

Cells (SOFC),¹⁰⁶ LNG boil-off-gas management and other energy-efficiency technologies.¹⁰⁷ There are some areas where Indian yards could cooperate with Korean companies through joint design, licensing, demonstration vessels, and eventually local production of selected systems.

However, building a green vessel alone does not create green shipping. The entire chain surrounding the vessel has to develop with it. This includes low-carbon or green steel, engines, fuel cells, fuel storage systems, supplies of green methanol, ammonia, safe storage facilities at ports, bunkering vessels, and infrastructure, along with green shipping corridors connecting ports.

Thus, the opportunity for India and South Korea lies not simply in building green ships, but in developing the ecosystem that makes green shipping possible.

Ship repair, MRO, and Retrofitting

As maritime traffic across the Indo-Pacific grows and commercial fleets become technologically more sophisticated, demand for reliable maintenance, repair, and overhaul (MRO) services increases.

India is also well positioned to capture part of this market due to its long coastline, network of ports, growing industrial base, availability of technical manpower, and its location along major shipping routes. On the other hand, Korea brings decades of experience in advanced shipbuilding, marine engineering, and the maintenance of technologically complicated vessels.

For India, MRO can complement its ambitions in new shipbuilding.¹⁰⁸ The same ecosystem required to build ships is also needed to repair and maintain them. Developing MRO alongside new shipbuilding can help Indian yards in maintaining a more continuous workload, build technical experience, and strengthen supplier networks. Currently, Gujarat is rapidly transforming into a premier national hub from MRO. Propelled by the Gujarat Shipbuilding and Repair Policy 2026, the state is targeting over USD 2.83 billion investments to build mega parks, greenfield clusters, and state-of-the-art MRO facilities.¹⁰⁹

Korean participation can add another dimension through advanced repair technologies, digital diagnostics, predictive maintenance, automation, and servicing of sophisticated vessel systems. India and South Korea can also cooperate on green retrofitting by upgrading existing ships with energy-efficient technologies, digital systems, alternative-fuel equipment.

Naval Shipbuilding

India already possesses substantial indigenous naval shipbuilding capabilities. Also, two countries have previously explored cooperation on mine-countermeasure vessels, fleet support ships, and conventional submarines. However, these projects failed due to disagreements over technology transfer, intellectual property, costs, and production guarantees.

Nonetheless, the wider defense relations have developed considerably. K9 Vajra-T partnership between L&T and Hanwha has emerged as the strongest point of the India-South Korea relations, as it involves more than 80% indigenous work packages and over 50% indigenization by value.¹¹⁰ This experience matters for future naval cooperation because Korean companies now have a much clearer understanding of Indian market and its emphasis on technology transfer, indigenization, and higher domestic value addition.

There is also existing institutional trust between the armed forces. Naval and Coast Guard exchanges have continued, including ship visits, training, and exercises. In July 2025, the two Coast Guards signed an MoU on Maritime Search and Rescue,¹¹¹ while Korean personnel participated in India's NATPOLREX exercise and Indian Coast Guard personnel undertook capacity-building training in Korea.¹¹²

These lessons suggest that future cooperation should begin with clearly defined and commercially manageable projects rather than immediately pursuing the most sensitive platforms. Coast Guard vessels, auxiliary and fleet-support ships, mine-countermeasure systems, specialized vessels, and naval MRO could provide practical starting points, with cooperation gradually extending towards more sophisticated technologies.

CHALLENGES TO INDIA-SOUTH KOREA SHIPBUILDING COOPERATION

Despite complementarities between India and South Korea, there remain challenges.

There is a gap between India's shipbuilding ambitions and its industrial ecosystem. Interview with Hanwha Ocean identifies shortages in skilled labor, basic engineering capabilities, reliable supply chains, efficient yard operation and infrastructure capable of constructing large vessels as major constraints.

