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JUNE 2025 WWW.MARITIMEGATEWAY.COM ₹200

INTERVIEW

DR. M. ANGAMUTHU, IAS
Chairman, Visakhapatnam Port Authority

ARTICLES

Morbi: The Ceramic Power House

The Missing Link: Rethinking Ship Finance & Leasing

Tanker Market Outlook 2025–26

India's Quest for a Domestic P&I Club

Strategic Necessity or Mutual Fantasy?

SMART PORT 5.0
DIGITALIZATION

INSPIRING NETWORKS

SURAJ INFORMATICS

- HMI-Proximity Warning and Alert System
- Remote Crane Management System, RCMS
- Traffic and Parking Management
- Fuel Management System
- Locationing Solution
- Object identification and counting
- Crowd Management,
- IT Infrastructure and Data Centre
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- Terminal Automation System
- Digital Twin
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PM E-DRIVE – A decarbonisation catalyst for India's freight and port ecosystem

The government's rollout of the PM E-DRIVE scheme marks a pivotal shift in India's green freight journey. By offering up to ₹9.6 lakh in upfront incentives per electric truck, the policy decisively addresses the two key bottlenecks that have historically plagued the electric freight movement - high capital cost and lack of demand aggregation.

Diesel trucks, while constituting only 3 per cent of India's vehicles, account for a staggering 42 per cent of transport-related greenhouse gas emissions. Transitioning to electric trucks, particularly for high-utilisation, short-haul use cases, offers a critical opportunity to decarbonise India's logistics sector. The ₹500 crore earmarked for e-truck incentives under this scheme lays the foundation for cleaner, quieter, and more cost-efficient logistics operations.

This policy isn't just a climate win—it's an economic one. By narrowing the Total Cost of Ownership (TCO) gap between diesel and electric trucks, it enables logistics players to rethink their fleet investments. It also sets the stage for long-term efficiency gains, particularly in high-traffic logistics hubs such as ports, where shorter, repetitive hauls dominate.

Ports, in particular, must seize this moment to integrate electric trucks into their first- and last-mile operations. Closed-loop freight movements between port terminals, container yards, and nearby CFS/ICDs are ideal candidates for electrification, offering predictable routes and high asset utilisation. The deployment of e-trucks in such zones not only reduces operational emissions but also enhances air quality for nearby communities.

To make this transition viable, ports must simultaneously invest in fast-charging infrastructure, green power sourcing, and digital load management systems. Public-private partnerships and port-led EV cluster models can play a transformative role in this regard.

As India aspires to become a global green logistics hub, the PM E-DRIVE policy provides the blueprint for how freight decarbonisation can be aligned with cost-efficiency and competitiveness. The onus is now on logistics players and ports to drive this momentum forward.

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Printed at Kala Jyothi Process Pvt Ltd, Plot No.CFC-1&2, Survey No.18, E-City, SEZ, General Industrial Park, Raviryal and Srinagar, Maheswaram, Ranga Reddy District, Telangana – 501359.

Published at One Ocean Maritime Media Pvt Ltd, Plot No. 20, 2nd Floor, Capital Park Road, VIP Hills, Silicon Valley, Madhapur, Hyderabad, Telangana - 500 081

REGD. OFFICE: Flat No 32, Floor - 7, Building No. 3, Tata Mills CHS, Jagannathrao Bhatankar Marg, Parel, Mumbai, Maharashtra - 400012

CIN: U73100MH2024PTC424179

EDITOR: R Ramprasad

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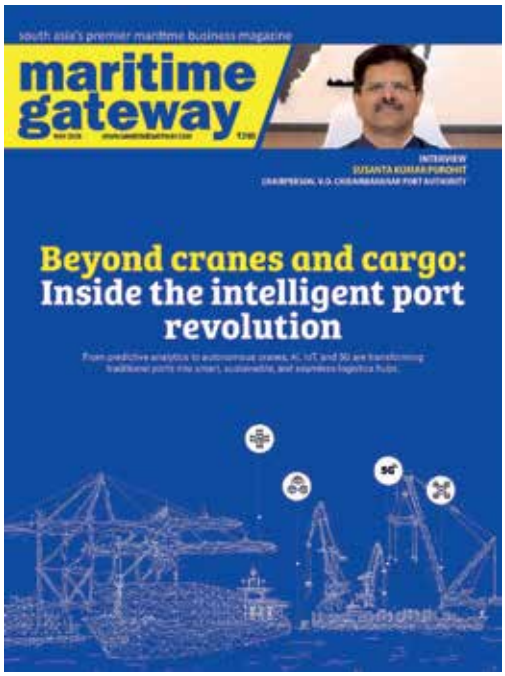

