KRS Infra Ventures Pvt. Ltd.

Indian Crude Tanker Shipbuilding Indigenous Plan

Vision 2030

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FROM THE DESK OF
DIRECTOR

Dear Friends,

Indian Government has announced a landmark plan to invest INR 85,000 crore (approximately $10 billion) by 2047 to construct 112 crude oil tankers domestically, marking a major push to strengthen its energy and maritime security. This initiative is designed to reduce India's reliance on chartered crude vessels, support for uninterrupted energy trade flows as the country's crude oil refining capacity is set to nearly double by 2030 from 250 million tons to 450 million tons annually.

Collaboration Models for Global Shipyards & suppliers via:

Joint Ventures & Technology Transfer: *Foreign shipbuilders are invited to partner with Indian yards, providing design expertise, advanced technologies, and project management. Notable ongoing discussions involve South Korea's & Japanese yards & suppliers.*

Equipment & Component Supply: *Suppliers of marine engines, navigation systems, safety equipment, and other critical components have significant opportunities, as Indian shipyards will require global-standard technology to meet quality and delivery targets.*

Consultancy & Project Management: *International maritime consultants and project management firms can offer expertise in large-scale shipbuilding program execution, quality assurance, and compliance with International standards.*

KRS will help you work here in India to take advantage of business opportunities.

Keshav Gandhi
Executive Director
KRS Infra Ventures Private Limited

INTRODUCTION

India, the world's third-largest importer of crude oil, currently relies on an ageing fleet, most of which is chartered from international operators. The country's refining capacity is set to increase from 250 million tons to 450 million tons per year by 2030, fueling the need for a robust and reliable domestic shipping fleet. The initiative is part of a broader maritime strategy to secure uninterrupted energy trade flows and insulate India from geopolitical disruptions.

Indian-built tankers currently account for only 5% of the national fleet. The Government aims to raise this to 7% by 2030 and to a significant 69% by 2047, the year India aspires to achieve developed-nation status.

India is embarking on an ambitious plan to transform its crude oil shipping sector by investing heavily in the domestic manufacturing of crude oil tankers. This move is central to bolstering energy security, reducing foreign dependence, and stimulating the local shipbuilding industry.

India plans to invest approximately INR 85,000 crore ($10 billion) by 2040 to build a fleet of 112 domestically manufactured crude oil tankers. The initiative will be executed in phases, with the first phase targeting the procurement of 79 ships, including 30 medium-range tankers. The initial order for 10 tankers is expected to be issued imminently. Only vessels constructed in India, either independently or through partnerships with foreign shipbuilders, will qualify for procurement. This policy aims to maximize domestic value addition and technology transfer. The Government of India is actively inviting collaboration with leading international shipbuilders, especially from Japan and South Korea, to help scale up local capacity and expertise.

The Government of India has announced in addition INR 25,000 crore Maritime Development Fund to provide long-term

financing for ship acquisition and industry modernization. Large ships have been granted 'infrastructure' status, making them eligible for financial incentives and attracting private investment.

India's shipbuilding sector remains under-developed, primarily due to limited domestic demand and lack of economies of scale.

The Government's demand-side stimulus, combined with foreign collaborations, is expected to trigger scale, technology transfer, and global competitiveness.

Indian States like Maharashtra are rolling out dedicated shipbuilding policies to further enhance local capacity and production.

India's crude vessel manufacturing drive is poised to reshape the country's maritime landscape by 2040. The focus on domestic construction, strategic partnerships, and policy incentives is expected to:

- Strengthening energy and maritime security
- Reduce foreign exchange outflows on vessel leasing
- Stimulate the Indian shipbuilding ecosystem
- Position India as a significant player in the global shipping industry.

This transformation aligns with India's broader vision of economic self-reliance *(Atmanirbhar Bharat)* and developed-nation status by 2047.

Acquiring 112 Crude Oil Tankers on India's Energy Security

Government Plan to owning a fleet of 112 domestically built crude oil tankers will significantly reduce India's reliance on foreign-owned vessels, which currently make up the bulk of its shipping capacity for crude imports. This shift from leasing ageing international ships to owning and operating Indian-built tankers will give the country greater control over its energy logistics, reducing vulnerabilities to external disruptions.

Owning such a fleet, India can better safeguard its energy trade routes from geopolitical disruptions, such as international sanctions, maritime blockades, or conflicts that could

otherwise restrict access to foreign shipping or raise charter costs. This autonomy ensures more reliable and uninterrupted crude oil deliveries, which is critical given India's status as the world's third-largest oil importer.

The acquisition of 112 crude oil tankers will greatly enhance India's energy security by ensuring reliable access to crude imports, protecting supply chains from external shocks, supporting the country's growing refining sector, and advancing strategic autonomy in maritime logistics.

Long-Term Strategic Security

The Government's goal is to increase the share of Indian-built tankers in the national fleet from 5% to 7% by 2030, and to a substantial 69% by 2047. This long-term vision aligns with India's broader ambition to become a developed nation by its 100th year of independence, and it will help insulate the country from fluctuations in global shipping markets and foreign exchange risks.

Economic Impact of Localizing Crude Oil Tanker Construction in India

Reduction in Foreign Exchange Outflow - India currently spends billions annually on chartering and importing foreign-built tankers for crude oil transport. By building tankers domestically, the country can significantly reduce these foreign exchange outflows, potentially saving up to $5 billion each year.

Job Creation and Industrial Growth - Large-scale shipbuilding projects are expected to generate over 100,000 jobs across direct manufacturing, ancillary industries, and related services. This will stimulate growth in steel, engineering, electronics, and logistics sectors, creating a multiplier effect throughout the economy.

Development of Domestic Shipbuilding Ecosystem - Localization will drive investment into Indian shipyards, modernizing infrastructure and encouraging technology

transfer through partnerships with established global players from Japan and South Korea. This will help India build competitive shipbuilding capabilities and position itself as a regional hub for tanker construction and maintenance.

Infrastructure and Port Development- Increased demand for Indian-built tankers will drive further investments in port infrastructure, logistics, and maritime services, enhancing overall supply chain efficiency and supporting India's ambition to become a major player in global maritime trade.

Long-Term Strategic Benefits - Building a robust domestic shipbuilding industry will insulate India from global supply chain shocks, freight volatility, and geopolitical risks, strengthening economic resilience and national security.

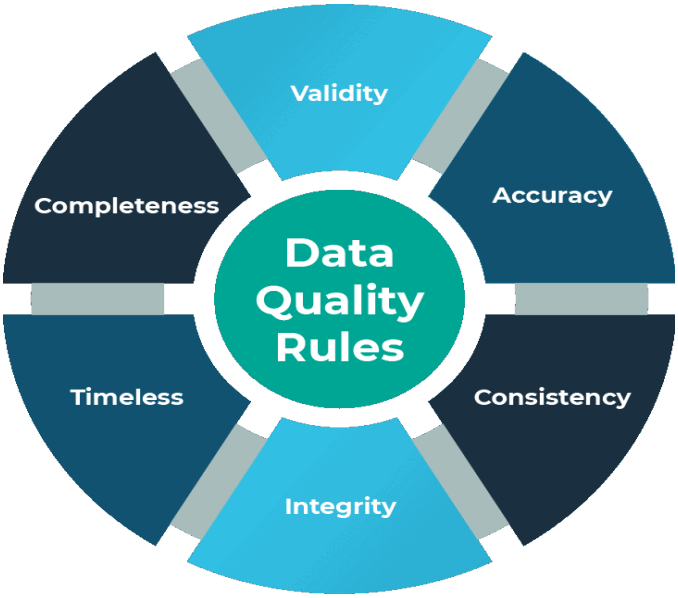
India faces several significant challenges in building its own oil tankers:

High Capital Expenditure: Constructing modern shipyards capable of producing large tankers such as VLCCs (Very Large Crude Carriers) and Suezmax vessels requires substantial investment, estimated in billions of dollars. This financial barrier is a primary hurdle for scaling up domestic tanker production.

Nascent Industry and Lack of Scale: India's shipbuilding sector is still in its early stages and lacks the scale and integrated supply chains found in established shipbuilding nations like South Korea, China, and Japan. Without sufficient captive demand and large-scale production, achieving global competitiveness and cost efficiency will be difficult.

Technological Gaps: Indian shipyards currently lag in advanced technologies such as automation, robotics, and digital design, which are standard in leading shipbuilding countries. Upgrading to these standards will require significant investments in technology and expertise.

Intense Global Competition: The global tanker market is dominated by a few countries with decades of experience, well-developed infrastructure, and economies of scale.



Competing against these established players will be challenging for India as it builds its capabilities.

Quality and Integration Issues: There are concerns about inconsistent quality standards and the lack of a well-integrated maritime cluster, which includes shipyards, component suppliers, and service providers. This fragmentation can impact the reliability and global acceptance of Indian-built tankers.

Need for Long-term Government Support: Sustained policy support, incentives for private investment, and collaboration with global shipbuilders are crucial to overcoming these challenges and ensuring the viability of the domestic tanker manufacturing initiative.

While localizing tanker construction offers strategic and economic benefits, India must overcome major financial, technological, regulatory, and industry-scale challenges to successfully establish itself as a global player in oil tanker manufacturing

Private investment can play a transformative role in supporting India's shipbuilding industry across several dimensions:

Capital Infusion and Infrastructure Development - Private sector investment brings much-needed capital for modernizing shipyards, expanding manufacturing facilities, and adopting advanced technologies such as automation and green propulsion systems. This helps Indian shipyards become more globally competitive and capable of building large, sophisticated vessels.

Job Creation and Economic Multiplier Effect - Increased private investment stimulates job creation not only in shipyards but also in ancillary industries like steel, engineering, electronics, and maritime services. This creates a multiplier effect, boosting overall economic growth and supporting the Government's “Make in India” initiative.

Innovation and Technology Transfer - Private partnerships, including joint ventures with

leading global shipbuilders (e.g., from Japan and South Korea), facilitate technology transfer, research, and development in advanced ship design, digitalization, and energy-efficient vessels. This accelerates the adoption of global best practices and enhances India's shipbuilding capabilities.

Financing and Export Competitiveness - Private sector participation can help establish dedicated shipbuilding finance institutions, offering low-interest loans, export credits, and ship leasing options—key for competing in international markets. Financial assistance policies and export promotion funds, supported by both Government and private capital, can make Indian-built ships more attractive globally.

Stable Demand and Market Development - Encouraging private companies to invest in ship ownership and operations creates a sustainable domestic market for Indian-built vessels, reducing reliance on imports and foreign-owned ships. This also helps stabilize demand for local shipyards, making the sector more attractive for further investment.

Policy Advocacy and Ease of Doing Business - Private sector involvement can drive policy reforms, such as streamlining regulatory approvals, harmonizing tax incentives, and establishing single-window clearance systems. These measures reduce bureaucratic delays and improve the ease of doing business, further encouraging investment.

Sustainability and Green Shipbuilding - Private investment, especially in green technologies (like hydrogen-powered and electric vessels), supports compliance with international environmental norms and positions India as a leader in sustainable shipbuilding.

Government of India initiative to invest in scaling up India's shipbuilding industry, fostering innovation, creating jobs, and making the sector globally competitive. When combined with supportive Government

policies and incentives, it can help India achieve its ambition of becoming a major shipbuilding hub.

In addition, Government of India open Private Investment and the Development of Green Hydrogen-Powered Ships. Private investment is poised to play a critical role in accelerating the development and deployment of green hydrogen-powered ships in India, supporting both technological innovation and the scaling of sustainable maritime solutions.

Key Contributions of Private Investment

Capital for Infrastructure and R&D - Significant private sector funding is needed to build hydrogen production plants, electrolyze manufacturing facilities, bunkering infrastructure, and refueling stations at ports. Private investment also supports R&D for ship engines and fuel cells tailored for maritime use.

Risk Sharing and Early-Stage Innovation - Venture capital and private equity can provide early-stage funding for startups and technology developers, helping to overcome high initial costs and technological uncertainties associated with green hydrogen shipping solutions.

Public-Private Partnerships (PPPs) - PPPs can bridge financing gaps, foster innovation, and expedite large-scale demonstration projects.

Collaboration between Government, private industry, and research institutions is essential for pilot projects and commercialization of hydrogen-powered vessels.

Technology Transfer and Global Collaboration - Partnerships with international companies and organizations bring in technical expertise, advanced ship designs, and proven hydrogen fuel cell technology, helping India leapfrog developmental barriers.

Market Creation and Demand Aggregation - Major private players in refineries, logistics, and shipping can aggregate demand for green hydrogen, making investments in hydrogen-powered ships commercially viable and encouraging ecosystem development.

Financial Innovation - The private sector can introduce innovative financial instruments (e.g., green bonds, blended finance) to de-risk investments and attract a broader base of capital for green hydrogen projects, including those in shipping.

Supporting Policy and Regulatory Advocacy - Private investors can advocate for enabling policies—such as tax incentives, production-linked incentives, and subsidies for green hydrogen and shipbuilding—that reduce costs and improve project viability

Venture capital (VC) and private equity (PE) play a pivotal role in funding green hydrogen startups by providing both the financial resources and strategic support necessary for innovation and scale-up:

Early-Stage and Growth Capital - VC and PE firms supply crucial funding at early and growth stages, enabling startups to develop, test, and commercialize new green hydrogen technologies. In recent years, global VC investment in hydrogen has surged, with deal sizes and total capital invested increasing significantly, reflecting strong confidence in the sector's growth potential. This capital helps startups overcome the high initial costs and long development timelines typical of green hydrogen projects.

Non-Financial Support and Expertise - Beyond capital, VC and PE investors often provide valuable non-financial support, including access to industry experts, managerial guidance, and strategic business networks. This support enhances operational efficiency, accelerates commercialization, and increases the likelihood of successful scale-up. Investors with sector experience can also help startups navigate regulatory, technical, and market challenges.

Facilitating Technology Transfer and Partnerships - VC and PE funding can catalyze partnerships between startups and established industry players, fostering technology transfer and collaborative innovation across the hydrogen value chain. Corporate venture capital—often from large energy or industrial

companies—brings additional synergies, market access, and credibility to startups.

Driving Market Creation and Commercialization - As the hydrogen sector matures, VC and PE investors play a critical role in moving innovations from lab to market, focusing on customer acquisition and sales to ensure commercial viability. Their involvement can help aggregate demand and build the ecosystem necessary for green hydrogen adoption.

Encouraging Policy and Ecosystem Development - The presence of active VC and PE investors can spur supportive Government policies and attract further capital, creating a virtuous cycle for sector growth. Their advocacy can help shape regulations and incentives that de-risk investments and foster a robust green hydrogen ecosystem.

Venture Capital and PE investment is essential for green hydrogen startups to bridge the gap between innovation and commercialization, scale production, and build a globally competitive industry.

Overview of Indian Shipbuilding Ancillary Requirements

India's shipbuilding sector is strategically important but faces significant challenges, particularly in the development and integration of ancillary industries that supply critical components and materials. Ancillary industry is essential for both commercial and defense shipbuilding, but its current state and requirements reflect several gaps and opportunities.

Key Ancillary Requirements

Development of Ancillary Clusters - Shipbuilding in India requires the establishment of dedicated ancillary industrial clusters near shipyards. These clusters would facilitate timely and cost-effective sourcing of raw materials and components, reducing logistics costs and improving supply chain efficiency.

Critical Components and Equipment - The shipbuilding ancillary sector must supply a wide range of components, including:

- High-quality steel plates
- Gearboxes, shafting, propellers
- Generators, switchboards
- Valves, pumps, HVAC systems
- Boiler plants, anchor chains, marine duty pumps, fire-fighting equipment, intercommunication systems, air compressors, winches, and towing winches.

Testing and Certification Infrastructure - Establishment of globally recognized testing and certification labs for shipbuilding equipment and components is needed to ensure quality and compliance with international standards.

Addressing Demand and Scale - The commercial shipbuilding ancillary sector is underdeveloped due to low domestic demand and lack of economies of scale. Policy mandates for sourcing from Indian yards, like the U.S. Jones Act, could stimulate demand and justify investment in ancillary capacity.

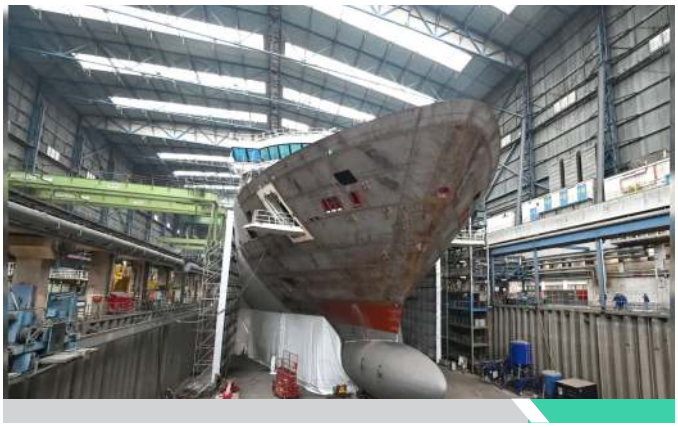
India's shipbuilding ancillary requirements encompass the creation of robust industrial clusters, indigenization of key components, supportive policy frameworks, and streamlined regulatory processes. Addressing these requirements is crucial for making Indian shipbuilding globally competitive and self-reliant, especially as the country aims to expand its share in the global shipbuilding market.

Shipbuilding Ancillary Import Components

India's shipbuilding industry is heavily dependent on imports for critical raw materials and components. Key points include:

High Import Dependency: Indian shipyards rely on foreign suppliers for essential components such as marine engines, navigation systems, propulsion equipment, and specialized steel, as domestic manufacturing capacity for these items is limited.

Raw Materials: Most of the steel and other input materials required for shipbuilding are imported, as India's domestic production is insufficient or not cost-competitive compared to global suppliers like China, South Korea.



Equipment and Spares: Most of the equipment and spare parts used in shipbuilding are sourced from abroad, making Indian shipyards vulnerable to supply chain disruptions and cost fluctuations.

Technological Gap: Limited investment in R&D and outdated production methods further reinforce dependence on imported advanced technology and systems.

Demand for Shipbuilding Ancillary Products

Global Demand Surge: In 2024, global shipbuilding demand reached its highest in 17 years, with order books totaling $204 billion. The Asia-Pacific region, led by China, South Korea, and Japan, dominates both shipbuilding and ancillary supply chains.

Indian Market Dynamics: India's shipbuilding sector is growing, with a focus on offshore vessels and specialized ships. However, the lack of a robust domestic ancillary industry means most demand for components and equipment is met through imports.

Ancillary Industry Development: The development of domestic ancillary clusters is critical for improving cost competitiveness. Countries like South Korea and Japan have successfully supported their ancillary industries through incentives, R&D, and business networks, increasing local content in shipbuilding.

Inventory and Lead Times: Due to import dependency, Indian shipyards must maintain large inventories of imported spares and components to avoid delays, increasing working capital requirements and overall costs.

Market Outlook: With global trade expansion, rising demand for new vessels, and modernization of fleets, the demand for shipbuilding ancillaries—both globally and in India—will continue to grow.

Summary Table: Shipbuilding Ancillary Imports and Demand

Aspect	India (Current State)	Global Leaders (China, Korea, Japan)
Import Dependency	High (most critical components)	Low (strong domestic ancillary industries)
Key Imported Items	Steel, engines, navigation, spares	Minimal imports, high local content
Cost Impact	High working capital, cost pressures	Lower costs due to local sourcing
Domestic Ancillary Ecosystem	Underdeveloped	Well-developed, government-supported
Demand Trend	Rising, but import-driven	Rising, with local supply chains

India's shipbuilding sector is highly dependent on imported ancillary components and raw materials, which increases costs and supply risks. Developing a robust domestic ancillary industry is crucial to meet rising demand, enhance cost competitiveness, and reduce vulnerability to global supply chain disruptions.

Crude Tanker Ship Design & Package Sourcing

Crude tanker ship design prioritizes cargo capacity, safety, and efficiency, with strict adherence to international regulations on pollution prevention and structural integrity. The sourcing of new vessels and equipment packages is need of hour here in India, with a focus on advanced technologies to meet evolving environmental and operational requirements. The Indian market is dynamic, with flexibility in vessel use and repurposing strategies becoming increasingly important amid demand and regulatory landscapes.

The global tanker market is influenced by geopolitical events, technological advancements, and regulatory changes, which affect both new building orders and secondhand vessel trades.

Shipowners source tanker packages (newbuilds and retrofits) from major shipbuilding nations such as South Korea, China, and Japan, which dominate the construction of large crude tankers.

Equipment packages, including cargo pumps, heating coils, coatings, and safety systems—are sourced from specialized marine suppliers worldwide, with leading manufacturers.

Crude tanker ship design is increasingly shaped by the need for greater efficiency, environmental compliance, and adaptability to volatile global market conditions. The Indian aging fleet and now focusing the Indigenous drive to build Ships helps suppliers/ shipyards to take advantage of business opportunities here in Indian Shipbuilding market.

How KRS can help:

KRS Infra Venture Private Limited can play a pivotal role as marketing partners, suppliers, and for global shipbuilding firms, helping them achieve business goals in Indian Market.

NOTES

The KRS Group
www.krsgroup.in

Indian Crude Tanker
Shipbuilding
Indigenous Plan
Vision 2030

KRS MARKETING Partnership Proposal

Marketing Requirements

Handling business opportunities in India require various steps and Marketing Partnership will help you to understand the practice and management to work in India. Considering the promotion before official participation in business, few steps like promotion, introducing own product range to manage the requirement development accept our standard products or services, advance preparation of participation in Indian Opportunities, management of local vendor team, if required for joint participation, handling tenders, offers, negotiations, contract management support etc., the list is ongoing and KRS Infra Ventures Pvt. Limited ensure that our experience being in this trade from last three decades offer you wider experience base in INDIA.

Marketing Proposal

The KRS Group herewith introduce KRS Infra Ventures Pvt. Limited herewith offers the marketing partnership to your organization to promote you and yours associates interest in Indian Infrastructure Sector with following ways:

- Informing Business Opportunities in India for business scope of your organization.
- Promoting your organization with introducing and presenting details to various clients in Government and Private Sector and follow-up for acquisition formalities (tendering process, finalization of business, all assistance during implementation & after sales etc.)
- Informing the current scenario of market in view of Government Policies, Procurements plans etc.
- Advising the strategies required during promotion for successful business opportunities.

The partnership terms will require discussions to finalize, which will be second step after receiving your principal approval and suggest you to work on following options for understanding:

- Marketing Partnership Joint Venture-which means “KRS Infra Ventures” will be offering all Marketing support in India and your organization handle the technical & commercial need of the projects targeted and rest terms & conditions of arrangement will decided after in principal approval of partnership.
- Exclusive Agent in INDIA-KRS will be offered exclusive Agency Agreement for 3 years minimum to develop and managing business opportunities for your organization and terms & conditions of this agreement will be discuss after principal approval of working.

KRS Infra Ventures Private Limited

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