Similar concerns emerged in interviews with Indian Industry representatives. While India has substantial experience in defense shipbuilding, commercial shipbuilding remains less competitive because the supporting vendor and equipment ecosystem is relatively thin. This raises production costs and makes it harder for Indian yards to compete with established Korean, Chinese, and Japanese yards. Commercial shipbuilding costs in India are around 20-25% higher than in the leading Asian shipbuilding countries, partly because equipment and suppliers are not clustered around yards in the same way.

Korea can help close these gaps but building an ecosystem of suppliers, training institutions, and modern yards will require sustained investment rather than simply signing technology-transfer agreements.

Finance, infrastructure, and assured orders present another challenge. Shipbuilding requires large upfront investments in dry docks, fabrication facilities, and equipment, but returns are relatively low and projects can stretch over several years. Indian yards face comparatively expensive finance. An industry interview estimated borrowing costs at around 8% in India compared with about 5% in South Korea, alongside heavier collateral requirements. ICRA's published estimate for March 2025 puts Indian yards at 9-10% against 4-8% in competitor economies. The two estimates differ in level but not in direction, and the gap they describe is of the same order. A company is unlikely to invest heavily in a new Indian yard or production facility unless it can see a sufficiently predictable pipeline of orders. Investors may be willing to build capacity, but they need confidence that orders will continue after the first vessel.

Workforce development also presents a challenge. India has a labor pool but requires specialized skills, particularly welding design, outfitting, and digital production. Trained workers must also be retained in shipyard locations. Korea's proposed training programmes can address these issues but the broader challenge is that India needs to create the conditions that allow Korean companies to remain invested for the long term.

Implementation itself could become the real test of the partnership. Korean stakeholders repeatedly pointed out that while India is attracting Korean companies due to its labor reforms, tax reforms, infrastructure and cluster development, and government initiatives, the slow administrative procedures, fragmented information, and regulatory complexity continue to challenge the cooperation.

Interviewees noted difficulties in obtaining clear information on regulation, subsidies, and the division of responsibilities between central and state governments, while describing approval processes as complicated and time-consuming.

Policy continuity also tests Korean investors' patience. Shipyards often require multiple approvals involving both central and state governments. HD Hyundai reached an agreement with the previous DMK government on 7 December 2025 and signed the tripartite MoU for the Thoothukudi mega shipyard on 20 April 2026, three days before polling in the state election. The DMK lost that election, and a Tamilaga Vettri Kazhagam government under C. Joseph Vijay took office on 10 May 2026. Industry concerns duly emerged over whether the new administration would maintain the commitments made by its predecessor.¹¹³

Similarly, South Korea also has a single five-year presidential term, and changes in administration can bring shifts in industrial, economic, and foreign policy priorities. Shipbuilding cooperation requires longer horizon (often ten to twelve years). Therefore, the partnership needs institutional mechanism that can survive political transitions in both countries.

An important bilateral challenge concerns the potential divergence between Indian and Korean expectation regarding industrial cooperation. From the Indian perspective, Korean investment is likely to be assessed partly in terms of easy technology transfer, localization, domestic employment, supplier development, and indigenous capacity creation. Korean companies, however, will evaluate projects according to commercial viability, productivity, regulatory predictability, managerial flexibility, and return on investment.¹¹⁴

Managing this expectations gap will be essential. India should not assume that Korean investment will automatically result in comprehensive technology transfer for localization, while Korean firms will need to recognize that major industrial investment in India increasingly operates within a policy environment, which prioritizes domestic manufacturing.

Also, the interviews suggest that South Korean companies may, in some circumstances, prefer investment arrangements that provide substantial managerial and operational autonomy rather than conventional joint ventures involving extensive sharing of decision-making authority.