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Our NEFT/RTGS Details are: KOTAK MAHINDRA BANK, BKC Branch, Mumbai, India. **Current A/c. No. 9749254514; IFSC Code: KKBK0001405; MICR Code: 400485121**
All Payments in US Dollars (US$) to be made as Wire Transfers in favour of **'One Ocean Maritime Media Pvt Ltd'** Bank and wire transfer details will be provided on request.

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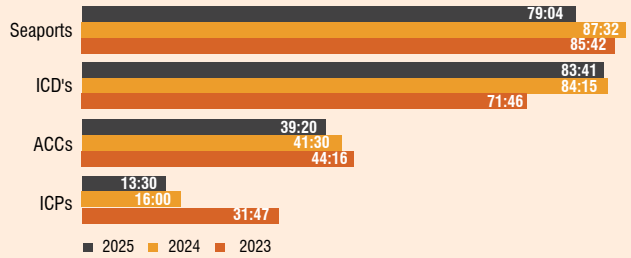
NATIONAL TIME RELEASE STUDY 2025

COVERS 62,981 BILLS OF ENTRY FOR IMPORTS

IMPORT AVERAGE RELEASE TIME (ART) (IN HOURS)

Seaports and ICDs account for maximum time taken for import cargo handling/release

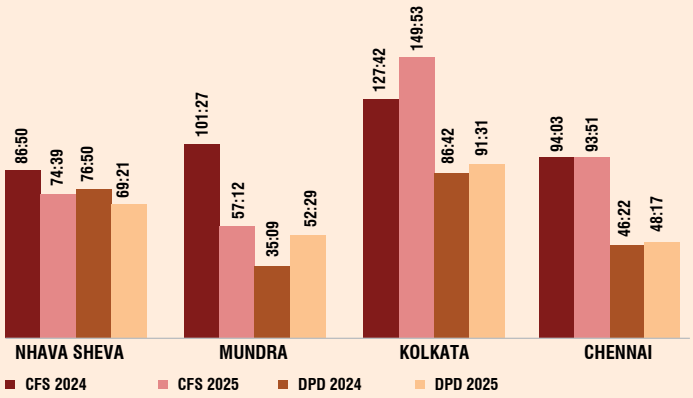


SHARE OF BOEs MEETING NTFAP TARGETS		
Port	Overall	Facilitated
SEAPORTS (NTFAP TARGET - 48 HOURS)		
Chennai	47.90%	47.77%
Kolkata	13.92%	13.71%
Mundra	62.38%	56.95%
Nhava Sheva	55.15%	51.74%
Overall	**51.76**	**49.26%**

Seaports: Import ART decreased by more than 8 hours (from 87:32 hours in 2024 to 79:04 hours in 2025).

PORT-WISE IMPORT AVERAGE RELEASE TIME IN 2025	
Port	ART (2025)
Seaports	
Chennai	88:42
Kolkata	140:45
Mundra	55:34
Nhava Sheva	72:50
Kochi	137:06

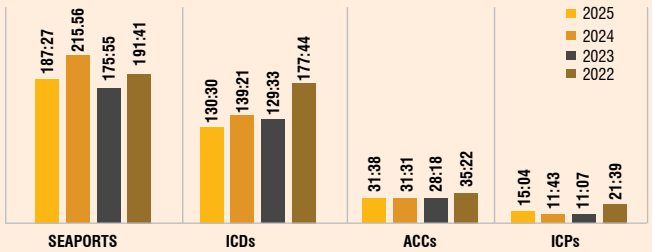
Import ART - CFS vs DPD Cargo at Seaports (2024 - 2025)



NATIONAL TIME RELEASE STUDY 2025

COVERS 62,533 SHIPPING BILLS FOR EXPORTS

Seaports account for maximum time taken for export cargo handling / release



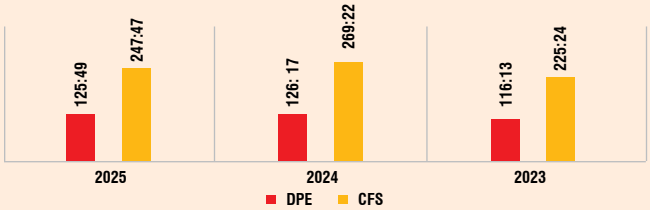
Seaports: Export ART decreased by more than 28 hours (15% improvement) from 215 hours in 2024 to 187 hours in 2025

PORT-WISE EXPORT AVERAGE RELEASE TIME IN 2025			
SEAPORTS			
Port	Arrival to LEO	LEO to Departure	Export ART
Chennai	33:12	184:51	218:04
Kolkata	31:57	149:22	181:19
Mundra	20:45	131:47	152:33
Nhava Sheva	34:37	171:15	205:52
Kochi	9.37	143:01	152:38

Source: NTRS - Data considered for first week of January 2025.

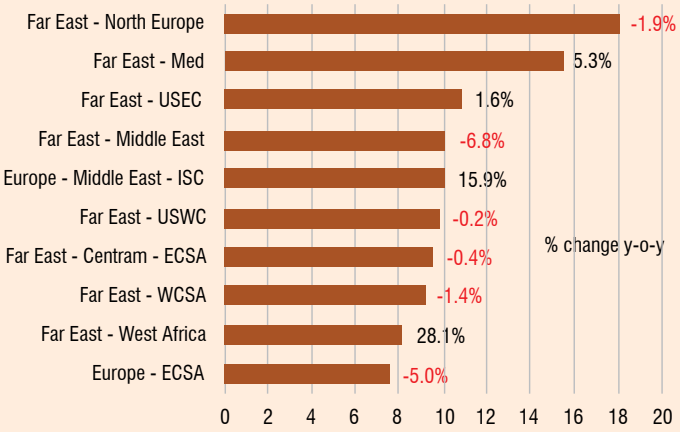
SHARE OF SBs MEETING NTFAP TARGETS		
SEAPORT (NTFAP TARGET - 24 HOURS)		
Port Type	Overall	Facilitated
Chennai	-	-
Kolkata	0.18%	0.18%
Mundra	0.15%	0.15%
Nhava Sheva	0.14%	0.10%
Overall	**0.13%**	**0.11%**

Export ART: CFS vs. DPE



While the overall ART for DPE cargo decreased marginally-by about 30 minutes-from 126:17 hours in 2024 to 125:49 hours in 2025, it still continues to remain substantially lower than that of CFS cargo.

TRADES WITH THE HIGHEST AVERAGE VESSEL SIZE



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Courtesy: Alphaliner

OPERATOR WISE SHIPS PLYING THROUGH INDIAN PORTS

Operators	No. of Ships	TEUS
MSC	157	14,96,401
Maersk A/S	70	546942
CMA CGM	52	358824
Hapag-Lloyd	32	307114
Wan Hai Lines	26	104774
ONE (Ocean Network Express)	25	125788
UniFeeder	20	60833
HMM Co Ltd	20	153490
X-Press Feeders Group	20	60220
COSCO SHIPPING Lines	19	131164
IRISL	16	62105
Evergreen Line	13	83271
PIL	12	23404
Chipolbrok	11	19755
Sea Lead Shipping	10	22686
OOCL	9	53254
KMTC	9	40067
FESCO	9	17949
RCL (Regional Container Line)	8	36493
Akkon Lines	8	19953
Global Feeder Shipping LLC	8	31226
Others	**119**	**252679**

REGION WISE NO. OF SERVICES PLYING THROUGH INDIAN PORTS

Regions	Service details	Ave. TEU per week
Far East / Indian subcontinent - dedicated services	42	175419
Middle East and West ISC - main local container services	36	70633
Bay of Bengal services	35	34717
Europe / Middle East or South Asia - dedicated services	20	96930
Services Middle East and South Asia / South & East Africa	14	34564
Americas / Middle East or South Asia - dedicated services	9	49333
Far East / Middle East Gulf - dedicated services	8	18824
Services Asia / West Africa	5	51552
Europe / Far East services calling en route in Middle East and South Asia	5	34181
Middle East or South Asia - multipurpose services (all destinations)	4	283
Europe / Med / Far East - multipurpose and roro services	4	NA
Med / Far East - dedicated services	4	32946
Services Europe / South & East Africa	2	17125
Asia / North America services with USWC calls	2	14939
Intra Asia services - SE Asia only	2	1111
North Atlantic multipurpose and breakbulk services	1	NA
Asia / North America - multipurpose and roro services	1	NA
North Europe / Far East	1	1235
Local services along South & East African coast, including Indian Ocean Islands	1	603
Far East / East Coast of South America + NCSA + Caribbean	1	4014
Asia / North America services with Canada calls	1	6840
Europe / ANZ + Oceania	1	9044
Mediterranean to US East Coast / US Gulf / USWC	1	6794

CONTAINER CARGO HANDLED TERMINAL WISE (IN TEUS)								
	APR		MAY		JUNE		APR-JUN	
TERMINAL	2025	2024	2025	2024	2025	2024	2025	2024
Adani CMA Mundra Terminal Pvt Ltd - ACMTPL	110073	106375	107922	112627	112349	120377	3,30,344	3,39,379
Adani CMA Mundra Terminal Pvt Ltd - ACMTPL	120312	64038	119678	84405	115102	83876	3,55,092	2,32,319
Adani Ennore Container Terminal Pvt Ltd - AECTPL	40116	55312	52731	58975	65187	62183	1,58,034	1,76,470
Adani Hazira Container Terminal - AHCT	65977	62189	65764	60740	62997	65274	1,94,738	1,88,203
Adani International Container Terminal Private Limited - AICTPL	240391	290541	232324	296275	260346	302256	7,33,061	8,89,072
Adani Kattupalli Port Private Limited - AKPPL	61076	4266	68761	3506	57440	9827	1,87,277	17,599
Adani Mundra Container Terminal - AMCT	87051	68531	88388	63617	86695	81034	2,62,134	2,13,182
Adani Vizhinjam Port Private Limited - AVPPL	104413	92655	114432	93375	99976	92247	3,18,821	2,78,277
Bharat Kolkata Container Terminals - BKCT	52104	49296	50189	0	55010	49667	1,57,303	98,963
Bharat Mumbai Container Terminals Private Limited - BMCTPL	229848	158095	212417	168540	199529	181856	6,41,794	5,08,491
Chennai Container Terminal Private Limited - CCTPL	84553	96245	79837	71287	72389	67276	2,36,779	2,34,808
Chennai International Terminals Private Limited - CITPL	75233	66160	88228	64269	82829	70357	2,46,290	2,00,786
Dakshin Bharat Gateway Terminal - DBGT	43321	56676	48578	53345	52374	52620	1,44,273	1,62,641
Gateway Terminals India - GTI	190443	169746	194787	159896	160468	151475	5,45,698	4,81,117
Haldia International Container Terminal – HICT	12545	9222	13723	6843	15052	14686	41,320	30,751
International Container Transhipment Terminal – ICTT	55505	607729	60071	72515	81007	79044	1,96,583	7,59,288
NhavaSheva Free Port Terminals – NSFT	46911	0	50839	0	50778	41800	1,48,528	41,800
Kakinada Container Terminal Private Limited – KCTPL	324	1856	1414	864	368	851	2,106	3,571
Kandla International Container Terminal – KICT	49043	28956	45803	35271	50336	36914	1,45,182	1,01,141
Kolkata Port Docks - KPD	483	299	326	484	220	560	1,029	1,343
JSW -Mangalore	13526	12666	14167	14492	18577	14680	46,270	41,838
Mumbai International Cruise Terminal – MICT	128228	118323	119930	123048	124076	128652	3,72,234	3,70,023
Nhava Sheva International Container Terminal Pvt Ltd – NSICTPL	111331	87218	107073	101566	105814	98336	3,24,218	2,87,120
Paradip International Cargo Terminal - PICT	83888	88229	99057	95945	98328	93457	2,81,273	2,77,631
Gujarat Pipavav Port Ltd - PPPL	1881	2023	1748	2032	2303	2262	5,932	6,317
Tuticorin Container Terminal -TCT	50490	58240	65071	52183	48623	54800	1,64,184	1,65,223
Visakha Container Terminal Pvt. Ltd. - VCTPL	24198	9976	20544	12400	19838	10713	64,580	33,089
VCT - JMB - Vizag	46212	58640	43332	70539	53028	65379	1,42,572	1,94,558
TOTAL TEUs	**2129476**	**2423502**	**2167134**	**1879039**	**2151039**	**2032459**	**6447649**	**6335000**

QUARTERLY UPDATES ON INDIAN MAJOR & MINOR PORTS (QTY IN MILLION TONNES)

APR-JUNE QTR, 2025/APR- JUN QTR 2024

	LIQUID COMMODITIES & GASES									
	CRUDE OIL AND OIL PRODUCTS		CHEMICALS & LUBES		EDIBLE OIL & MOLASSES		ACIDS		LIQUIFIED GASES	
	FY 25-26	FY 24-25	FY 25-26	FY 24-25	FY 25-26	FY 24-25	FY 25-26	FY 24-25	FY 25-26	FY 24-25
No of Ships Called	1192	1360	1214	710	343	351	124	134	436	404
Total Cargo handled	78.200	87.764	4.864	7.147	3.843	4.368	1.414	1.653	11.782	10.026
Import	64.740	65.230	3.426	4.383	3.809	4.161	1.342	1.560	11.745	9.903
Export	13.460	22.535	1.438	2.764	0.034	0.207	0.072	0.093	0.037	0.123
FINISHED FERTILISERS & FRM										
	UREA		SULPHUR		ROCK PHOSPHATE		DAP		MoP	
	FY 25-26	FY 24-25	FY 25-26	FY 24-25	FY 25-26	FY 24-25	FY 25-26	FY 24-25	FY 25-26	FY 24-25
No of Ships Called	21	31	12	13	61	63	19	23	11	27
Total Cargo handled	0.820	1.316	0.293	0.494	2.473	2.613	0.899	1.130	0.253	0.787
Import	0.820	1.316	0.129	0.290	2.411	2.613	0.899	1.076	0.253	0.787
Export	0.000	0.000	0.164	0.204	0.062	0.000	0.000	0.054	0.000	0.000
COAL AND COKE										
	NON COKING COAL		COKING COAL		MET COKE		PET COKE		OTHER GRADES OF COKE	
	FY 25-26	FY 24-25	FY 25-26	FY 24-25	FY 25-26	FY 24-25	FY 25-26	FY 24-25	FY 25-26	FY 24-25
No of Ships Called	638	679	343	317	19	21	75	76	56	45
Total Cargo handled	45.065	46.436	17.847	16.116	0.401	0.486	3.573	3.606	0.436	1.096
Import	44.932	46.249	17.802	16.024	0.401	0.486	3.410	3.510	0.421	1.052
Export	0.133	0.187	0.045	0.092	0.000	0.000	0.163	0.096	0.015	0.044
OTHER BULK & BREAK BULK CARGO										
	CEMENT		MINERALS		IRON ORE		STEEL PRODUCTS & PROJECT CARGO		GRANITE	
	FY 25-26	FY 24-25	FY 25-26	FY 24-25	FY 25-26	FY 24-25	FY 25-26	FY 24-25	FY 25-26	FY 24-25
No of Ships Called	8	21	411	548	119	122	370	657	41	54
Total Cargo handled	0.268	0.582	18.030	19.757	7.196	6.871	2.239	2.856	0.774	0.727
Import	0.168	0.384	11.618	13.365	2.990	6.437	1.394	1.828	0.007	0.039
Export	0.100	0.198	6.412	6.392	4.206	0.434	0.845	1.028	0.767	0.688
AGRICULTURAL PRODUCTS & EXTRACTIONS										
	SUGAR		RICE		SOYA BEAN MEAL		RAPE SEED MEAL		COPRA EXPELLER CAKE	
	FY 25-26	FY 24-25	FY 25-26	FY 24-25	FY 25-26	FY 24-25	FY 25-26	FY 24-25	FY 25-26	FY 24-25
No of Ships Called	26	48	78	55	4	7	7	11	5	9
Total Cargo handled	0.753	0.859	1.010	0.837	0.141	0.106	0.094	0.156	0.036	0.125
Emport	0.402	0.463	0.000	0.000	0.000	0.000	0.000	0.000	0.036	0.125
Export	0.351	0.396	1.010	0.837	0.141	0.106	0.094	0.156	0.000	0.000

PORT PERFORMANCE OF NON- CONTAINERIZED CARGO - CARGO THROUGHPUT (QTY IN MILLION METRIC TONNES)

PORT	NO OF SHIPS CALLED		LIQUID CARGO		BULK CARGO		GENERAL CARGO		TOTAL CARGO	
	QTR 25-26	QTR 24-25	QTR 25-26	QTR 24-25	QTR 25-26	QTR 24-25	QTR 25-26	QTR 24-25	QTR 25-26	QTR 24-25
Kandla	690	630	3.19	2.52	11.41	10.26	1.15	0.31	15.756	13.085
Paradip	647	639	10.62	9.41	27.25	27.69	0.08	0.02	37.954	37.129
Haldia	437	462	2.26	2.28	5.04	4.75	0.00	0.00	7.294	7.024
Mumbai	436	428	8.74	7.74	1.55	1.51	0.04	0.06	10.338	9.320
Sikka	419	406	31.52	31.96	0.11	0.08	0.01	0.01	31.644	32.050
Visakhapatnam	409	420	6.27	5.94	11.53	13.25	0.27	0.31	18.068	19.492
Mangalore	288	280	5.46	6.47	4.01	2.70	0.00	0.00	9.472	9.170
Krishnapatnam	280	266	0.40	0.47	15.00	13.33	0.28	0.27	15.685	14.067
Mundra	280	324	7.67	7.89	8.95	11.32	0.01	0.03	16.623	19.239
Chennai	208	199	4.25	3.67	0.95	0.64	0.10	0.02	5.301	4.324
Ennore	205	179	0.95	0.80	6.70	6.53	0.01	0.01	7.669	7.343
Dahej	181	186	4.92	5.66	2.83	3.03	0.00	0.00	7.748	8.696
Tuticorin	169	169	0.34	0.33	5.88	5.67	0.18	0.03	6.403	6.041
Cochin	154	147	5.72	5.66	0.28	0.20	0.00	0.00	5.994	5.869
JNPT	149	168	0.96	1.00	0.51	0.54	0.00	0.00	1.463	1.535
Kakinada	138	126	0.42	0.37	3.17	2.72	0.28	0.25	3.864	3.340
Pipavav	118	116	0.38	0.35	1.95	1.94	0.02	0.02	2.357	2.312
Gangavaram	117	70	0.00	0.00	7.74	4.47	0.00	0.00	7.740	4.468
Mormugao	113	104	0.18	0.18	4.47	3.85	0.01	0.02	4.648	4.047
Dharamtar	96	86	0.00	0.00	4.68	4.22	0.00	0.08	4.681	4.305
Vadinar nayara	94	91	6.94	6.70	0.00	0.00	0.00	0.00	6.938	6.696
Hazira	73	181	0.68	1.64	1.39	3.83	0.00	0.01	2.069	5.472
Jaigad	61	64	0.09	0.06	3.92	4.60	0.04	0.03	4.039	4.684
Karaikal	57	52	0.00	0.01	3.69	3.19	0.06	0.05	3.751	3.251
Vadinar (SBM)	44	43	6.44	7.73	0.00	0.00	0.00	0.00	6.437	7.725
Navlakhi	42	38	0.00	0.00	2.28	2.01	0.00	0.00	2.281	2.014
Magdalla	32	110	0.17	0.29	1.36	6.33	0.00	0.01	1.528	6.626
Budge Budge	27	28	0.11	0.14	0.00	0.00	0.00	0.00	0.115	0.138
Karwar	24	31	0.11	0.11	0.08	0.08	0.00	0.00	0.187	0.197
Tuna	22	29	0.00	0.00	1.50	1.82	0.00	0.00	1.501	1.821
Kolkata	21	24	0.02	0.02	0.03	0.01	0.00	0.00	0.046	0.038
Kattupalli	18	17	0.17	0.15	0.15	0.23	0.01	0.00	0.333	0.375
Bedi	15	15	0.00	0.00	0.74	0.65	0.00	0.00	0.735	0.653
Bhavnagar	15	15	0.00	0.00	0.80	0.77	0.00	0.00	0.801	0.772
Porbandar	15	21	0.01	0.01	0.35	0.32	0.00	0.00	0.361	0.328
Okha	14	13	0.00	0.00	0.91	0.69	0.00	0.00	0.913	0.695
Salaya	12	9	0.00	0.00	1.60	0.98	0.00	0.00	1.604	0.981
Dhamra	9	16	0.00	0.15	0.55	0.82	0.00	0.00	0.548	0.964
Diamond Harbour	8	8	0.00	0.00	0.15	0.08	0.00	0.01	0.157	0.088
Cuddalore	7	8	0.06	0.06	0.00	0.00	0.00	0.00	0.060	0.063
Sagar Roads	7	17	0.00	0.00	0.03	0.16	0.00	0.00	0.034	0.164
Dabhol	6	5	0.39	0.33	0.00	0.00	0.00	0.00	0.388	0.328
Bhogat	4	2	0.21	0.17	0.00	0.00	0.00	0.00	0.206	0.166
Gopalpur	4	10	0.00	0.00	0.18	0.51	0.00	0.00	0.181	0.507
Ranpar	4	4	0.02	0.02	0.06	0.06	0.00	0.00	0.086	0.078
Vadinar LPO (STS)	4	0	0.40	0.00	0.00	0.00	0.00	0.00	0.397	0.000
Muldwarka	2	4	0.00	0.00	0.11	0.22	0.00	0.00	0.110	0.218
Ravva	2	3	0.10	0.16	0.00	0.00	0.00	0.00	0.097	0.158
Havelock	1	0	0.00	0.00	0.08	0.00	0.00	0.00	0.077	0.000
Grand total	**6178**	**6278**	**110.16**	**110.50**	**143.96**	**146.16**	**2.56**	**1.57**	**256.681**	**258.225**

Cochin Shipyard partners with HD Korea for shipbuilding, maritime development

In order to investigate long-term cooperation in shipbuilding and maritime development, Cochin Shipyard Ltd. (CSL) and HD Korea Shipbuilding & Offshore Engineering (KSOE) of South Korea signed a Memorandum of Understanding (MoU). KSOE is well known throughout the world for its proficiency in the design and construction of offshore infrastructure, naval platforms, and commercial ships. The Memorandum of Understanding delineates many domains for collaboration, such as cooperatively investigating novel shipbuilding prospects in India and abroad. In order to fulfill international shipbuilding standards, it also emphasises the transfer of technical experience. With the help of programs like the ₹25,000 crore marine Development Fund, India's larger goal to become a worldwide marine hub is in line with this strategic alliance. The announcement of the MoU was made after market hours. Cochin Shipyard's stock ended the day 2.08 per cent higher at ₹2,057.25.

DP World, DPA, and Nevomo partner to pioneer magnetic freight rail innovation

DP World, the Deendayal Port Authority (DPA), and Nevomo have signed a Memorandum of Understanding (MoU) to explore potential opportunities for cooperation in the development and implementation of a pilot project using Nevomo's MagRail proprietary technology for the self-propelled movement of rail-based cargo and freight within the existing port ecosystems. DP World, a global leader in smart end-to-end supply chain solutions, is leading efforts to introduce advanced freight technology aimed at transforming cargo movement in India. Deendayal Port Authority (DPA), a key multi-cargo port under the Government of India, is facilitating exploration of this technology at its terminal in Kandla to evaluate the feasibility of this futuristic freight transportation system. The initiative marks a significant step toward building faster, more efficient, and sustainable port-hinterland connectivity. This initiative is aligned with India's National Logistics Policy and PM Gati Shakti agenda aimed at modernising and integrating the country's logistics infrastructure. The MoU was signed by Sushil Kumar Singh, IRSME, