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Navigating a shifting World: Trade, Energy, Technology
-Mr Gan Kim Yong, Deputy Prime Minister and Minister for Trade and Industry, Singapore

SHIPPING'S AI INFLECTION POINT

From boardroom strategy to operational decisions across maritime and logistics how AI is redefining the digital future.



AI Is Not an IT Project

-Chakib Abi-Saab

Chief Technology and Innovation Officer at Lloyd's Register

➤ From Hype to Hard Decisions:

➤ The Algorithm behind the Human



MOL Charts Course for Stability and Growth

-Jotaro Tamura

President and CEO, Mitsui O.S.K. Lines, Ltd. (MOL)



Commercial Ship Management Has Moved From Employment Broking to Strategic Navigation

-Anurag Mathur

Head of Commercial Services, Wallem Group



Which Is the Best Destination for Setting Up a Chemical Industry?



AI Mode



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Which Is the Best Destination to Set Up Any Type of Industry??



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2026



Problem Fears

Solutions Smiles

Industry Shines



Singapore Maritime Week 2026: Reading the Signals That Matter

Singapore Maritime Week has always been many things simultaneously — a policy forum, a deal-making circuit, a technology showcase, and a barometer of where global shipping is actually headed versus where it claims to be headed. This year, as exclusive Indian media partner, we were on the ground for all five days. Here is what we brought back.

The clearest signal from SMW 2026 was that the energy transition has moved decisively from debate to decision. The conversation is no longer whether to transition, but how fast, on what fuel, and who bears the cost of getting it wrong. The industry is not converging on a single winning fuel — it is building optionality. Methanol, ammonia, biofuels, LNG: each has a constituency, each has a timeline, and shipowners are being advised to make choices that keep doors open rather than close them. For Indian shipping companies — many of whom have deferred these decisions — the message is that the window for structured planning is narrowing.

On technology, the conversation at SMW was driven less by hype and more by commercial proof. On-demand digital manufacturing of marine spare parts moved from concept to credible solution, already certified by classification societies and actively reducing vessel downtime. The geopolitical subtext was unmissable: localised supply chains for critical components are now a resilience argument, not just an efficiency one. Indian port and fleet operators should be paying attention.

From a legal and contractual standpoint, geopolitical disruption is stressing standard charterparty frameworks in ways that existing contract language simply was not designed to handle. As Indian tonnage expands and Indian charterers grow more



active globally, this is not an abstract concern.

Ship management emerged as another pressure point — the human and commercial complexity of managing crews and contracts in a world of persistent geopolitical volatility, where routing decisions, war-risk premiums, and crew welfare intersect daily, and where no standard playbook exists.

What SMW 2026 confirmed, above all else, is that the decisions being made in Singapore's conference rooms today will shape the competitive position of Indian shipping for the next decade. The signals were clear. The question is who in India is listening.

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SOUTH ASIA'S PREMIER MARITIME BUSINESS MAGAZINE

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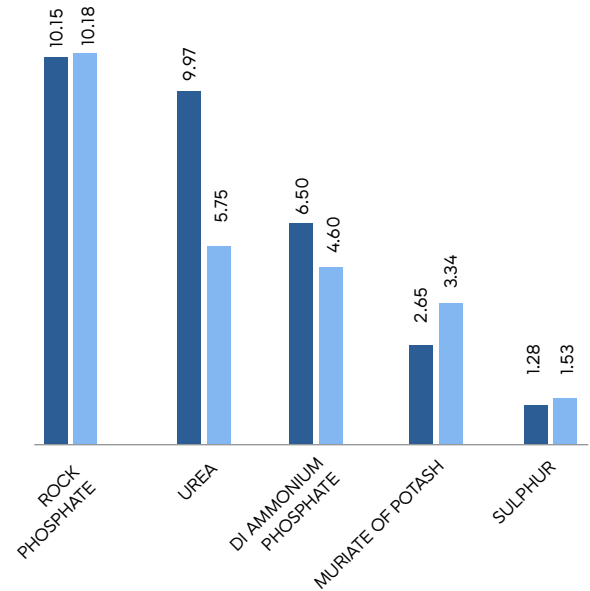
MAJOR IMPORTERS OF FERTILIZERS FY 2025-26

Quantity in Million Metric Tonnes (MMT)



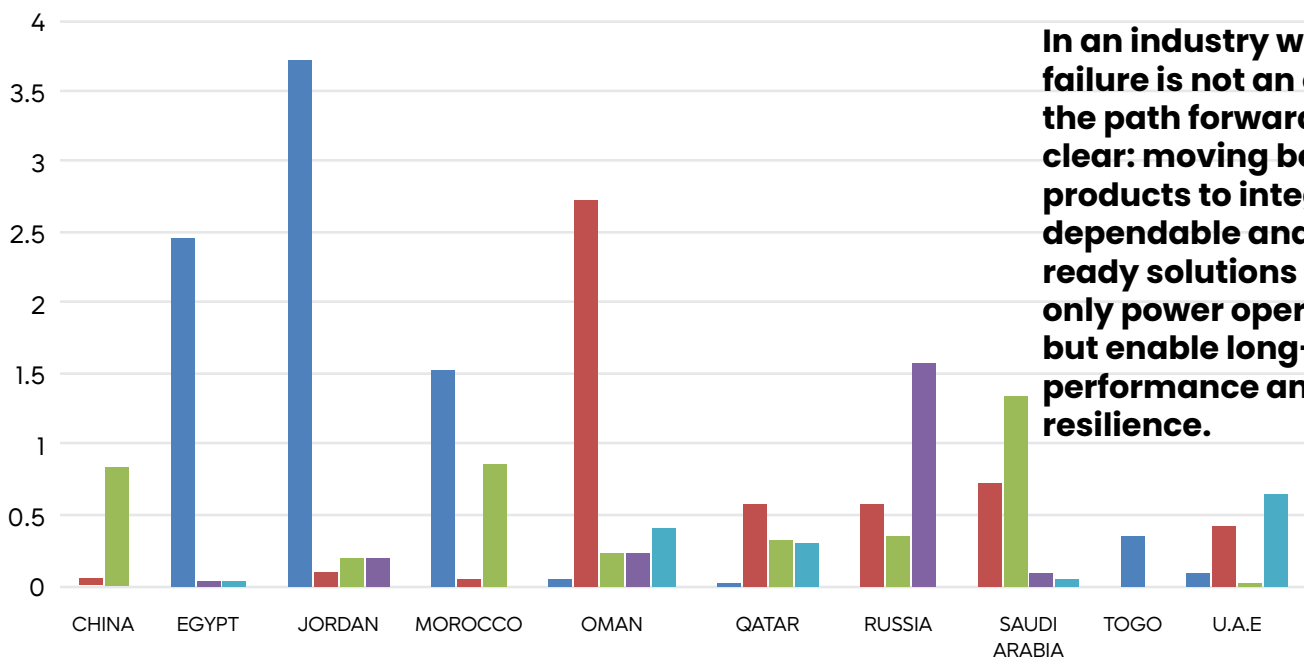
IMPORT TRAFFIC OF TOP 10 FERTILIZERS PRODUCTS IN INDIA

■ Apr'25 - Feb'26 ■ Apr'24 - Feb'25



FERTILIZER COMMODITIES BY COUNTRY

■ ROCK PHOSPHATE ■ UREA ■ DI AMMONIUM PHOSPHATE ■ MURIATE OF POTASH ■ SULPHUR



In an industry where failure is not an option, the path forward is clear: moving beyond products to integrated, dependable and future-ready solutions that not only power operations but enable long-term performance and resilience.

SWAN DEFENCE PARTNERS WITH DNV TO BOOST INDIA'S SHIPBUILDING AMBITIONS

Swan Defence and Heavy Industries Limited (SDHI) has signed a strategic partnership with DNV, the global classification society, to strengthen India's maritime and shipbuilding ecosystem. The collaboration marks a significant step in the country's drive to emerge as a globally competitive shipbuilding hub. The partnership will focus on ship classification standards, maritime technology integration, green shipping solutions, and implementation of international best practices across both commercial and defence shipbuilding. It aligns directly with India's Maritime India Vision 2030 and Maritime Amrit Kaal Vision 2047 — twin policy frameworks designed to position India among the world's leading maritime economies by mid-century.

The tie-up comes at a critical moment: India is aggressively scaling its shipbuilding capabilities through the Shipbuilding Development Scheme (SbDS), the Maritime Development Fund (MDF), and the Shipbuilding Financial Assistance Policy. The government has set an ambitious target of achieving a top-five global ranking in shipbuilding by 2047, requiring an estimated investment of nearly Rs 75-80 lakh crore to realise its full maritime infrastructure vision. Partnerships between Indian shipyards and global classification societies like DNV are seen as increasingly vital as India seeks to compete with established shipbuilding nations — China, South Korea, and Japan. International certification, safety compliance, and sustainability credentials are essential for attracting export orders and foreign maritime investment.

ADANI PORTS ACQUIRES JAYPEE FERTILISERS SUBSIDIARY FOR RS 1,500 CRORE

Adani Ports and Special Economic Zone has acquired a 100 per cent stake in Jaypee Fertilisers and Industries Ltd for Rs 1,500 crore under the NCLT-approved resolution plan for Jaiprakash Associates. The acquisition gives APSEZ indirect control of Kanpur Fertilisers and Chemicals Ltd and nearly 243 acres of land in Kanpur, which will be developed into a logistics park and warehousing hub. The deal supports APSEZ's strategy to expand its multimodal logistics park network and warehousing capacity. Approved through insolvency proceedings, the acquisition strengthens APSEZ's integrated supply chain strategy linking western ports like Mundra and Hazira with major inland industrial and consumption centres in North India.



DNK LAUNCHES A-PNT PROGRAMME TO COMBAT NAVIGATION SIGNAL THREATS



Den Norske Krigsforsikring for Skib (DNK), Norway's leading war risk mutual insurer, has launched an industry-first programme offering members access to Assured Positioning, Navigation and Timing (A-PNT) services to address the growing threat of GPS jamming and spoofing at sea. The initiative allows ship-owners to choose from specialist A-PNT providers, helping vessels maintain accurate and reliable positioning while also reducing insurance premiums. DNK's war risk coverage protects Norwegian-owned or controlled ships against threats including war, piracy, terrorism, and cyberattacks. DNK CEO Svein Ringbakken said incidents of GNSS interference have risen sharply over the past five years, particularly in the Black Sea, Baltic Sea, Persian Gulf, and Red Sea — all critical global trade corridors. He warned that disrupted navigation signals increase the risks of collisions, groundings, and failures in essential onboard safety systems. To strengthen navigational resilience, DNK evaluated A-PNT solutions based on Iridium's Low Earth Orbit satellite network, which provides global pole-to-pole coverage. Iridium's signals are around 1,000 times stronger than standard GNSS signals, making them significantly harder to jam or spoof. The programme offers vessels operating in high-risk regions a practical and cost-effective solution for improved safety and lower insurance exposure.

ALLCARGO TERMINALS POSTS 46% PROFIT GROWTH IN FY26

Allcargo Terminals Limited reported strong FY26 financial results, with consolidated net profit rising 46 per cent year-on-year to Rs 44 crore and EBITDA increasing 26 per cent to Rs 162 crore. Annual container volumes reached a record 7.23 lakh TEUs, up 7 per cent. Growth was driven by India's expanding EXIM trade and strategic capacity

expansion at key ports, including JNPT facilities and a new PFT-ICD project at Farukhnagar. Managing Director Suresh Kumar R said operational excellence and infrastructure investments strengthened customer confidence. The company expects FY27 growth opportunities through India's evolving logistics and container ecosystem.



CARRIERS ANNOUNCE FRESH RATE HIKES ON INDIA-NORTH AMERICA LANES

Major container shipping lines are set to impose new General Rate Increases (GRI) and General Rate Adjustments (GRA) on exports from the Indian Subcontinent to North America ahead of the peak shipping season. The hikes will affect cargo from India, Pakistan, and Bangladesh, with carriers citing fuel volatility, blank sailings, vessel repositioning costs, and changing market conditions. The move comes as India-US trade talks continue on a proposed free trade framework. Seasonal demand linked to US inventory restocking is also expected to strengthen carriers' pricing power between June and August.

HAPAG-LLOYD LAUNCHES 'SHEFARER' INITIATIVE TO CHAMPION WOMEN IN MARITIME

Hapag-Lloyd has launched 'Shefarer', a programme aimed at increasing women's participation in seafaring careers. Women currently represent less than 2 per cent of the global seafarer workforce, according to the International Labour Organization. The initiative supports recruitment, cadet training, mentorship, and career progression into senior deck and engineering roles. The programme also addresses the growing global shortage of maritime officers highlighted by BIMCO and the International Chamber of Shipping. For India, which supplies around 10–12 per cent of the world's seafarers, the initiative could create greater opportunities for women and encourage improved diversity, inclusion, and workforce development across the maritime industry. Hapag-Lloyd has launched 'Shefarer', a programme aimed at increasing women's participation in seafaring careers. Women currently represent less than 2 per cent of the global seafarer workforce, according to the International Labour Organization. The initiative supports recruitment, cadet training, mentorship, and career progression into senior deck and engineering roles.

RS 30,000-CRORE MEGA SHIPBUILDING CLUSTER IN ANDHRA PRADESH NEARS APPROVAL

The Union government is expected to approve a Rs 30,000-crore mega shipbuilding cluster at Dugarajapatnam in Andhra Pradesh, making it India's biggest shipbuilding investment since Independence. Announced by Union Minister Sarbananda Sonowal, the project will have a production capacity of 1.2 million gross tonnage. India has already secured orders for 437 vessels worth around Rs 2.2 lakh crore from government-linked sectors such as defence and shipping. Located in Nellore district, the cluster offers deep-water access, available land, and strong transport connectivity to attract domestic and global investors. The project is central to India's Maritime Amrit Kaal Vision 2047, targeting over 5 per cent global shipbuilding market share.



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POWERING INDIA'S MARITIME EVOLUTION:

From Complex Marine Systems to Integrated Energy Solutions

India's Maritime Growth: A Sector at an Inflection Point

With expanding defence fleets, port infrastructure, increasing offshore activity and a renewed focus on indigenous shipbuilding, the scale of opportunity is significant in maritime sector but so is the complexity.

As this evolution unfolds, expectations from marine power systems are shifting decisively. The industry is moving beyond standalone equipment towards integrated, resilient and mission-critical solutions—designed not just to perform, but to adapt to increasingly dynamic operational and energy environments.

Evolving Expectations: Redefining Marine Power Systems

Modern vessels—across defence, offshore and commercial applications—are becoming more advanced, interconnected and performance-driven. This is driving multiple structural and fundamental shifts.

- The first is a move from main equipment to integrated systems, where propulsion, auxiliary power and control systems must function as a unified, intelligent ecosystem.
- The second is a shift from performance to lifecycle value, where uptime, maintainability and cost optimisation are as critical as output.
- The third is the transition from standardisation to customisation, with solutions increasingly engineered around specific mission profiles and operating conditions.

In parallel, evolving fuel and emission norms are adding a new dimension to marine power system design. Increasing regulatory focus is driving the adoption of cleaner fuels, advanced after-treatment technologies such as Selective Catalytic Reduction (SCR) and hybrid solutions—requiring systems to balance compliance with performance, efficiency and



operational flexibility. Together, these shifts are redefining what it takes to deliver effective marine power solutions.

Defence Programs: Where Standards Are Defined

Nowhere are these expectations more rigorously tested than in naval applications. In such environments, reliability is absolute, compliance is stringent and performance must be consistent under the most demanding conditions. Defence programs, therefore, do not just reflect industry standards—they define them. **Gmmco Marine's role in the Diving Support Vessels (DSVs) project for the Indian Navy is a case in point. To meet the shipyard's requirement for a Propulsion System Supplier and Integrator (PSS&I), Gmmco delivered fully integrated propulsion and power solutions, including high-capacity Cat® DG sets of 2000 kW and 3000 kW units.**

The project required adherence to stringent standards such as DEFSTAND, MIL standards, EMI/EMC compliance in line with applicable MIL standards, JSS5555 and Navy policy letters for stringent transient performance of diesel alternators—underscoring the level of engineering precision and execution

discipline required. Leveraging Caterpillar's proven technology, the propulsion system was fully designed, integrated and engineered in-house. Subsequent engagements across projects such as **Next Generation Off-shore Patrol Vessels (NGOPVs), Cadet Training Ships (CTSs), Retrofit projects for the Navy frigate and Fast Patrol Vessels (FPVs)** further reinforce a broader shift from vendors supplying components to partners owning system-level outcomes.

From Complexity to Capability: Delivering at Scale

The demands of marine—particularly in defence—represent some of the most complex and exacting requirements for any power system. It is within this environment that true engineering capability is both tested and proven.

Delivering this level of precision consistently—and at scale—requires more than domain expertise; it demands the ability to operate seamlessly across systems, applications and industries. **Gmmco's strength lies in this integration. With capabilities spanning sectors such as oil & gas, data centres, industrial, pharmaceuticals, infrastructure, manufacturing and mining,** Gmmco brings a cross-industry perspective that enables it to address power requirements holistically rather than in isolation.

This extends to hybrid energy solutions, where conventional power systems are integrated with Solar and Battery Energy Storage Systems (BESS). It also includes emission-compliant configurations with advanced after-treatment solutions—enabling greater efficiency, flexibility and resilience while supporting regulatory compliance in complex operating environments.

Backed by Gmmco's legacy of engineering excellence, customer support and long-standing partnership with Caterpillar, Gmmco Marine reflects the company's larger commitment to enabling progress through dependable, future-ready solutions. This capability is underpinned by a strong nationwide backbone that combines scale with deep technical expertise. **Supported by over 50 years of experience, a workforce where 60% is dedicated to product support, 25% to engineering and design and state-of-the-art infrastructure integrated with advanced technologies, Gmmco delivers solutions that are engineered, executed and supported across their entire lifecycle.**



Pankaj Kumar Jha,
Head, Power & Energy,
GMMCO Ltd



In an industry where failure is not an option, the path forward is clear: moving beyond products to integrated, dependable and future-ready solutions that not only power operations but enable long-term performance and resilience.

Powering the Next Phase of Maritime Growth

As the maritime and energy landscape continues to evolve, expectations from solution providers will only become more demanding. The ability to combine engineering precision, system integration and execution at scale will define the next phase of industry leadership. Organisations that can deliver reliably in the most demanding environments—while adapting to changing energy dynamics—will shape the future of maritime operations and the broader industrial ecosystem. 



Exploitation Under the Cover of Crisis

How foreign shipping lines are weaponizing force majeure to bleed India's MSME exporters — and what must be done about it

There is a word that shipping lines have discovered can do almost anything: force majeure. Invoked with the gravity of a legal doctrine but deployed with the agility of a commercial instrument, it has — since the outbreak of the West Asia conflict on 28 February 2026 — become the master key that foreign carriers are using to rewrite contracts, impose punishing surcharges, and extract charges from Indian exporters who have already paid in full and are blameless in every legal and operational sense. The victims are not faceless corporations. They are India's MSME exporters — the basmati traders, the textile manufacturers, the agro-commodity exporters — whose containers sit stranded at

JNPA and ports across the country, accumulating demurrage and detention bills that mount by the day, while the government directs ports to waive storage charges and the shipping lines simply shrug and say: "decided by HO."

"A party invoking force majeure may rely on the clause only where the event genuinely prevents performance — not as a blanket commercial licence for unilateral enrichment."

The Paradox at the Port Gate

The situation is almost perverse in its logic. Port authorities, following government direction, have waived or significantly reduced ground rent and storage charges on West

Asia-bound cargo. JNPA has announced relief measures. The government has recognised the disruption and acted to cushion exporters from its worst financial consequences. Customs, through CBIC Circular No. 10/2026, waived fees for amendment and cancellation of export documents in force majeure situations.

And yet, at the very same terminals where port demurrage has been waived, shipping lines continue to levy their own detention and demurrage charges — sometimes at \$30 to \$60 per container per day — for a voyage that has not even begun. The container has been gated in. The ocean freight has been paid. The Bill of Lading has been issued. But



T S Ahluwalia

Exporter & Veteran Export Strategist /
General Secretary, NISA / MC Member &
Convenor, National Logistics Committee,
FIEO



A party invoking force majeure may rely on the clause only where the event genuinely prevents performance — not as a blanket commercial licence for unilateral enrichment.

the vessel has not sailed, because the carrier made a commercial decision to suspend Gulf operations.

The port charges ₹500–750 per day for ground use. The shipping line charges the equivalent of ₹2,500–5,000 per day for equipment it placed in custody — and which it is refusing to move. The exporter pays for both the disruption and the inaction.

Surcharges Before the Ink Was Dry

The timeline of war-related surcharges tells its own story about carrier intent. Operation Epic Fury began on 28 February 2026. By 2 March — just 72 hours later — Hapag-Lloyd had announced a War Risk Surcharge of \$1,500 per TEU for standard cargo and \$3,500 for reefer, applied retroactively to cargo already at sea. CMA CGM followed the same day with an Emergency Conflict Surcharge of \$2,000 to \$4,000 per container. Crucially, these surcharges were imposed before the Joint War Committee formally listed the Gulf region as a war zone on 3 March (JWLA-033), and before the insurance market had even opened for Additional War Premium

buy-backs — which only became available on 9 March. The carriers did not wait for the insurance cost to crystallise. They priced the risk commercially, immediately, and applied it to cargo that had already been booked under a different commercial understanding.

By the time the AWP buy-back market stabilised in mid-March, exporters who had booked cargo in good faith at pre-war rates were being asked to absorb surcharges 10 to 20 times higher than normalised freight rates — with no standard methodology, no transparency on how the surcharge related to actual insurance costs, and no regulatory body in India with the mandate or the will to say: enough.

The Legal Fiction of Force Majeure

Force majeure, in law, is a mechanism to excuse performance where an extraordinary event beyond a party's control makes it genuinely impossible to honour contractual obligations. It is not — and has never been — a mechanism to shift risk entirely onto the counterparty, especially when the invoking party is itself making the operational decisions that generate the disruption. When a shipping line invokes force majeure to suspend a Gulf voyage and then bills the exporter for detention on a container that has not moved — under custody that the line itself controls — it is not seeking relief from an impossible obligation. It is using a legal concept to manufacture a revenue stream from the very disruption it cited as grounds for non-performance. This is not force majeure. This is opportunism dressed in legal language.

Indian exporters can, and should, notify shipping lines in writing that demurrage and detention accruing during crisis-related holds are disputed and accepted only under protest. They can invoke force majeure vis-à-vis their overseas buyers to protect against penalties and cancellations. But the hard truth is that without regulatory intervention, the contractual asymmetry in Bills of Lading leaves exporters legally exposed. The free-time clock often starts ticking from the day a container is gated in — irrespective of whether the vessel has sailed or the line has suspended services.

What DG Shipping Must Do — Now

The Directorate General of Shipping has both the authority and the obligation to act. The situation demands concrete and time-bound intervention across several fronts:

- Issue a binding directive prohibiting shipping lines from levying demurrage, detention, or re-delivery charges on Back-to-Town containers and stranded

export cargo where the disruption is war-related and documented — unless the line can prove specific exporter default wholly unrelated to the crisis.

- Mandate shipment-wise disclosure of all war risk surcharges, diversion costs, and transit escalations, with documentary basis for each charge. In the absence of such disclosure, charges should be presumptively treated as non-compliant.
- Require that all concessions granted by ports and terminals are passed through directly and transparently to exporters — not absorbed by intermediaries.
- Establish a fast-track adjudicatory cell for exporter complaints, with the power to seek carrier records and order charge reversals where billing is not contractually justified.
- Set a definitive date from which war surcharges may be legitimately applied — industry analysis suggests 7 March 2026 as the earliest defensible point, once the formal insurance mechanisms were in motion.

The Bigger Picture India Cannot Ignore

India has set an export target of \$1 trillion by 2030, against a current base of \$442 billion. That ambition is structurally undermined by a freight market in which foreign carriers command near-total control of export and import lanes — collectively generating an estimated \$280 billion in freight earnings from Indian trade. India has no significant domestic shipping line of consequence. There is no competitive counterweight. When a handful of global carriers decide to impose surcharges, suspend routes, or rewrite contractual terms mid-voyage, Indian exporters have nowhere else to go. The West Asia crisis has exposed this vulnerability in the starkest possible terms. But the crisis is also an opportunity — to build the regulatory architecture that should have existed already, to establish that war and geopolitical disruption cannot be monetised at the exporter's expense, and to make the case, once again, that India needs three to four major domestic shipping lines of its own.

Until then, the least the regulatory system can do is ensure that when public authorities create relief windows for exporters, private carriers cannot simply walk through those same windows and pocket the benefit. When force majeure is invoked to excuse non-performance, it cannot simultaneously be used to manufacture new charges for that very non-performance. That is not a grey area of law. It is exploitation. And it needs to be named as such. 



NAVIGATING A SHIFTING WORLD

Trade, Energy, Technology and Singapore's Strategic Imperatives

At the opening of the 20th Singapore Maritime Week on April 21, Deputy Prime Minister and Minister for Trade and Industry Gan Kim Yong delivered the Singapore Maritime Lecture and participated in a fireside chat moderated by Kuok Group Singapore's Managing Director, Yong Hsin Yue. Read the excerpts here.

-By Ramprasad Ravi



We must remain open — to trade, to shipping, to talent, to capital, to data and to ideas. Openness is not naivety; it is our competitive advantage.

Gan Kim Yong

Deputy Prime Minister &
Minister for Trade and
Industry, Singapore



Yang Hsin Yue: DPM, we are meeting at a time when the rules-based trading system faces its most serious stress-test in decades. Trade restrictions are proliferating, geopolitical contestation is intensifying, and critical maritime corridors are under pressure. How does Singapore read this moment, and what must the international community do to preserve the foundations that have underpinned global prosperity?



Gan Kim Yong: These are large questions — and they deserve honest answers. Let me start with something fundamental: the right of transit passage through straits used for international navigation is enshrined in UNCLOS, and it applies to both ships and aircraft. That right is not discretionary. It must be preserved. Beyond any single strait, we are witnessing a broader strain on the rules-based trading system — tariffs going up, non-tariff barriers being erected, trade restrictions introduced in the name of economic security or industrial protection. Each measure, taken individually, may seem defensible. Taken together, they slow down global trade, weaken connectivity between economies, and ultimately harm growth everywhere. For Singapore, this is not abstract: trade is three times our GDP. We are an open economy. We depend on the free flow of goods, capital, data and talent. That is why Singapore has worked hard to build coalitions of like-minded partners through initiatives like the FIT partnership — sixteen small and medium economies coming together, across geopolitical divides, to preserve trade ties and strengthen supply chain resilience. This is the kind of quiet, persistent multilateralism that keeps the system alive.



Yang Hsin Yue: On the question of critical maritime routes specifically — Singapore sits astride the Straits of Malacca and Singapore, one of the world's most trafficked waterways. With tensions in the Strait of Hormuz dominating headlines, what is Singapore doing to ensure our own strategic corridor remains open and secure?



Gan Kim Yong: The Straits of Malacca and Singapore is sometimes underestimated relative to Hormuz, but the numbers tell a compelling story. About one-third of all globally seaborne oil trade passes through this strait. Every year, approximately 100,000 vessels transit it. So it is not just important to

Singapore — it is critical to Malaysia, Indonesia, and to the entire world that relies on East-West maritime connectivity. What I am pleased to report is that the three bordering nations — Malaysia, Indonesia and Singapore — have worked together within a cooperative framework for many years. We share responsibility for safety, environmental protection and security. The system works because we have invested in it together, and we will continue to do so. The right of transit passage, just as in any other international strait, equally applies here, and we will defend that right.



Yang Hsin Yue: One of the major structural shifts of our time is countries prioritising national security and strategic resilience

over economic efficiency. We are seeing state-directed investment flood into semiconductors, pharmaceuticals, shipbuilding and advanced manufacturing. How is Singapore navigating a world where economic rules are increasingly shaped by security imperatives? And where are we placing our most deliberate bets?



Gan Kim Yong: This is precisely one of the central questions being addressed in our Economic Strategy Review, led by Minister Jeffrey Siam. The full report will be released shortly, but let me share the underlying philosophy. The world is not merely a changed world — it is a continuously changing world. Changes happen not just year to year, but sometimes within the same day. This morning, before I came here, I checked the news to verify that my speech was still valid. That is the reality we operate in. Agility must be built into how we govern, how we invest and how our companies operate. In this environment, Singapore's core strategy rests on two anchors. First, we must remain open — to trade, to shipping, to talent, to capital, to data and to ideas. Openness is not naivety; it is our competitive advantage. Second, we must invest continuously in our people. They are our only natural resource. The Economic Strategy Review helps us think beyond the next quarter or the next election cycle — to position Singapore for a landscape that will keep shifting.



Yang Hsin Yue: On the subject of artificial intelligence — during the Budget, the government announced a significant commitment to AI. Can you elaborate on the strategy? How does Singapore intend to move from being AI-ready to AI-driven?

Agility must be built into how we govern, how we invest and how our companies operate. In this environment, Singapore's core strategy rests on two anchors. First, we must remain open — to trade, to shipping, to talent, to capital, to data and to ideas. Openness is not naivety; it is our competitive advantage. Second, we must invest continuously in our people. They are our only natural resource.



Gan Kim Yong:

AI is one of our core national strategies, and we are approaching it with a whole-of-nation

mindset. Prime Minister Lawrence Wong now chairs the National AI Council, which signals the seriousness with which we treat this. AI cuts across every ministry, every sector, every domain — it cannot be siloed within one agency. The Council coordinates efforts across government, industry and society. Under this framework, we have structured our AI push around four pillars. The first is the Champions of AI programme, where we partner with selected companies that are committed to genuine AI transformation. We work alongside them — not just provide grants — to help them rebuild their business models with AI at the core. The second is the AI Missions initiative, organised around four priority sectors: shipping and connectivity, financial services, healthcare, and advanced manufacturing. These are areas where Singapore has both competitive strength and critical need. Third, and importantly, we recognise that transformation is difficult. Every change is painful. So the government is prepared to hold industry's hand through this journey. And fourth, we are building an AI Park — a physical and ecosystem-level initiative to bring together AI solution providers, companies with problems to solve, and AI professionals, so that Singapore becomes a genuine centre of excellence for AI, not a collection of isolated pockets.



Yang Hsin Yue: We cannot sit here today without speaking

FIRESIDE CHAT

about energy security. The recent disruptions in the Middle East have reminded us how exposed global energy flows can be. Singapore is a major energy trading and bunkering hub, sitting astride critical sea and air corridors. How do we integrate energy security considerations into our broader economic strategy — in terms of shipping, port infrastructure and fuel choices?



Gan Kim Yong: Energy security has always been a live concern for Singapore, because we produce none of our own energy.

Our electricity is generated largely from natural gas — imported through pipelines from

Malaysia and Indonesia, and as LNG from further afield. That dependence is a structural reality. We are working on multiple fronts to strengthen our position. On renewable energy, we are maximising solar wherever we can — rooftops, carpark decks, reservoir surfaces — but land constraints limit how much solar can contribute to our total energy mix.

We are therefore negotiating electricity import agreements with both Malaysia and Indonesia to supplement our supply and increase redundancy. Simultaneously, we are working with our refinery industry to ensure their crude supply is diversified across multiple sources. Diversification is not a

reactive measure — it is a deliberate strategy. Looking further ahead, we are investing in research and piloting of newer fuels — hydrogen, ammonia, methanol — even as we understand that commercial deployment is still some years away. And we are keeping the nuclear option open. We are not rushing to build reactors, but we are monitoring the technology carefully so that when mature, safe nuclear becomes available, Singapore will be positioned to assess it. On the international front, our agreement with Australia — where they supply us natural gas and we supply them refined petroleum products — illustrates the kind of mutually reinforcing energy partnerships we are actively building.

Q&A Session at Fireside Chat



Capt Ashok K Batura,
*MD, Sinoda Shipping Agency
Pte Ltd & Hon. Consul-General
of The Republic of Malta for
Singapore*

Given the volatility in global supply chains and their implications for national security, is there a strategic case for Singapore to once again have a flagship national shipping line to guarantee maritime sovereignty, as Singapore Airlines does for aviation?



Gan Kim Yong: I want to acknowledge the long legacy of Neptune Orient Lines, and

the many leaders it produced for this nation. But a shipping company must ultimately be viable as a business. Singapore is no longer an owner of NOL, but we do still have Pacific International Lines — a significant Singapore-based shipping operator — whose CEO is in this room. What is more important than ownership of a flag carrier is building the right partnerships. PSA operates ports across the world; our strength lies in connectivity, not in flying a single flag. A port that exists only for its own national line is not a world-class port. We need the world's shipping lines to call here, invest here and grow here. That is the model we will continue to pursue.



Capt Kunal Nakra,
*Chairman - International Com-
mittee, Singapore Shipping As-
sociation*

What is your message to governments and institutions worldwide: how do we ensure that maritime and seafarers

remain central to policy-making, rather than becoming an afterthought until something goes wrong?



Gan Kim Yong: This is a question of sustained political will. IMO plays a critical role in convening governments,

shipping lines and the entire maritime community — and Singapore is a committed partner in that work. But we must be realistic: every country has national interests, and from time to time, those interests will lead to measures that are unhelpful to free passage or maritime trade. When that happens, it falls on all of us who believe in a rules-based system to speak up clearly and consistently. That is why events like Singapore Maritime Week matter so much. They bring great minds together — from shipping, from government, from industry — to chart the way forward collectively. Advocacy for maritime interests must be ongoing, visible and well-organised. It cannot wait for a crisis.



Capt Hari Subramaniam,
*Regional Head - Business
Relations, The Shipowners'
P&I Club*

Two questions: first, with the ongoing conflict in the Middle East, how is Singapore prioritising the welfare of seafarers and their families? And second, can this moment of energy disruption serve as a catalyst to accelerate the transition to alternative fuels?



Gan Kim Yong: On seafarer welfare: MPA is in close and continuous contact with ship owners and operators to monitor

the safety of Singapore-flagged vessels and the well-being of their crews. We are also working with ports along affected corridors to provide support and assistance where necessary. The safety of seafarers and their families is a top priority, not an afterthought. On the question of decarbonisation: yes, I believe disruptions like these should strengthen our resolve to transition to greener fuels, not weaken it. Climate change does not slow down to accommodate our debates.

The transition to alternative fuels — methanol, ammonia, hydrogen — is already underway in parts of our shipping ecosystem, and Singapore will continue to support the industry through this. I would urge every stakeholder here today to view decarbonisation not as a compliance burden, but as both a responsibility to future generations and a genuine opportunity for Singapore to lead.



Yang Hsin Yue

DPM, on behalf of everyone here, thank you. You have given us a clear-eyed view of a world that is more uncertain than at any time in recent memory — and a confident case for why Singapore's instinct to stay open, invest in its people, and build partnerships remains the right response. The maritime community leaves here today with more clarity and, I think, more resolve. Thank you very much. 

COMMERCIAL SHIP MANAGEMENT HAS EVOLVED FROM EMPLOYMENT BROKING TO STRATEGIC NAVIGATION



WALLEM
EST. 1903

Anurag Mathur

Managing Director, Commercial Services, Wallem Group

Few people in shipping carry the kind of institutional memory that Anurag Mathur does. Nearly five decades in the industry have taken him through every cycle the market has thrown at seafarers and shipowners alike, from the downturns of the 1980s to COVID and the current geopolitical turbulence reshaping trade routes in real time. As Managing Director, Commercial Services at Wallem Group, Mathur oversees a commercial management portfolio that spans Suezmax tankers to car carriers, VLGCs to handy-sized bulkers. In this conversation with Maritime Gateway at Singapore Maritime Week 2026, he reflects on how the role of the commercial ship manager has been transformed, why Chinese industrial giants are entering ship ownership, and what a 123-year-old institution brings to a market that changes by the hour.

You have been in shipping for nearly five decades. What has changed most fundamentally about the role of a commercial ship manager?

When I started, the role was relatively straightforward. You found employment for a ship, secured a reasonable rate, and managed the fixture. The relationship between the owner and the commercial manager was largely transactional. Today, that

model is almost unrecognisable. Ship owners — especially smaller ones — are now looking for a total service. That means market intelligence, relationship leverage to deliver the best returns on their investment, compliance oversight, and on top of all that, day-to-day positioning decisions in an environment where the market can move on a single tweet. Where should this vessel be deployed three months from now to maximise earnings? What is the likely trade pattern in that geography? Which charterers are taking positions and

which are stepping back? These are the questions commercial managers must answer today, and answering them well requires infrastructure, manpower, and accumulated market experience that many smaller owners simply do not have in-house.

That is where a boutique operator like Wallem Commercial can genuinely add value. We are not a large specialised pool focused on one or two vessel types. Our portfolio spans Suezmax tankers to chemical tankers, handy-sized bulkers to post-Panamax

bulk carriers, car carriers, LPG vessels — VLGCs and MGCs. The diversity itself is a strength because we bring cross-sector intelligence to every owner relationship.

Wallem Commercial is now in its third year under your leadership. What makes its model distinct within the wider Wallem Group?

It is fairly unique in the ship management industry that a technical management company of Wallem's scale also has a fully integrated commercial desk.



Most ship management companies of our size do not have that. It has come from the nature of our shareholders — they are ship owners themselves, and one of them has a distressed asset management business. That context shapes how we think. We are not just managing ships. We are managing investments with a ten to twenty-year horizon.

What we offer third-party clients is genuinely bespoke. We look at each owner's specific commercial requirements and build the solution around that. There is no standard template. That boutique approach, sitting within a 123-year-old institution with the full backing of Wallem's technical management, agency network, and maritime solutions services, is something competitors find difficult to replicate.

The geopolitical environment has become exceptionally volatile — the Strait of Hormuz situation being the most recent example. How does Wallem Commercial respond to that kind of sudden disruption?

It tests everything. The only way to manage in this environment is through collaboration and constant vigilance. You have to be in close, continuous contact with every stakeholder — governments, charterers,

underwriters, owners. And you need not just relationships but real intelligence: what is possible in the market today, what is not, and what your fallback looks like if conditions shift in ways you did not anticipate.

Let me give you a concrete example. We were in advanced negotiations to help an owner acquire a VLGC. In the space of two weeks, the picture changed completely — the LPG cargo that made the acquisition viable simply evaporated. An entity that had been handling 150,000 tonnes a month suddenly had no LPG to ship. The owner walked away from the purchase. Two weeks from term-sheet to no deal, because of events in the Gulf.

The same dynamic plays out in chartering. We have seen transit cost caps on certain routes go from five million dollars to two million dollars as the window of risk shifted. It is that dynamic. It changes by the hour.

For the commercial manager, the response is not panic. It is preparation — making sure your contracts are structured correctly, that all parties clearly understand cost escalation clauses, and that you have the relationships to renegotiate quickly and with credibility when the situation demands it. Wallem's brand and its 123 years of trust in the market



We are not a large specialised pool focused on one or two vessel types. Our portfolio spans Suezmax tankers to chemical tankers, handy-sized bulkers to post-Panamax bulk carriers, car carriers, LPG vessels — VLGCs and MGCs. The diversity itself is a strength, because we bring cross-sector intelligence to every owner relationship.

mean that when we walk into a renegotiation, there is already a foundation of trust. That does not make it easy, but it makes it possible.

War risk insurance and operating costs have spiked sharply. How are owners and charterers absorbing that?

It is a genuine crisis for many charterers. Several have contracted cargo at fixed rates that simply did not account for the possibility of insurance costs and transit tolls running into millions of dollars per voyage. Their projects have become commercially unviable. They are not taking new positions as a result.

On the owner and operator side, we renegotiate — because we have to, and because our interests are aligned with the owners we work for. Crew war risk allowances, insurance premiums, extraordinary transit costs — these are not part of normal OPEX and cannot be absorbed without an honest commercial conversation. We have those conversations, and we have been able to add real value by leveraging our relationships to bring costs down to workable levels.

What keeps trade moving, even in these conditions, is that certain cargo must move regardless. Saudi & Iranian producers — their storage facilities have been hit; their rigs are running. If they do not ship that oil within two or three days, they have to shut down pumping operations, and

restarting them takes weeks or months. So they accept cost they would rather not. That is the brutal physics of the energy market, and it keeps vessels moving even when conditions are deeply uncertain.

BYD, ANJI, and other Chinese industrial companies are now entering ship ownership. What does that mean for commercial management, and how is Wallem positioning itself?

It is one of the most interesting structural shifts in shipping right now. For a Chinese car manufacturer, owning part of your logistics chain is simply sound business. Rather than being entirely dependent on third-party carriers for your export freight, you control some of your capacity, you manage your cost exposure, and you reduce supply chain vulnerability. BYD's eight vessels and ANJI's twelve might cover around half their export requirements. The rest still goes through the market.

Where Wallem's role becomes critical is on the return voyage. These companies have cargo one way. They do not have established relationships to source backhaul cargo. That is where we step in — using our commercial network to secure cargo in the other direction and make the economics of ownership viable.

Some of these companies are also relatively new to the complexities of ship ownership. They need experienced partners who understand both the technical and commercial dimensions — crew management, post-fixture operations, agency support at ports. Wallem has supported BYD across a broad range of shipping requirements, effectively giving them access to an experienced external shipping desk. That relationship speaks for itself. We are growing in this segment, and we see it continuing to grow as more Chinese manufacturers look to take greater control over their supply chains.

Greek and Japanese owners represent the traditional heartland of third-party ship management. Are they changing?

Yes, and in quite different ways, driven by quite different pressures.

Greece has always had a strong domestic infrastructure for ship ownership — financing, crew supply, in-house technical capability. What changed first was crew availability. As the demand for specialised seafarers — LNG-trained, dual-fuel-qualified — outpaced Greek supply, owners began outsourcing crew management. That opened the door. Once the relationship with a third-party manager was established for crew, it expanded naturally to technical management as regulatory complexity grew and the burden on in-house shore teams increased. Now you are also seeing Greek financial investors entering ship ownership who have no operational infrastructure at all. They need market intelligence and full management support. The trigger is different from the traditional family-owned Greek shipowner, but the destination is the same — third-party management. Japan is a different story.

Japanese owners have never had a large domestic seafarer pool. Outsourcing crew has always been the norm. Where the shift is happening now is in technical management for new-generation vessels — LPG, LNG, dual-fuel ships with increasingly sophisticated on-board systems. Historically, Japanese dry cargo owners managed their fleets in-house and outsourced only their tanker and gas carrier operations. That is changing as the technology on board dry cargo vessels becomes more complex. Wallem has been in the Japanese market for thirty to forty years and is well positioned to grow with that shift. One other interesting development in Japan is that owners who have traditionally been sellers of older tonnage are now,



One other interesting development in Japan is that owners who have traditionally been sellers of older tonnage are now, in some cases, becoming buyers of second-hand ships under ten years old. That is historically unusual and reflects how market dynamics are reshaping long-held assumptions.

in some cases, becoming buyers of second-hand ships under ten years old. That is historically unusual and reflects how market dynamics are reshaping long-held assumptions.

In an increasingly competitive third-party management market, what is Wallem's single strongest differentiator?

The brand — but I want to be precise about what that means, because brand is not a marketing device. Brand is built on people. Wallem has shore staff and sea staff who have spent entire careers with this company. Some have retired from Wallem ships. In some families, three generations have served Wallem. Not many companies can easily claim that. The culture, the values, the standards of professionalism that the Wallem name represents have been built over 123 years and through every conceivable crisis — the downturns of the 1980s and 1990s, SARS, Lehman Brothers, COVID, and now geopolitical upheaval on multiple fronts simultaneously.

Our seafarers have operated in some of the most dangerous and unpredictable conditions imaginable. They have maintained professionalism and responsibility under circumstances that most people would not want to face. There is no price you can put on that. That is the Wallem brand — and that is what underpins everything we offer commercially and technically.

We also have the backing of very strong, commercially focused shareholders who keep the business oriented around long-term performance rather than short-term positioning. In a volatile world, that stability is itself a differentiator. 🌐



From Hype to Hard Decisions:

AI, Risk, and Decision-Making in a more Volatile Maritime Landscape

—By Ramprasad Ravi

The maritime industry has never lacked complexity. Crowded straits, GPS spoofing, invisible fishing fleets, shifting ESG mandates, crew fatigue: seafaring has always been among the most demanding operational environments on earth. What has changed in the past twelve months is the addition of a consequential new variable. Not AI as a distant aspiration, but AI as an active presence on the bridge, in the engine room, and in the shipowner's boardroom. The question the industry is now wrestling with is no longer whether to adopt AI, but how, and at what cost to trust, governance, and human judgment.

The Workload Paradox

The promise of AI in maritime operations is seductive: fewer errors, better performance, reduced cognitive load on crew. The reality is more nuanced. New regulations, fuel compliance requirements, GPS spoofing in contested waters, and an ever-denser traffic environment mean crews are being asked to do more with the same number of hands. A poorly implemented AI system does not merely fail to help; it actively harms by eroding the confidence of the very people it is meant to support. Consider a captain navigating toward Chinese coastal waters, confronted with a system that flags his course correction as an error, without accounting for the tacit knowledge behind it: the uncharted fishing vessels, the pattern recognition built from years of experience. He is being second-guessed by a sys-

tem that has not earned the right. Once that trust is broken, rebuilding it is extraordinarily difficult, and the consequences at sea are not merely operational. They are existential.

Data: Asset and Liability

Modern vessels generate readings from hundreds of sensors. For the first time, that data is migrating meaningfully from ship to shore, enabling management decisions of previously impossible granularity. But sensors malfunction. Data uploads fail silently. The insight you act on is only as reliable as the pipeline behind it. Where AI is demonstrably working is in the processing layer: ingesting high-volume sensor data and returning actionable signals rather than raw noise. The technology is not replacing human judgment. It is clearing the path for it.

The Governance Gap

The hype cycle has moved faster than the frameworks designed to contain it. Who is accountable when an AI navigational recommendation proves wrong? Who carries liability when a monitoring system misses a deteriorating trend a human reviewer might have caught? These are operational realities the industry is already facing. The window to establish governance frameworks ahead of widespread deployment is narrowing. The distance from hype to hard decisions is shorter than it looks. The industry would do well to close it deliberately, rather than be forced across it by circumstance. 

This article is based on the panel discussion organised by ORCA AI at SMW 2026



(L to R) **Captain Raghav Gulati**, Head of Safety and Technical Operations, Anglo American, **Stavros Gyftakis**, CFO, Seenergy Maritime Holdings Corp, **Nils Aden**, Managing Director, Harren Group, **Yarden Gross**, CEO & Co-founder, Orca AI, **Chakib Abi Saab**, Chief Technology & Innovation Officer, Lloyd's Register (Moderator)



MOL CHARTS COURSE FOR STABILITY AND GROWTH

Phase 2 of BLUE ACTION 2035 aims to double profit to ¥420 billion by 2030, with stable revenues increasing from 17% to 30% of earnings.

-By Ramprasad Ravi

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MOL Charts Course for Stability and Growth Under New CEO Jotaro Tamura Phase 2 of BLUE ACTION 2035 aims to double profit to ¥420 billion by 2030, with stable revenues increasing from 17% to 30% of earnings. Mitsui O.S.K. Lines (MOL), one of the world's largest shipping conglomerates, is entering a new chapter. With Jotaro Tamura assuming the role of President and CEO on April 1, 2026, the Japanese shipping giant is now in the execution phase of a long-term transformation strategy that encompasses everything from LNG infrastructure and cruise terminals to refrigerated warehouses and green energy logistics. Tamura outlined this vision in a presentation at Singapore Maritime Week, offering the clearest picture yet of where MOL is headed under his watch.

A Fleet of Firsts

Any understanding of MOL begins with the sheer breadth of its fleet. The company operates 935 vessels spanning multiple segments. Its 339 dry bulkers rank fourth globally. Its 211 tankers rank first in the world, a position that places the company squarely in the spotlight whenever Middle East tensions flare. Its 194 LNG carriers are, again, the largest fleet of their kind anywhere on earth. It's 100 car carriers rank second globally. Container shipping is handled separately through Ocean Network Express (ONE), the joint venture formed in 2018 alongside NYK and K Line, which operates between 240 and 270 vessels. MOL retains ownership of 30 vessels chartered out to ONE, a distinction Tamura was careful to draw.

Beyond the waterline, MOL has been methodically building businesses in energy infrastructure, offshore operations, real estate, cruise shipping, and air cargo. The fleet is the foundation, but the group's ambitions now extend well beyond it.

The Plan: BLUE ACTION 2035, Phase 2

MOL's long-term management blueprint, BLUE ACTION 2035, runs from 2023 to 2035 across three phases. Phase 2, spanning FY 2026 to FY 2030, began on April 1, the same day Tamura took the helm.

"The announcement came out March 31st, and then right after that, I took my new role and this management plan started," he said. "It's quite new."



Global Shipping Powerhouse



935 Vessels
Operated
Worldwide.



211 Tankers
Largest tanker
fleet globally.



194 LNG Carriers
World's biggest
LNG fleet



100 Car Carriers
Ranked #2
worldwide.



Stake in Ocean Network Express (ONE),
Operating
240–270
Container Ships.

The plan organises MOL's businesses into three revenue tiers. At the most volatile end sit market-driven businesses tied to spot and voyage charters. In the middle are hybrid businesses such as dry bulk, tankers, car carriers, and semiconductor logistics, which blend market sensitivity with some degree of income stability. At the most stable end are long-term contract businesses, including LNG carriers, FSRUs, and offshore infrastructure assets. The main Phase 2 goal is to increase stable revenue businesses' share from 17% of group profit in FY2025 to 30% by 2030, providing greater income security through a more stable base while retaining performance upside in cyclical segments.

The Numbers Behind the Ambition

MOL's projected profit after tax for FY2025 is approximately ¥240 billion, with the final result due on April 30. The Phase 2 target is ¥420 billion by 2030, close to double the current level.

To get there, MOL has mapped out a five-year cash plan totalling roughly ¥2,880 billion across inflows and outflows. Core operating cash flow is expected to generate over ¥1,100 billion over the period, with asset disposals and external financing adding approximately ¥170 billion. On the deployment side, ¥830 billion in investments have already been committed, with a further pipeline bringing total planned Phase 2 investment to ¥1,510 billion. The priority within those committed investments is energy, particularly new LNG and LPG carrier newbuildings operating on long-term contracts.

Reflecting greater confidence in earnings predictability, MOL has also raised its shareholder return target. The total payout ratio moves from 30% to approximately 40%, with dividends starting

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at ¥205 per share in 2026 and rising progressively in line with performance. “The basic idea is to have a stable return policy for the shareholders,” Tamura said.

Singapore and Southeast Asia: Building Beyond Shipping

A major theme in Tamura's presentation was MOL's focus on Southeast Asia as a central pillar of its growth strategy, particularly highlighting Singapore as a showcase of MOL's expansion beyond traditional shipping.

Tamura was direct about the shift underway. “Ten to twenty years ago, a large portion of our business was still with Japanese customers in Japan. We have to put more effort into the areas where growth is expected. Southeast Asia is actually one of

our targets.” He pointed to three live examples of how that intent is being translated into reality.

The first is logistics infrastructure. MOL has partnered with local operators to develop two warehouses in Singapore. One is a refrigerated facility that Tamura described as the highest refrigerated warehouse in the world, now on the cusp of operations. The second is a fully automated, high-specification warehouse built on a JTC-leased site, designed to serve Singapore's domestic consumer market. Both are structured as stable, recurring-revenue businesses, aligned precisely with MOL's Phase 2 earnings strategy. The second is energy infrastructure. MOL has secured a long-term contract with Singapore's energy authorities to provide a Floating Storage and Regasification Unit for LNG storage and supply to the national grid.

The facility is expected to enter service in 2029, supporting Singapore's energy security agenda while providing MOL with a



Jotaro Tamura
President and CEO, Mitsui O.S.K. Lines, Ltd. (MOL)



The basic idea is to have a stable return policy for the shareholders.

predictable long-term revenue stream. The third, announced at Singapore Maritime Week itself, is a



partnership with PSA

International to develop a dedicated cruise terminal at Tanjung Pagar. As PSA relocates its container operations to the new Tuas mega-port by 2027, the existing Tanjung Pagar

facilities will be repurposed. MOL and PSA will co-develop the site as a cruise terminal, to be branded the MOL-PSA Terminal, targeting a 2027 opening. Taken together, these three investments offer a practical illustration of MOL's broader strategic logic: enter adjacent, stable markets, anchor investments in long-term agreements, and build a local presence that reduces dependence on the volatility of pure shipping markets.

A CEO Who Inherits Momentum

Tamura inherits a group with equity capital already at the ¥2.5 trillion level, a clear strategic roadmap, and a portfolio of investments that are beginning to deliver returns. His task is not to redesign the architecture but to ensure the building gets finished on schedule. The dual pressure he faces is real. On one side, geopolitical turbulence, including Middle East tanker route disruptions, shifting US trade policy, and China-related supply chain questions, continues to create operational complexity. On the other hand, the investments of Phase 1 are maturing, and stakeholders expect those assets to start converting into the stable profits the plan promises.

If Phase 1 was about planting, Phase 2 is about harvesting. Tamura understands both the opportunity and the weight of that responsibility. 





HALDIA'S RECORD RUN

JM Baxi Sets New TEU Benchmark at India's Eastern Gateway

In a season of consecutive records, the Haldia International Container Terminal (HICT), operated by JM Baxi Ports & Logistics, has firmly established itself as the eastern coast's most dynamic container gateway. December 2025 marked the terminal's strongest month ever, with throughput reaching 22,654 TEU — beating the record of 21,691 TEU it had set just a month earlier in November, which had itself eclipsed

the 20,627 TEU landmark of September 2025. Three all-time records in the space of four months is not coincidence; it is the signature of a terminal in structural ascent.

Gateway to Eastern and Northeast India

Haldia Dock Complex, under the Syama Prasad Mookerjee Port (SMPK), Kolkata, is no ordinary port address. Positioned at the confluence of the Hooghly and Halda rivers in West

JM Baxi Ports & Logistics has a portfolio that now spans Kandla, Haldia, Nhava Sheva, Paradip, Visakhapatnam, and Tuticorin. The combined capacity stands at 5.7 Mn TEU and 16.4 MMT. Haldia's record-breaking run signals that eastern India is no longer content to play second fiddle to the west coast. As trade volumes from the country's industrial heartland grow and liner connectivity deepens, HICT looks set to redefine what throughput benchmarks at Haldia mean, quarter after quarter.

Bengal, it serves as the primary maritime corridor for the hinterland of eastern and northeast India — covering West Bengal, Bihar, Jharkhand, Odisha and beyond, with land bridges extending to Nepal and Bhutan. The terminal at HICT operates two dedicated container berths (Berths 10 and 11) equipped with three rail-mounted quay cranes and four rubber-tyred gantry cranes, offering an annual handling capacity in the region of 200,000 TEU.

Connected to National Waterway 1 and well-integrated with Indian Railways and national highway networks, HICT sits at the confluence of sea, river, rail and road — a natural hub for both export-import and coastal trade.

Diversifying Cargo: From Marine Products to Reefer Trade

The terminal's cargo portfolio has diversified significantly in recent years. While general containerised EXIM cargo remains its bedrock, HICT has invested deliberately in developing reefer handling capabilities to tap the substantial aquaculture and marine products export belt of eastern India. The terminal has successfully handled reefer shipments for shrimp and seafood exporters, achieving lead times of just one to two days from gate-in to vessel loading — a compelling offering for time-sensitive perishable cargo. New reefer plug points have been augmented within the container yard to expand this capacity further.

HICT has also extended its modal reach through inland waterway operations. In a landmark move, the terminal handled the first containerised movement via National Waterway 1 from West Bengal to Patna, Bihar —



loading 48 containers of edible oils aboard the vessel Bhavya in what was reported as the largest single container movement on India's inland waterway network at the time. This multimodal pivot positions Haldia not just as a sea gateway, but as a genuine inland logistics node.

Liner Connectivity: Global Lines Bet on Haldia

The rise in throughput is inseparable from the expansion in liner service connectivity at HICT. Global majors including Maersk, CMA CGM and Hapag-Lloyd — now a 50% stakeholder in J M Baxi Ports & Logistics — have designated Haldia as a port of call, bringing with them volume and schedule reliability. The synergies from the Hapag-Lloyd investment are increasingly visible, as the carrier's commercial network channels cargo flows towards J M

Baxi terminals. Beyond the global carriers, HICT has attracted intra-Asia and regional feeder services critical to connecting Haldia with transshipment hubs. SITC Container Lines launched a weekly direct service to Southeast Asia in 2024, with port rotation covering Port Klang and Yangon — providing the region's exporters with a direct link to ASEAN markets without relying on Colombo or Singapore transshipment. Regional Container Lines (RCL) similarly commenced a Haldia-Port Klang service.

The SMPK port authority has actively incentivised new vessel calls through a dedicated Concession Scheme for feeder and foreign-run services connecting to transshipment hubs including Colombo, Singapore, and Port Klang — a port-operator alignment that is yielding

tangible results in call frequency and volume.

The Operational Edge

HICT attributes its performance trajectory to a combination of dedicated berthing windows, a modern terminal operating system with EDI and mobile gateway capabilities, and around-the-clock road and rail connectivity.

The terminal has proactively partnered with Haldia Dock Complex to create an ecosystem conducive to reefer and general cargo exporters alike — flexibility in cut-offs, seamless clearance, and track-and-trace capabilities within the yard. J M Baxi acknowledged the consistent support of Syama Prasad Mookerjee Port, Kolkata, describing the port-operator collaboration as central to the terminal's sustained expansion. 

When the Carbon Intensity Indicator became mandatory on January 1, 2023, the

Indian shipping community responded with a familiar combination of concern, consultation, and cautious optimism. Three years on — with the 2025 reporting cycle now verified, the 2026 reduction targets in force, and IMO's Phase 2 review underway — it is time for an honest, evidence-based assessment. Did Indian shipowners slow-steam, retrofit, or paper-comply? The answer, as Maritime Gateway has found, is all three. But not in equal measure, and not always in the ways the regulation intended.

The Regulatory Architecture and what it Demands

The CII framework is both simple in concept and demanding in execution. The Carbon Intensity Indicator measures the operational carbon intensity of ships over 5,000 GT, quantifying annual CO₂ emissions per tonne-mile and rating vessels from A to E. Ships must achieve

INDIA'S CII REPORT CARD

What shipowners actually did — and what the numbers reveal about the gap between intent and implementation

at least a C rating; those rated D for three consecutive years or E in any year must submit a corrective action plan.

The trajectory is unforgiving. The year 2026 marks the implementation of Phase 2. The annual carbon intensity reduction factor for 2026 is applied at 11 per cent relative to the 2019 baseline — more than double the 5 per cent target set in 2023. This is not a static compliance

exercise. A vessel that achieved a C rating in 2023 by operating precisely as it always had is almost certain to slip toward D by 2026 without deliberate corrective action, because the required CII tightens annually even if the ship's operational behaviour does not change. All ships were required to update their SEEMP Part III by December 31, 2025, to comply with new IMO CII reduction targets, with the revised plan needing

to include an implementation plan for the 2026 to 2028 period. Lloyd's Register, DNV, and other class societies moved quickly to assist Indian fleet operators through this revision cycle — but the critical question is whether the plans being submitted reflect genuine operational change or procedural compliance.

The Global Picture: A Warning For India

The global fleet data provides



important context. Based on 2023 regulations, about 70 per cent of ships comply with A, B, and C ratings, while approximately 30 per cent fall short, receiving D and E ratings. However, as regulations become stricter, by 2026 nearly 50 per cent of ships are projected to fall below standards, with only the remaining 50 per cent meeting requirements.

Clarksons Research's theoretical impact assessment suggests that around a third of vessels would be D or E rated if current operational behaviour continues, rising towards 50 per cent if the fleet composition remained the same in 2026 without modification of speed or specification. For Indian owners operating older, less fuel-efficient tonnage — a significant share of the Shipping Corporation of India fleet and several mid-tier operators — this trajectory is not theoretical. It is a live commercial and regulatory threat. The numbers also reveal a structural bias in how CII is measured that disproportionately affects Indian trading patterns. The CII metric has been criticised for favouring longer voyages and disadvantaging ships engaged in shorter or irregular operations, meaning that even highly efficient vessels may receive lower ratings when trading on short-haul routes. Indian coastal and short-sea trades, along with

the subcontinental triangulation routes favoured by Indian tanker operators, are structurally penalised relative to deep-sea voyages of equivalent commercial productivity.

What Indian Owners Actually Did: Three Strategies

Maritime Gateway's assessment of Indian fleet behaviour across 2023 to 2025 identifies three distinct compliance strategies, deployed in varying combinations depending on company size, fleet age, and commercial exposure.



Strategy One: Slow-steaming as primary tool. Slow-steaming — reducing vessel operating speed — is the most accessible and lowest-capital compliance lever available to shipowners. The physics are compelling. Slow steaming, or reducing a ship's sailing speed, can reduce CO2 emissions by up to 60 per cent. It requires no capital expenditure, no dry-docking, and no new technology. For an Indian fleet operator with a mixed-age tanker or bulk carrier fleet and limited capital for retrofits, slow-steaming was the default first response to CII. The trade-off, however, is earnings. CII-driven slow steaming could add 5 to 10 per cent to

voyage times, inflating costs amid volatile fuel prices. In high-freight-rate environments — and 2024 saw significant tanker earnings buoyancy — Indian shipowners faced a genuine commercial dilemma: slow down to protect ratings, or run faster to maximise earnings at the cost of CII performance.

The evidence from Indian operators suggests that earnings consistently won in strong markets, producing a pattern of accelerated operations in Q1 and Q2 followed by reactive speed reduction in Q3 and Q4 to manage the annual CII number. This is reactive compliance, not strategic management. Several Greek-managed fleets in 2024 to 2025 observed rating fluctuations caused not by hull condition or engine inefficiency, but by unstructured speed management. Without structured monitoring, reactive speed reductions may damage earnings without meaningfully stabilising ratings. The same pattern is visible in Indian-managed fleets that have not yet integrated CII monitoring into quarterly technical reviews.



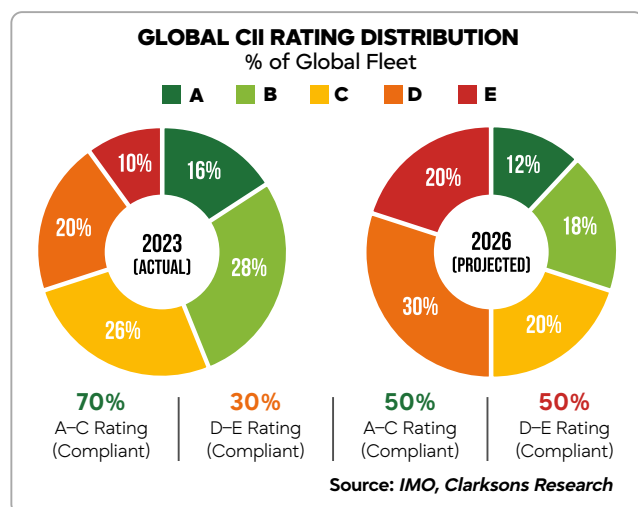
Strategy Two: Technical retrofit — the credible minority. A meaningful but still minority segment of Indian shipowners has responded to CII with genuine capital investment in energy-saving devices and propulsion modifications. Great Eastern Shipping, India's largest private-sector shipping company, is the most documented example of this approach.

DNV's Maritime Advisory experts completed a decarbonisation study for G E Shipping's entire fleet, resulting in CII ratings and a decarbonisation plan that delivers actionable recommendations. The company's primary focus has been on energy-saving devices installed during dry-dockings,

The global fleet data provides important context. Based on 2023 regulations, about 70 per cent of ships comply with A, B, and C ratings, while approximately 30 per cent fall short, receiving D and E ratings. However, as regulations become stricter, by 2026 nearly 50 per cent of ships are projected to fall below standards, with only the remaining 50 per cent meeting requirements.

including pre-swirl devices and high-efficiency propellers to reduce energy losses, along with engine part-load optimisation, high-performance hull coatings, and hull cleaning.

In recent quarters in 2024 and 2025, G E Shipping has focused on fleet modernisation, selling older vessels and acquiring younger, fuel-efficient "eco-ships" to comply with IMO carbon intensity regulations. As of January 2024, all 43 of G E Shipping's vessels leverage StormGeo's suite of solutions, including the s-Log data reporting tool and s-Insight Environmental Performance platform, providing comprehensive insights into EU MRV, IMO DCS and CII compliance, technical performance, commercial efficiency, and fuel performance monitoring. This is the gold standard of Indian CII compliance — integrated data infrastructure, technical investment, fleet



renewal, and a documented plan extending to 2028. But G E Shipping is not a representative sample of the Indian fleet. It is the outlier that demonstrates what structured, well-capitalised compliance looks like.

Great Eastern Shipping has successfully conducted trials using marine biofuel blends on their tankers, demonstrating that sustainable drop-in fuels can significantly reduce emissions without requiring extensive modifications to existing engines. This biofuel trial work places them ahead of virtually every other Indian owner on the fuel transition curve.



Strategy Three:

Paper compliance and documentation arbitrage The third strategy — and the one least discussed publicly — is what might charitably be called “SEEMP optimisation” and less charitably described as documentation-led compliance. This involves the careful management of data inputs, voyage correction factors, and operational definitions to achieve a C rating on paper while the underlying vessel operations remain substantively unchanged. The CII framework has structural features that enable this approach. The Annual Efficiency Ratio, which forms the basis of CII calculation, assumes continuous cargo carriage even during ballast voyages. Opera-

tional adjustments such as slow steaming do not factor in cargo carriage efficiency. Port waiting times, which are significant for vessels calling at congested Indian ports such as Paradip, Haldia, and JNPA's outer anchorage, can theoretically be excluded from CII calculations under certain conditions — though the interpretation of these exemptions varies by flag administration and class society. The absence of commercial penalties for D and E ratings — currently the only consequence is a corrective action plan — reduces the urgency of genuine operational change for operators focused on short-term earnings.

It is possible that sanctions for non-compliance with CII could be introduced as Phase 2 reviews progress, and the market should stay informed and proactive on the relevance and impact of the CII regulations on commercial contracts. The commercial consequences are arriving ahead of the regulatory ones: charterers, particularly energy majors and ESG-sensitive counterparties, review CII ratings as part of commercial due diligence. While a marginal C rating may not block employment, it can weaken negotiating leverage.

The Charterparty Fault Line

One of the most significant developments in CII compliance — and one with direct implications for Indian ship managers operating vessels for international charterers — is the contractual

dimension. 2025 saw a spike in disputes over speed versus rating, with charterers demanding dispatch while owners prioritised compliance. BIMCO's CII clauses in charterparties feature performance-based CII incentives, including bonuses for A and B ratings. For Indian ship managers handling third-party fleets — Synergy, Columbia, Anglo-Eastern's India operations, and several smaller managers — the charterparty CII clause creates a direct liability exposure. If a vessel is operated at charterer-instructed speeds that produce a D rating, the question of who bears the commercial and reputational consequence is no longer theoretical. It is live contractual litigation in London arbitration and Singapore's SCMA.

The 2026 Inflection: why this year is different

The 2026 reporting cycle is materially more demanding than any previous year. By 2026, many shipowners have realised that passive measures such as Engine Power Limitation are no longer sufficient on their own to maintain a viable CII rating. The accuracy of EEXI Technical Files and the actual contribution of physical ship enhancements to efficiency are being scrutinised more deeply by flag states and recognised organisations. The IMO has set new, more stringent CII reduction targets, reaching 21.5 per cent by 2030, requiring updated operational plans. For an Indian tanker



It is possible that sanctions for non-compliance with CII could be introduced as Phase 2 reviews progress, and the market should stay informed and proactive on the relevance and impact of the CII regulations on commercial contracts.

fleet where the average vessel age is above 12 years — well above the global average — the trajectory to 2030 requires either significant capital investment in retrofits, accelerated fleet renewal, or a structural shift to lower-carbon fuels. The window for slow-steaming as a primary compliance strategy is closing.

The Hormuz crisis of early 2026 added an unexpected complication. Indian vessels that rerouted away from Persian Gulf loading ports, taking alternative routes via Ras al-Khaimah anchorages or West African loading options, accumulated additional ballast miles and changed their tonne-mile denominators in ways that

CII REGULATORY JOURNEY & KEY MILESTONES



JAN 1, 2023

CII became mandatory for all ships >5,000 GT



2023

CII First reporting cycle & CII ratings published



2023–2025

Owners adopt strategies:
Slow-steaming Retrofits
Operational optimisation

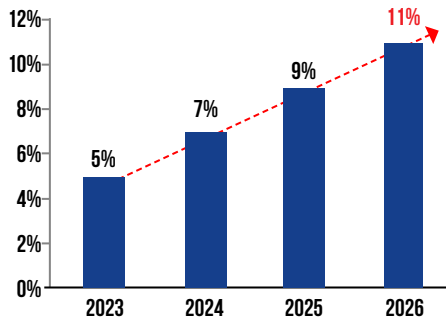


DEC 31, 2025

SEEMP Part III update deadline for all ships (2026–2028 plan)

CII REDUCTION TRAJECTORY

Annual Reduction Factor Relative to 2019 Baseline

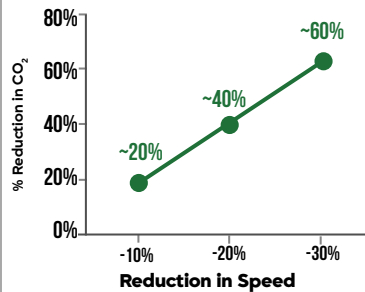


2026 target is more than double the 2023 target. Without action, ships that were C in 2023 will likely slip toward D by 2026.

IMPACT OF SLOW-STEAMING ON CO₂ EMISSIONS & VOYAGE TIME

CO₂ EMISSIONS REDUCTION

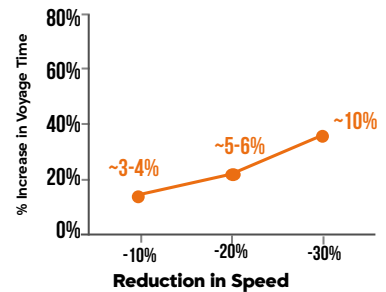
Reduction in CO₂ emissions by reducing operating speed



Slow steaming can reduce CO₂ emissions by up to 60%.

IMPACT ON VOYAGE TIME

Increase in voyage time when speed is reduced



CII-driven slow steaming can add 5-10% to voyage times.

Source: IMO, DNV

will show up in their 2026 CII calculations. For some vessels, the rerouting will improve their AER by increasing distance travelled. For others, particularly those that waited at anchorage through March and April, the extended port waiting time could depress performance. The full picture will only emerge when 2026 data is verified by March 2027.

The Verdict

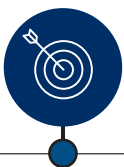
India's CII compliance story is not a single narrative. It is three stories running in parallel. A small, well-capitalised segment — led by G E Shipping and a handful of internationally competitive managers — has approached CII as a genuine strategic transformation: fleet

renewal, technical retrofit, digital monitoring infrastructure, and documented plans extending to 2028. Their ratings reflect real operational change.

A larger middle segment has relied primarily on slow-steaming, reactive speed adjustments, and documentation management to stay within the C threshold. They are compliant on paper. Whether they remain compliant through 2027 and 2028 — as the reduction factors tighten toward 21.5 per cent against the 2019 baseline — is an open question that their current capital investment patterns do not answer convincingly. A third segment, concentrated among older, flag-of-convenience-adjacent operators and smaller tramp

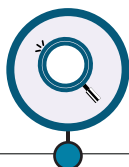
owners, is playing a waiting game — hoping that IMO's Phase 2 review will produce softer targets, or that the CII regime will eventually be superseded by mid-term measures before enforcement teeth arrive. In 2026, CII is not a secondary compliance metric. It is a structured financial and regulatory performance indicator affecting employment flexibility, financing discussions, and asset perception. The market is already beginning to price the difference between genuine A and B performers and marginal C-rated vessels. For Indian shipping, the question is not whether CII matters. It is whether the industry will act structurally before the market — and eventually the regulator — forces it to. 🚢

The Hormuz crisis of early 2026 added an unexpected complication. Indian vessels that rerouted away from Persian Gulf loading ports, taking alternative routes via Ras al-Khaimah anchorages or West African loading options, accumulated additional ballast miles and changed their tonne-mile denominators in ways that will show up in their 2026 CII calculations.



**DEC 31, 2025
JAN 1, 2026**

Phase 2 in force
11% reduction target vs 2019 baseline



2026-2027

IMO Phase 2 review & data-driven assessment of CII effectiveness



2030 & BEYOND

Pathway to net zero continues with tightening regulations

THE HORMUZ RECKONING

What the Strait's closure cost India — and what it exposed about the fragility of our energy architecture

—By Ramprasad Ravi

For seventy-six days between late February and mid-May 2026, the world watched the Strait of Hormuz — a 34-kilometre-wide sliver of water between Iran and Oman — determine the fate of global energy markets. For India, the experience was not merely a supply disruption. It was a stress test of the country's energy architecture, and the results were sobering.

Until the US-Israeli war against Iran, the Strait of Hormuz handled approximately 25 per cent of the world's seaborne oil trade and 20 per cent of global LNG exports. When that corridor collapsed on February 28, 2026, the reverberations were immediate and asymmetric. No major economy was more exposed than India.

The scale of India's exposure

The numbers tell the story plainly. The Strait accounted for approximately 41 per cent of India's crude oil imports, 55 per cent of its LNG imports, and 88 per cent of its LPG imports during the first nine months of FY2026. These are not marginal dependencies. The Strait of

Hormuz closure disrupted 40 per cent of India's crude oil imports, over 50 per cent of its urea imports, and 90 per cent of its LPG imports simultaneously. No single event in the post-liberalisation era had simultaneously struck India's energy, agriculture, and petrochemical supply chains in this manner. The price consequences were swift and severe. The Indian crude oil basket nearly doubled in a single month, from US\$69 per barrel in February to US\$126 in March, peaking at US\$157. Qatar declared force majeure on LNG exports after missile strikes damaged its Ras Laffan facility. For Indian refiners — IOC, BPCL, HPCL — whose retail price mandates had remained frozen for four years, the margin compression was immediate and structurally painful. Paradoxically, the elevated refining cracks that normally benefit refiners were harmful to oil marketing companies in this environment. Higher cracks meant higher refinery transfer prices, but frozen retail prices meant OMCs absorbed the entire difference.

Beyond oil, global urea prices jumped 50 per cent, threatening the spring planting season in the Northern Hemisphere. India's urea production fell by 800,000

tonnes in March 2026, a 30 per cent shortfall, due to gas supply caps of 60 to 70 per cent to fertiliser plants. The timing could not have been worse, arriving precisely as the Rabi harvest and Kharif planting preparations intersected.

The shipping and insurance shock

For India's maritime community, the disruption manifested in a parallel cost spiral driven by tanker rates and war-risk premiums that bore no resemblance to the pre-crisis normal. Daily charter rates for oil supertankers quadrupled within a week to nearly \$800,000. A VLCC named Adamantios was chartered for \$538,000 per day by India's Reliance Industries. Another VLCC was chartered by an Indian petrochemical firm for \$770,000 per day. These were not outliers — they were the new market rate for anyone who needed crude from the Gulf.

The insurance situation was equally alarming. International insurers began signing new war risk contracts for ships entering the Persian Gulf and the Strait of Hormuz at a rate of 1 per cent of a vessel's hull replacement value, renewable every seven days. Before the conflict, the rate was

0.25 per cent. At peak stress in mid-March, the numbers were far worse. The Additional War Risk Premium reached around 2.5 per cent of the Hull and Machinery value of ships per seven-day period in the Persian Gulf earlier in March. There were cases where some stranded tankers paid up to 10 per cent of the H&M value as AWRP, with a crude-laden Suezmax tanker's premium reaching \$7.5 million, even exceeding the freight to its destination at \$6.5 million.

Even as premiums eased through late March, the AWRP remained up to eight times higher than in the pre-war period, when the value was around 0.1 to 0.15 per cent. The London market's Joint War Committee expanded the designated war zone, adding Bahrain, Djibouti, Kuwait, Oman, and Qatar, and widening the geographical scope to cover parts of the Persian Gulf, the Gulf of Oman, parts of the Indian Ocean, the Gulf of Aden, and the southern Red Sea. Indian shipowners and charterers found themselves navigating a coverage landscape where the rules, the zones, and the premiums were changing faster than any contract could anticipate.

India's response:



improvisation over architecture

The government's response, while operationally credible, was fundamentally improvised — a point that warrants honest assessment even as we acknowledge the scale and speed of the challenge. On March 25, Opera-

Oil Price Impact & Economic Impact on India



\$69

Feb 2026
Pre-crisis baseline



\$126

March 2026
One month after closure
— prices nearly doubled



Peak

Crisis peak per barrel



0.5% of GDP

Per \$10/bbl rise Widening
of India's current account
deficit

tion Urja Suraksha was initiated under which over five frontline warships, including destroyers and frigates, were deployed to the region to escort over 20 Indian-flagged cargo ships west of Hormuz. The Indian Navy executed the operation with considerable skill. Tankers Pine Gas and Jag Vasant, carrying a combined 92,000 tonnes of LPG, successfully exited the Strait of Hormuz under Indian Navy escort. Other vessels including Shivalik, Nanda Devi, and the crude oil tanker Jag Laadki also successfully traversed the Strait.

India's diplomatic positioning proved equally important. Iran granted safe-passage status to select "friendly nations" including India, China, and Russia, with India's ships allowed transit after verification, creating a de-facto private corridor — often

described as the "India pass" — between adversaries. This was a significant diplomatic outcome, achieved without India formally joining any US-led coalition — a posture consistent with India's broader principle of strategic autonomy.

On the supply side, the rebalancing was dramatic. India imported a total of 4.57 million barrels per day of crude in March, of which 2.14 mbd came from Russia, representing 47 per cent — nearly double from February, when Russia's share was around 20 per cent. India and China were simultaneously competing for the same Russian cargoes. "The competition for Russian crude between India and China has been intense and will continue to be so for June-loading cargoes," said Muyu Xu, a senior analyst at Kpler.

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India's Import Exposure (Fy2026, First 9 Months)


41%

Crude oil imports sourced via Hormuz corridor


55%

LNG imports


88%

LPG imports (Gulf-sourced butane-heavy blend)


>50%

Urea imports disrupted by the closure


90%

LPG imports disrupted simultaneously at peak

Yet the pivot to Russian crude, while necessary, was not seamless. India appears more vulnerable to supply shocks. Its oil imports fell in March, and it has a limited buffer of around 30 days against prolonged supply shocks, according to oil industry experts. China, by contrast, with oil stockpiles that can meet demand for three to four months, entered the crisis from a significantly stronger buffer position. To protect consumers from the price spike, the government cut fuel excise duty by USD 0.12 per litre on petrol and to zero on diesel, absorbing a tax revenue loss of about USD 1.18 billion per month. Petroleum Minister Hardeep Puri maintained publicly that India had 69 days' worth of crude oil stocks and 45 days of LPG supply. The government also accelerated PNG connections, adding 9.16 lakh new connections since March 2026 under the Natural Gas and Petroleum Products Distribution Order, 2026.

What the crisis actually cost

The macroeconomic bill is still being tallied, but the contours

are clear. India's GDP growth is forecast to slow to 6.7 per cent in fiscal 2026/2027, down from 7.7 per cent last year, largely due to the oil price shock. The rupee came under sustained pressure. Foreign investors pulled more than \$20 billion out of Indian equities in the first four months of 2026. Every \$10 per barrel increase in crude prices widens India's current account deficit by approximately 0.5 per cent of GDP — and through March, prices rose by nearly \$60 per barrel.

For the shipping sector specifically, the costs were layered and compounding: higher charter rates, war-risk premiums, alternative routing costs, and the administrative burden of navigating a rapidly evolving insurance and war-zone regulatory environment. Indian ship managers operating in the Persian Gulf faced decisions — whether to transit, whether to pay war-risk premiums that exceeded freight revenue, whether to reroute — that had no good answers, only least-bad ones.

The structural questions that remain

The immediate crisis is easing. Ceasefire discussions have made tentative progress. But the forensic exercise of understanding what actually happened — and what it revealed about India's structural vulnerabilities — is only beginning. Three fault lines are now visible that were previously obscured by years of stable oil flows.

The first is the adequacy of India's strategic petroleum reserve. India's SPR capacity, distributed across underground caverns in Visakhapatnam, Mangaluru, and Padur, totals approximately 5.33 million metric tonnes — coverage of roughly 9.5 days of consumption. Against a crisis that lasted over ten weeks, this

reserve was always going to be insufficient. The IEA standard of 90 days' import coverage remains a distant aspiration. That conversation must now become a policy priority, not a planning footnote. The second is the structural vulnerability of LPG sourcing. The butane-heavy LPG blend used in most Indian households is produced almost exclusively in the Gulf, making supplier substitution for cooking gas particularly difficult. This is not a supply chain problem that Russian diversification or West African crude can solve. It requires either a fundamental change in India's domestic LPG production and blending infrastructure or a deliberate policy to accelerate the PNG transition in LPG-dependent urban and peri-urban markets. The third is the insurance gap. India does not have a domestic war-risk insurance capacity commensurate with the scale of its energy import dependency. When the London market's Joint War Committee reconfigures its war-zone list, Indian tonnage and Indian cargo face premium structures set entirely by markets with no stake in India's energy security.

The creation of a government-backed war-risk pool — analogous to mechanisms that exist in Japan, South Korea, and several European jurisdictions — is a conversation that India's shipping ministry, the Indian Register of Shipping, and the General Insurance Corporation must now have in earnest.

The reckoning

Singapore's Deputy Prime Minister Gan Kim Yong, speaking at Singapore Maritime Week in April, described the Hormuz disruption as a demonstration that "the assumptions underpinning global trade are not permanent." He was speaking to a global audience, but the words applied



India's strategic petroleum reserve. India's SPR capacity, distributed across underground caverns in Visakhapatnam, Mangaluru, and Padur, totals approximately 5.33 million metric tonnes — coverage of roughly 9.5 days of consumption. Against a crisis that lasted over ten weeks, this reserve was always going to be insufficient.

with particular force to India. India imports 88 per cent of its crude. It has 30 days of buffer stock. Its LPG supply is almost entirely Gulf-sourced. Its war-risk insurance is entirely London-priced. Its Navy can escort tankers through a contested strait — and did so admirably — but naval escort is a crisis response, not an energy policy.

The Hormuz crisis of 2026 will eventually be resolved. The structural vulnerabilities it exposed will not resolve themselves. The reckoning, for India's energy planners, shipping community, and policymakers, is not over. It is, in a meaningful sense, just beginning. 

AI IS NOT AN IT PROJECT

Why Maritime's Digital Future Demands a Change in Mindset, Not Just Technology

Chakib Abi-Saab has spent much of his career at the intersection of technology strategy and industrial transformation. As **Chief Technology and Innovation Officer at Lloyd's Register**, he sees maritime's AI challenge not as a technology gap but as a mindset problem. In a wide-ranging conversation at Singapore Maritime Week, he speaks to Maritime Gateway about digital maturity, data orchestration, seafarer adoption, and the critical question now facing every shipowner.

—By Ramprasad Ravi

There is a lot of talk about AI in maritime, but you seem to think the industry is still fundamentally misreading what it means. Where does the misunderstanding lie?

The biggest misunderstanding is that organisations still treat AI as an IT project. It is not. It is a core strategy decision, a transformation that will either enable you to compete and survive, or see you consumed by others who become more efficient by adopting better technologies. I

do not think it is optional. I think it is vital. And I am genuinely concerned that many organisations have not yet grasped the gravity of not acting.

Then comes the harder question: what does it actually take to create an environment that enables AI? Because it is not as simple as having some data, implementing an algorithm, and arriving at a fantastic outcome. You first need to know what you are trying to achieve. What data will you require? What will it take to obtain that data, clean it,



and keep it clean? Are the algorithms you create trustworthy enough to make decisions on? What level of human oversight do you want in the loop? And if you move to practical applications in shipping itself, who is responsible when an AI-recommended decision causes harm? We are in a situation where AI-enabled decision making will continue to accelerate, but regulation is lagging far behind the real challenges in the industry. That gap makes companies afraid to adopt more aggressively. So the obstacle is not always the technology failing to exist. Often it is the industry not being ready.

I always use aviation as an analogy. Aircraft can now effectively fly themselves. There is no fundamental technological reason shipping cannot reach a similar frontier. The barrier is an

industry mindset challenge, not an engineering one.

Where would you place the maritime industry on the AI adoption learning curve?

Fragmented. Some organisations are investing significantly; many others are far behind. Through our advisory services, assessing the digital maturity of clients across the industry, we have found that the majority of maritime companies are, frankly, at an early stage. They have dashboards, some level of reporting and analytics, but they sit on top of very poor data management, very high levels of manual intervention, and a fundamental lack of clarity about who owns the end-to-end process that is being automated.

There is another pattern we see frequently: organisations trying to use AI to solve problems that



Image created using generative AI and customized for publication. © 2026. All rights reserved.

cannot be solved by AI, because those problems were created by bad processes in the first place. If you automate a broken process, you get broken results faster. That is not a technology failure; it is a process failure. Unless an organisation recognises that digital transformation is a corporate-level effort requiring a genuine change in the operational model, scalable AI will remain out of reach.

One more thing we hear often is that maritime is not yet digitised enough for AI. That is partly true. But the solution is not to wait. It is to build a data orchestration platform that is trusted by all stakeholders and that connects the fragmented verticals that exist across a typical shipping organisation. The challenge with that solution, of course, is that it requires organisations to share data they currently regard as a competitive advantage. That is

precisely where neutral, trusted advisors like Lloyd's Register have a role to play.

AI and predictive analytics are being cited as the next frontier for fleet management. Where in Lloyd's Digital Maturity Model do these capabilities typically appear, and what foundational data infrastructure must be in place before they deliver real value?

The honest answer is that most organisations have not yet reached the stage where true predictive analytics are delivering transformational value. What we tend to see is solutions that help companies do what they already do, but faster and more efficiently. That matters, but it is not the same as changing the operational model to take genuine advantage of AI. To get there, you have to start with processes, not technology. Here is

what we observe in almost every company: a process that has, say, twelve steps. You reengineer it and reduce it to six. Only then does AI become relevant: from those six reengineered steps, how do you use data and automation to reduce human intervention further? Now you have two or three touchpoints where humans are genuinely needed, and something that previously took a week takes a day.

Without fixing the processes first, none of the rest works. And in terms of digital maturity, the picture is uneven within organisations, not just between them. Some departments are significantly more advanced than others, and which departments those are varies entirely from company to company. It depends almost entirely on the vision and drive of the individual leading that department. There is no uniform pattern I can point to.



One more thing we hear often is that maritime is not yet digitised enough for AI. That is partly true. But the solution is not to wait. It is to build a data orchestration platform that is trusted by all stakeholders and that connects the fragmented verticals that exist across a typical shipping organisation.

Interoperability remains a persistent pain point. OEM systems, third-party software, legacy ECDIS and PMS platforms rarely speak the same language. What is Lloyd's Register's approach to building ecosystems that are genuinely open rather than proprietary?

The fragmentation you are describing is present at every level of the industry. And it is becoming more complex, not less, because geopolitical pressures are now driving a shift from global platforms towards regional ecosystems. That creates a new and significant challenge: how do you choose the right digital ecosystem, and how do you ensure it remains interoperable with ecosystems in other parts of the world?

The OEM dimension is particularly difficult. OEMs maintain very tight control over their data because they fear that sharing it with operators, or with competitors who service the same equipment, will erode their commercial position. But that control is precisely what prevents the predictive analytics capability that the entire industry is trying to unlock.

Predictive maintenance, for example, requires OEMs to share information they are not currently sharing. And it requires them to change their commercial policies. Even if the technology to achieve this is available today, the data is not flowing.

This is not a problem that any single organisation can solve alone. It requires industry-wide coordination, and it requires trusted intermediaries that all parties are comfortable sharing data with. That is a role Lloyd's Register is well placed to take on, given our history of neutrality and our position as a classification society and advisor rather than a commercial operator.

Seafarer adoption is often cited as the weakest link in any digital rollout. Tools go unused or get worked around. How is Lloyd's Register embedding change management into ecosystem design, rather than treating it as an afterthought?

Our Digital Maturity Index looks at this explicitly. We assess adoption of technologies, how well those technologies are aligned with organisational objectives, cybersecurity culture, and the capacity for continuous improvement through training. These are not peripheral considerations; they are central to whether a digital programme succeeds.

The maritime industry is at an interesting generational inflection point. The new generation entering the workforce is highly technology-driven, motivated, and expects to use digital tools at sea the same way they use smartphones at home. The generation still working, and who will be working for some years yet, is primarily manual-process oriented. Push too hard and you lose their support; not hard enough and you fail to attract the next generation. It is a genuine and delicate balance.

What we have learned, and what we make central to our recommendations, is that technology adoption almost always starts with the user. If you do not design with the seafarer in mind from the beginning, you will not succeed, regardless of how good the technology is. And resistance to change, when we encounter it, is almost never bad intent. It is usually a combination of three things: not understanding what the technology actually does, fear that it will eliminate their role, and simply not knowing enough about it. When you take the time to explain the end goal, and specifically what is in it for the people being asked to change, you consistently find more sup-

port than expected. The problem is that as an industry, we are not yet good at communicating the why.

Indian shipping companies, particularly mid-sized bulk and coastal operators, are often caught between legacy infrastructure and pressure to digitise. What specific guidance does the Digital Maturity Index offer at the early-to-mid stage of that journey? And are India-specific benchmarks being developed?

There is no one-size-fits-all solution, and the maturity index reflects that. Every organisation we assess has a different starting point, and different departments within the same organisation can be at very different stages. What the index allows us to do is be specific rather than generic: here is where you are, here is where you need to be, here are the realistic steps to close that gap.

But there is a bigger question that I want to raise, because it is something people in this position will start hearing a great deal about in the next two to three years. The question is this: should an organisation spend the next two to three years fixing legacy systems and cleaning data in order to enable AI? Or should it use that same investment to rebuild what it has, on the side, from scratch, in a way that is faster, cheaper, scalable and modern? This is the critical strategic question of the next five years for technology leaders in shipping. It is the chicken-and-egg dilemma of our time.

Fix the legacy and you are investing in something that delivers value two or three years from now, not today. Rebuild on the side and by the time you finish, you have something fully modern and scalable, but you may have lost continuity with the historical data and operational knowledge accumulated over

years. Neither path is obviously correct, and the right answer depends on what you are actually trying to achieve.

Which brings us back to where we started: you have to begin with the outcome. Not all data needs to be retained. Not everything that can be measured should be measured, and not everything that should be measured can be measured. Once you are clear on the goal, you can determine what data you actually need, and how much history is necessary. Sometimes the answer is ten years of data. Sometimes it is twelve months. It depends entirely on the problem you are trying to solve. 

The maritime industry is at an interesting generational inflection point. The new generation entering the workforce is highly technology-driven, motivated, and expects to use digital tools at sea the same way they use smartphones at home. The generation still working, and who will be working for some years yet, is primarily manual-process oriented. Push too hard and you lose their support; not hard enough and you fail to attract the next generation.

THE ALGORITHM BEHIND THE HUMAN

How Agentic AI Is Reshaping HR in India's Maritime and Logistics Sector

This article explores the possibilities that lie ahead in the domain of human-AI relationship, specifically when it comes to industry specific hirings, and how agentic AI can help HR departments at various steps of the process

-By Kalpana Pandey

There is a quiet revolution happening in HR departments across India's ports, warehouses, and freight corridors — and it looks nothing like the chatbot revolution that preceded it. Agentic AI, a new class of artificial intelligence that doesn't wait to be prompted but instead plans, acts, and adapts on its own, is beginning to fundamentally change how organisations manage their people. For a country with one of the world's most complex and fast-moving logistics ecosystems, the implications are enormous.

From Chatbots to Autonomous Agents

To understand what makes agentic AI different, consider what came before it. Earlier AI tools were reactive: they answered questions when asked, screened a resume when prompted, or flagged a document when triggered. Agentic AI operates differently. It sets its own sub-tasks, calls external tools, monitors pipelines in real time, and executes end-to-end workflows without waiting for a human at every step. It's less a tool and more a digital teammate.

This distinction matters enormously in sectors like shipping and logistics, where the pace of operations demands 24/7 attention and where compliance failures carry serious operational and legal consequences. India's maritime and logistics sector is no exception — in fact, it may be among the sectors that stand to benefit most.

The Indian Logistics Challenge: Numbers That Tell the Story

The scale of HR complexity in India's logistics and maritime space is staggering. Considering that 60% of dock and warehouse staff are contract workers, onboarding never truly stops. Average annual attrition in warehousing and last-mile delivery sits at 35%, and 80% of HR manager time in logistics is spent on administration rather than strategy. Processing a new port worker's compliance documentation takes an average of 72 hours.

Against this backdrop, AI adoption in HR in India is accelerating sharply. AI-linked job postings in India are projected to grow 32% year-on-year in 2026, and AI skills now appear in 14% of all Indian job postings. Globally, AI adoption in HR nearly doubled in a single year — from 26% to 43% between 2024 and 2025, according to SHRM data — and Asia-Pacific, led partly by India, is now the fastest-growing region for this technology.

Agentic AI operates differently. It sets its own sub-tasks, calls external tools, monitors pipelines in real time, and executes end-to-end workflows without waiting for a human at every step. It's less a tool and more a digital teammate.



Agentic AI in the Hiring Process: Where Humans Must Stay Central

The hiring process is where agentic AI shows its most immediate value — and where the

case for human oversight is most urgent. On the operational side, the numbers are compelling. Companies implementing agentic AI workflows report 30 to 50% faster time-to-hire, with some high-volume teams seeing improvements of up to 70%. PwC's 2025 data indicates that agentic solutions can save hiring professionals up to 70% of their time on talent sourcing alone. For India's logistics firms, which routinely handle high-volume, seasonal hiring surges — around Diwali, for instance, or during Q4 e-commerce peaks — this kind of efficiency is not a luxury but a survival requirement.

In practice, an agentic hiring workflow for a port operator might look like this: an AI agent identifies a surge in required crane operators, sources candidates from verified STCW-certified pools, screens documentation autonomously, schedules assessments, and routes only shortlisted profiles to a human HR manager for final evaluation and cultural fit assessment. That last step is critical. In 2025, 93% of hiring managers globally said human involvement remains essential even as AI usage grows. The consensus is not AI versus humans, but AI and humans — with AI absorbing the administrative 40 to 60% of a recruiter's workload so that human judgment can focus on the 20% that matters: relationship-building, cultural assessment, and nuanced evaluation that no algorithm can replicate. Critically, all final hiring decisions should remain with humans, especially in compliance-sensitive roles.

The Pros and the Cons

The benefits are real and measurable. Agentic AI eliminates repetitive administrative work, reduces time-to-hire, improves consistency in screening, and enables predictive talent analytics — identifying flight-risk employees 60 to 90 days in advance, matching crew to voyage schedules in real time, and cutting surprise departures by up to 40%. For India's logistics sector specifically, multilingual AI agents that handle HR queries in Hindi, Telugu, Tamil, and Marathi are not a nice-to-have — they are a practical necessity given the workforce's linguistic diversity. The risks, however, deserve equal attention. India's Digital Personal Data Protection (DPDP) Act 2023 means that employee data used to train AI systems must be consented and audited — a compliance requirement many organisations are not yet prepared for.

AI hallucination, where systems generate incorrect regulatory guidance, is a genuine danger in a sector governed by frameworks

like MLC 2006, STCW conventions, and the Factories Act. Port and transport unions may resist what they perceive as AI-led surveillance, and legacy HRMS systems in Indian companies often lack the API connectivity needed for seamless integration. Perhaps most importantly, removing human empathy from grievance and exit processes — even in the name of efficiency — is counterproductive and can accelerate the very attrition it seeks to prevent.

A Sector Whose Moment Has Arrived

The signs of real-world adoption are already visible. JNPA Nhava Sheva, India's largest container port, has deployed an AI documentation layer through its PCS1x system, cutting documentation cycles from six hours to under 45 minutes. Blue Dart handles over 3,000 HR queries monthly through a WhatsApp-based grievance bot for its 12,000-plus delivery agents. These are not pilots — they are live systems producing measurable results. For Indian HR leaders in maritime, logistics, and warehousing, the imperative is clear: start with a defined pilot — compliance monitoring for seafarer certifications, for instance — and prove value before scaling. Train HR teams not just to use these systems but to oversee them, audit them, and know when to override them. Define clearly which decisions belong to AI and which must always belong to a human being.

The future of HR in this sector is not artificial intelligence replacing human resources professionals. It is artificial intelligence eliminating the administrative noise so that human professionals can do what only they can: lead, empathise, and build organisations that people actually want to work for. 



For India's logistics sector specifically, multilingual AI agents that handle HR queries in Hindi, Telugu, Tamil, and Marathi are not a nice-to-have — they are a practical necessity given the workforce's linguistic diversity.

FROM PILOT TO PRACTICE:

Scaling Asia's Maritime Future



Dr. Piyush Raj
Head of Maritime Technology and Innovation (SEA, Pacific & India), Maritime Advisory, DNV

Dr. Piyush Raj, Head of Maritime Technology and Innovation (Sea, Pacific & India), Maritime Advisory, DNV, on why digital and decarbonisation innovation must be sequenced, practical and fleet-ready — not just future-ready.

—By Kalpana Pandey

DNV's Maritime Decarbonisation and Smart Shipping Centre of Excellence in Singapore was set up to drive digitalisation, decarbonisation and smart shipping for the region. From your seat, what specific technology areas are seeing the strongest pull from Asian and Indian owners today?

Across Asia today, demand is building simultaneously across digitalisation, smart shipping and alternative fuel solutions, rather than in any single technology area. In Southeast Asia, particularly in Singapore and Malaysia, stakeholders are actively advancing their digitalisation and AI journeys. This is driving investment in data platforms, smart ship systems, and remote monitoring and operations. Different business concepts for remote operations are being explored, and we expect several of these to translate into innovative use cases in the near term.

In India, there is a strong and growing momentum around alternative fuels. This is supported by parallel developments in shipbuilding and ship-repair capacity, as well

as policy signals and investment support from the government. At the same time, ports are beginning to assess what it will take to support new fuel pathways. A concrete example is the comprehensive port readiness assessment conducted by DNV for Deendayal Port, focused on biomethanol bunkering operations. Using DNV's Port Readiness Level (PRL) framework, the study assessed technical, operational and safety readiness, as well as alignment with applicable standards, regulations and international best practices. This helped identify key gaps, risks and priority actions — providing a practical foundation for informed decision-making as ports prepare to support emerging fuels.

More broadly, we see governments collaborating closely with ports, industry players and educational institutions to drive longer-term, strategic initiatives across these technology areas. Beyond industry-wide support in core technologies, DNV also contributes to national roadmap development and job transformation studies, recognising that successful technology adoption must be matched by  workforce readiness.

Singapore has become a testbed for future-ready shipping, from zero and



For many owners, the most important early steps are building data reliability, scalability and internal decision capability. These are 'no-regret' measures that deliver near-term efficiency gains while keeping longer-term decarbonisation options open."

near-zero emission fuels to autonomous and remotely operated vessels. Which of these innovation streams do you see as most immediately scalable to markets like India, and what technical or regulatory barriers still stand in the way?

What tends to scale most readily across regions are digital and operational innovations that do not rely on new physical infrastructure or major regulatory change. Digital platforms, smart ship technologies, and shore-based decision support tools can be applied across mixed-age fleets and a wide range of trades, including coastal and regional shipping. These solutions largely fit within existing class and flag state frameworks, which makes them easier to adopt and scale in markets such as India.

Remote operations are also transferable when introduced incrementally, starting with remote monitoring and advisory support. DNV's experience with autonomy frameworks shows that partial automation and decision support functions can be implemented step by step, without requiring an immediate shift to fully autonomous operations.

More complex challenges arise with alternative fuels and higher levels of autonomy. Fuel availability, port readiness, crew competence and regulatory alignment do not always advance at the same pace, which can slow large-scale deployment.

On the digitalisation side, the remaining barriers are less about technology itself and more about data reliability, scalability and cybersecurity. While there are many pilots under way, not all are designed with these factors in mind, which can affect confidence → and slow wider adoption.

DNV is deeply involved in R&D partnerships with institutions such as the Singapore Institute of Technology. How are you leveraging this innovation ecosystem to build solutions that are deployable across a wider Asia Pacific fleet, including Indian tonnage and coastal shipping?

Our collaboration with institutions such as the Singapore Institute of Technology is deliberately focused on applied, industry-driven R&D rather than purely academic research. The aim is to develop solutions that address real operational challenges and can be deployed at scale.

These joint efforts span digital and autonomous systems and workforce and competence development, with DNV contributing technical know-how, operational expertise and assurance perspectives.

As the world's leading maritime hub, Singapore provides a unique environment where new technologies, safety concepts and

regulatory interfaces can be tested rigorously in close collaboration with industry and authorities. This allows solutions to be validated under demanding conditions before being adapted for wider regional deployment. In India, we are working with industry stakeholders on feasibility studies and roadmaps for alternative fuel availability, recognising that local infrastructure, operating profiles and regulatory frameworks must be carefully considered. In 2023, DNV released a white paper on the Indian Coastal Green Shipping Programme, commissioned by the Royal Norwegian Consulate General in Mumbai, examining India's potential to deliver a more sustainable maritime future and offering a practical framework for collaboration across industry and government.

As Indian tonnage — both international and coastal shipping — continues to expand, DNV is working closely with shipyards, owners and ports to support these efforts, helping ensure that innovation is not only future-ready, but also deployable and scalable across diverse → fleets.

Looking at the next decade, what breakthrough technologies do you believe will truly change the operating model of ships calling at Asian and Indian ports, and how is DNV prioritising its investments across these options?

Rather than a single breakthrough, the bigger shift is likely to come from how operational decisions are supported and shared between ship and shore.

AI-enabled decision support is increasingly being used to assist with fuel optimisation,

Shore-based support models become more important as vessels adopt more complex systems, particularly in dual-fuel and hybrid configurations. Onboard electrification and hybrid solutions are gaining traction, particularly in ports and coastal segments, where operational profiles and local regulations make them more viable.

machinery diagnostics, and emissions management, changing how information is processed and made available easily, rather than replacing human judgement. Shore-based support models become more important as vessels adopt more complex systems, particularly in dual-fuel and hybrid configurations. Onboard electrification and hybrid solutions are gaining traction, particularly in ports and coastal segments, where operational profiles and local regulations make them more viable. From DNV's perspective, investment prioritisation is guided by areas where technological development, safety assurance, competence building and regulatory frameworks can evolve together. Rather than betting on a single dominant pathway, we focus on enabling multiple transition routes — ensuring that innovation can be deployed safely, at scale, and in a way that is practical for Asian and → Indian operating contexts.

Many stakeholders in India and the wider region are still at early stages of their digital and decarbonisation journeys compared with frontrunner hubs like Singapore. How do you balance pushing cutting-edge innovation with providing practical, step-by-step technology roadmaps that match the realities of mixed-age fleets and constrained capex in Asia?

The balance comes from grounding innovation in strong domain expertise and focusing on sequencing and flexibility, rather than pushing stakeholders toward a fixed end state. For many owners, the most important early steps are building data reliability, scalability, security and internal decision capability.

These are "no-regret" measures that deliver near-term efficiency gains while also keeping longer-term decarbonisation and digital transition options open. They allow companies to make informed choices based on asset age, operating profile and investment horizon. More advanced technologies — such as autonomy in navigation, smart port operations, or new fuels — are positioned as options with clear prerequisites. These include safety maturity, crew competence, infrastructure readiness and economic viability, all of which need to be addressed before large-scale deployment is realistic.

This approach enables DNV to support stakeholders with practical, step-by-step technology roadmaps that reflect fleet realities, capital constraints and regional operating conditions, while ensuring that future pathways for innovation and decarbonisation remain open.



INDIA'S HARVEST UNDER DURESS; WHAT IS THE WAY OUT?

India's fertilizer sector is navigating one of its most turbulent periods in recent memory. The West Asia conflict has exposed deep structural vulnerabilities in a supply chain that feeds over a billion people, but the government's response has been swift, strategic, and surprisingly robust.

Total fertilizer imports reached 38.84 MMT in FY 2025–26, a sharp increase from the prior year's 30.27 MMT, as India scrambled to build strategic buffers ahead of the critical Kharif planting season. Rock Phosphate led all imports at 10.77 MMT, followed by Urea at 6.38 MMT and Di-Ammonium Phosphate (DAP) at 4.85 MMT.

The primary threat is the Strait of Hormuz — the chokepoint through which the bulk of India's fertilizer raw materials (Natural Gas, Ammonia, Sulfur) must pass. A five-week conflict involving

strikes on Iran triggered a massive logistics backlog: around 2,000 vessels delayed, including Indian shipments carrying 150,000 tonnes of Urea. Simultaneously, China tightened export curbs on both Urea and DAP, forcing New Delhi to pivot fast.

Port Analysis: Where India's Fertilizers Come Ashore

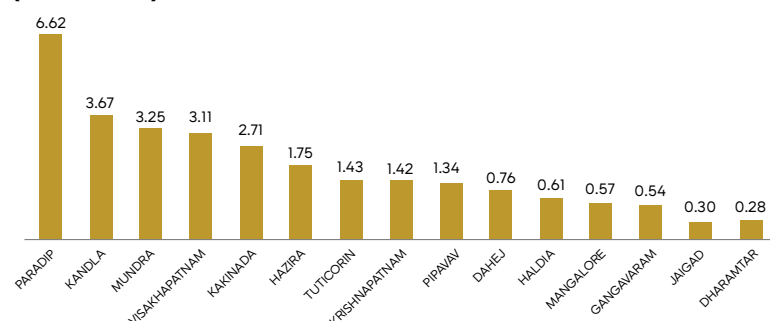
Paradip dominates India's fertilizer import landscape, handling 6.75 MMT — largely driven by Rock Phosphate (4.9 MMT) and Sulphur (0.9 MMT). Kandla, Mundra, and Visakhapatnam

have all recorded significant year-on-year growth, reflecting India's push to diversify port-level risk.

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FERTILIZER IMPORT TRAFFIC AT TOP 15 INDIAN PORTS – FY 25–26 (QTY INMMT)



Saudi Arabia (14%), and China (14%) together account for nearly three-quarters of all fertilizer imports. The heavy concentration in geopolitically sensitive corridors is precisely what the government is now working to unwind.

**SUPPLY CHAIN RESILIENCE:
THE NPK DIVIDE**

India’s fertilizer vulnerability is not uniform. The outlook diverges sharply across the three primary nutrient categories — Nitrogen, Phosphorus, and Potassium.

S.NO	Port Name	In MMT
01	Paradip	6.75
02	Kandla	5.10
03	Mundra	4.43
04	Visakhapatnam	4.30
05	Kakinada	3.37

Nitrogen (Urea) — Stable (Improving)

Domestic production: 17 MMT. Import dependency: 20–30%. Domestic output has surged to cover nearly 80% of national demand, aided by the Oil Ministry increasing natural gas allocation to urea plants from 70% to 90% of average consumption. Reliance on Shell and other global LNG players is helping restore production to near-full capacity.

Phosphatic (DAP/P) — Cautionary

Domestic production: ~5.1 MMT. Import dependency: 30–40%. India will remain a major player in the global spot market to cover the import gap, with Morocco and Saudi Arabia as key sources.

Potassic (MOP/K) — Vulnerable

Domestic production: Nil. Import dependency: 100%. India remains entirely import-dependent, and with Jordan and Israel both caught in regional instability, the focus is shifting heavily toward long-term supply agreements with Canada and Russia.

**GLOBAL SUPPLY DISRUPTIONS
& PRICE SURGES**

- Global Urea prices have sky-

While India faces a 21-million-tonne shortfall for the 2026 Kharif season, the government’s strategy of rerouting shipments, diversifying gas sources, and utilizing ‘war room’ monitoring is expected to maintain adequate supply without a price hike for farmers.

- rocketed to approximately \$800/tonne (FOB), more than doubling pre-conflict levels. Total landed costs including freight could reach \$900/tonne.
- A five-week conflict involving U.S./Israeli strikes on Iran and subsequent threats to the Strait of Hormuz caused a massive logistics backlog. Around 2,000 vessels were delayed, including Indian shipments carrying 150,000 tonnes of Urea.
 - China, a major global supplier, has tightened export curbs on Urea and DAP, forcing India to look elsewhere.

**Domestic Stock Status
(As of April 1, 2026)**

Despite global turmoil, India entered the new fiscal year with a comfortable buffer. Total availability stood at approximately 18 million tonnes, broken down as follows:

- Urea: 6.2 million tonnes
- DAP: 2.3 million tonnes
- NPK/Complex: 5.7 million tonnes

While stocks are high now, Kharif demand is estimated at 39 million tonnes, meaning significant imports are still required by June.

**STRATEGIC GOVERNMENT
RESPONSE**

- India is in active talks with Russia, Belarus, Morocco, Indonesia, and Vietnam to reduce reliance on Middle Eastern and Chinese supplies.
- The Oil Ministry has increased natural gas allocation to domestic urea plants from 70% to 90% of

average consumption to boost local production as LNG supply chain stability improves.

- Indian Potash Ltd. (IPL) has issued a fresh tender for 2.5 million tonnes of Urea to build a safety net for the upcoming planting season.
- A “Monitoring War Room” and anti-hoarding directives have been established to ensure supply disruptions do not translate into retail price spikes for farmers.

Fiscal Impact: The Subsidy Burden

The Union Cabinet raised the Kharif Nutrient-Based Subsidy (NBS) to ₹41,534 crore — a ₹4,300 crore increase over last year. The government is maintaining the retail price of DAP at ₹1,350 per 50kg bag, absorbing the massive gap between high global costs and affordable rates for farmers. If global urea prices remain near \$900/tonne, further subsidy infusions will be necessary, stretching the national budget. India’s bet is that geopolitical normalization and its aggressive supply diversification will ease global prices before the fiscal damage becomes structural.

For now, the fields will be planted. The harvest will happen. India’s fertilizer resilience, forged under pressure, may yet prove to be one of the year’s most consequential policy achievements. 

**Top Import Countries
FY 2025-26**

- **Russia** — 17%: Muriate of Potash (1.58 MMT), Urea (0.76 MMT), NPK (0.67 MMT)
- **Jordan** — 14%: Rock Phosphate (3.73 MMT)
- **Morocco** — 14%: Rock Phosphate (1.53 MMT), DAP (0.86 MMT)
- **Saudi Arabia** — 14%: DAP (1.34 MMT), Urea (0.73 MMT)
- **China** — 14%: DAP (0.84 MMT), Ammonium Sulphate (0.49 MMT)
- **Oman** — 8%: Urea (2.73 MMT) — highest single-country Urea source

SHIPBOARD FIREFIGHTING UNDER PRESSURE AS MODERN VESSELS REDEFINE RISK

This article highlights the growing fire risks facing the maritime industry as lithium-ion cargoes, alternative fuels, larger vessels, and reduced crew sizes become more common. It underscores how existing firefighting training and systems are falling behind, driving calls for updated regulations, more realistic training, improved vessel design, and stronger coordination to prevent future losses.

—By Ramprasad Ravi

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The evolving nature of cargo and propulsion systems is forcing the global maritime industry to reexamine shipboard firefighting standards, as traditional training and response protocols struggle to keep pace with modern fire risks.

A recent fire aboard a container vessel carrying electric vehicles in the North Atlantic highlighted the growing challenge. The incident resulted in the loss of a crew member and ultimately led to the abandonment of the ship. More importantly, it exposed how conventional firefighting training is often inadequate for the types of fires now emerging at sea. Lithium ion battery fires represent one of the most complex threats. Unlike conventional cargo fires, these incidents can burn at extremely high temperatures, spread rapidly, and reignite long after initial suppression. They also emit toxic gases such as hydrogen while generating oxygen internally, reducing the effectiveness of fixed firefighting systems commonly installed on ships. In many cases, suppression requires prolonged cooling, controlled flooding, or specialised agents that crews may have never encountered during training. As shipping moves towards decarbonisation, alternative fuels such as LNG, methanol, ammonia, and hydrogen are becoming more common. Each fuel brings unique fire and explosion characteristics that differ significantly from traditional marine fuels. Detection systems, suppression methods, and

crew protective measures must be tailored accordingly, yet training standards often remain generic. Vessel design trends are adding further pressure. Mega container ships, Ro Ro vessels, and large cruise ships feature vast interconnected spaces where fires can travel quickly.

At the same time, automation and unmanned engine rooms have reduced crew sizes, leaving fewer hands available during emergencies and increasing reliance on fixed firefighting systems that may not be designed for emerging fire scenarios. International training requirements under the STCW Convention mandate basic and advanced firefighting courses, but many industry observers argue that the curriculum has not evolved sufficiently. While a handful of advanced training centres have introduced electric vehicle fire simulations and alternative fuel scenarios, these initiatives are not yet widespread. Compounding the issue, shore based emergency responders often lack familiarity with shipboard layouts and marine firefight-

ing systems, creating coordination challenges when vessels reach port. Regulators and industry bodies have begun to respond. The International Maritime Organization has

issued interim guidance for ships carrying electric vehicles, while classification societies are strengthening fire safety rules for alternative fuel vessels. Several port authorities are also revising emergency response frameworks. However, adoption remains uneven across regions and fleets. Safety specialists

stress that effective firefighting goes beyond equipment upgrades. It requires realistic and recurring training, joint drills involving port fire services, vessel designs that account for new fire behaviours, and transparent sharing of incident data and lessons learned.

The industry faces a clear choice. Proactive investment in training and preparedness can help manage evolving risks, while delayed action risks repeating incidents that carry severe human, environmental, and financial consequences. 

Vessel design trends are adding further pressure. Mega container ships, Ro Ro vessels, and large cruise ships feature vast interconnected spaces where fires can travel quickly.





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- ✦ Shortest transit time for transshipment containers with only 10 hours of sailing time to Colombo
- ✦ Lowest Terminal Handling Charges amongst all South Indian Ports, including Colombo
- ✦ Digital process control mechanism for filing of EGM in Customs ICEGATE
- ✦ Container Moves / Hour: 30
- ✦ Direct loading facility for time sensitive Cargo / Containers



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