POLICY RECOMMENDATIONS

Recent agreements have created a broad framework for India and South Korea shipbuilding cooperation. Future work needs to be focused towards regular institutional coordination and implementation. Stakeholders in this cooperation would include MoPSW, Ministry of Heavy Industries, Ministry of Commerce & Industry, ROK MOTIR (Ministry of Trade, Industry and Resources), ROK Ministry of Oceans and Fisheries, HD Hyundai, Hanwha Ocean, Samsung Heavy Industries, CSL, HSL, L&T, and other Indian shipping and shipbuilding companies.

The phased recommendation set at a glance

A phased path from administrative wins to joint competitiveness

What each stage of the recommendation set has to deliver

Phase 1	Phase 2	Phase 3
0 to 6 months	6 to 12 months	12 to 24 months
Standing mandate for the Joint Working Group	Single-window mechanism for Korean investment	Co-development of vessels
Maritime university and shipyard exchanges	MRO and retrofit hubs	Export-oriented production and third-country bids
Implementation monitoring	Demonstration smart yards	Maritime innovation financing window

Source: this report, Section VII.

Short-term: Building the Institutional Foundation

Establish an India-South Korea Working Group

A dedicated working group should bring together government, shipyards, shipping companies, financial institutions, equipment suppliers, and research organizations at least once or twice a year. The group should focus on resolving practical issues around land and infrastructure, approvals, finance, technology, among others.

The working group may also form sub-groups to identify commercially viable projects and examine their economics together. Studies could focus on container vessels/ MR tankers, LNG carriers, block fabrication, VLGCs, etc.

Another sub-group could also be formed to study the gaps in green-shipbuilding supply chain. The researchers may identify the areas that face challenges in going green. The group may also study prospects of low-carbon steel, methanol/ammonia/ LNG fuel systems, tanks, propulsion and energy-efficiency technologies both in India and South Korea.

Expand Maritime University and Shipyard Exchanges

The ongoing discussions between Indian Maritime University (IMU) and Korea Maritime & Ocean University (KMOU) should be converted into regular student, faculty, and technical exchanges. The VOYAGES framework already envisages joint programs in naval architecture, marine engineering, port management, alongside collaborative R&D and industry-linked projects.¹¹⁵ Short-term placements of Indian engineers and supervisors in Korean yards and vice-versa could provide exposure.

Establish Mechanisms for Monitoring Implementation

Given that many current initiatives remain at preliminary stages, government should establish mechanisms to monitor implementation, identify regulatory obstacles and resolve problems before individual projects lose momentum.

Also, formal mechanisms should be developed to identify and minimize expectation gaps at an early stage of proposed projects. Studies should question factors such as localization, technology transfer, intellectual property rights, workforce requirements, etc.

Medium-term: Turning Cooperation into Capacity

Develop a Single-Window Mechanism for Korean Maritime Investments

India should create a clearer mechanism for Korean investments, particularly for projects requiring coordination between the Centre, state government, ports, and financial institutions.

Develop India-South Korea MRO and Retrofit Hubs

Rather than concentrating entirely on new shipbuilding, the two countries should identify Indian yards that could become regional, repair, maintenance, and green-retrofit hubs.

Create Demonstration Smart Yards

Instead of discussing AI and automation only at the policy level, a few Indian yards working with Korean companies could become demonstration smart yards. They may incorporate automated welding, robotics, digital twins, IoT-based production monitoring and AI-supported production management.

Implement Workforce and Mobility Arrangements alongside Industrial Investment

The KOICA-MoPSW program should eventually develop into a training network connecting Korean companies with IMU, it is, polytechnics, and Indian shipyards. Training should cover advanced welding, design, engineering, robotics, AI, and shipyard management.

Maritime Sister-City Partnerships

Both countries could make greater use of sister-city partnerships between their coastal and industrial cities as a practical, sub-national layer of maritime cooperation. Mumbai-Busan, Chennai-Ulsan, and Kolkata-Incheon are already recognized as sister-cities. These partnerships could be given an economic and maritime focus, bringing together port authorities, shipyards, maritime-equipment SMEs, universities, training institutions, and local government.

Long-term: Move Toward Joint Global Competitiveness**Move from technology transfers to co-development of vessels**

Rather than India remaining primarily a recipient of Korean designs, Indian and Korean companies should be able to jointly design and construct vessels. Intellectual-property ownerships, localization, and export rights should be negotiated clearly from the beginning to avoid the difficulties encountered in some earlier defense projects.

Build an export-oriented India-Korea production model and explore joint projects in third countries

India and Korea should look beyond India's domestic requirements. Long-term competitiveness will require Indian yards to win international orders. Korea's design capability, customer relationships, and quality standards combined with Indian production scale could eventually allow joint produced vessels to countries in South Asia, Southeast Asia, West Asia, and Africa.

Once Indian yards acquire sufficient capabilities, India and Korea could also jointly bid for shipbuilding, port, MRO, and maritime infrastructure projects in third countries.

Develop a dedicated maritime innovation financing window

India could establish an India-ROK maritime innovation window within the MDF to support joint R&D, prototype vessels, smart-yard projects, green shipbuilding, and component localization. Korean financial institutions and industry could participate in it.

CONCLUSION

India's push to develop its shipbuilding industry presents South Korea with an important first-mover advantage. Korean companies have the opportunity to become deeply embedded in this emerging industry at an early stage. This is important as shipbuilding partnerships are difficult to displace once established. Early Korean participation faces a lot of challenges but it also creates a much more durable position in India's maritime industrialization.

What makes the cooperation unique is the depth of industrial interaction it can create. Notably, the India-Korea Shipbuilding partnership goes beyond transactional relationship. The current emerging model seems to be different than previous ones. Its durability lies primarily in the increasingly integrated nature of the merging partnership. It is not focusing on India simply purchasing vessels from Korean shipyards, rather it moves towards deeper industrial integration.

There is also a strong complementarity between the two sides. Growing Indian demand for commercial vessels generates opportunities for Indian and Korean investment in partnered or joint shipbuilding facilities, supported by Korean expertise in ship design, production processes, automation and advanced manufacturing. At the same time, training Indian workers according to Korean shipbuilding standards create a skilled workforce capable of supporting these shipyards, while the participation of Korean and Indian component manufacturers gradually strengthen domestic supplier networks.

Cooperation in digital production systems, smart shipyards, green shipbuilding technologies could further deepen these industrial linkages. Over time, vessels produced through such partnerships could serve not only India's expanding domestic requirements but potentially enable Indian and Korean firms to joint pursue orders in third-country markets. India can provide Korean shipbuilders with an additional production base and long-term market, while Korea can help India shorten its technological and industrial learning curve.

Each layer of cooperation therefore creates continuing relationships among shipbuilders, suppliers, workers, training institutions, technology providers, and governments, embedding bilateral cooperation across the shipbuilding value chain. This adds value to the India-South Korea partnership by making it truly strategic by moving from trade to joint production, from technology transfer to capability-building, and from bilateral cooperation to joint competitiveness in third-country markets. Thus, shipbuilding cooperation a basis for its evolution from a buyer-seller relationship into a long-term maritime industrial partnership.

However, strategic trust between India and South Korea cannot be created through declarations or individual MoUs only. It develops incrementally through repeated interaction and, importantly, through the successful implementation of projects. If India and South Korea are able to translate even a limited number of the present shipbuilding initiatives into successful outcomes, repeated interactions among governments, companies, shipyards, suppliers, workers, and financial institutions can generate greater

institutional familiarity and confidence. Shipbuilding could, therefore, contribute not merely to bilateral economic relations but to the gradual strengthening of the wider India-South Korea strategic partnership.

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C-21, 3rd Floor, Qutub Institutional Area, New Delhi, India - 110016.

Phone: 011-43104566 | Email: office@csdronline.com | Web: www.csdronline.com | Twitter: [@CSDR_India](https://twitter.com/CSDR_India)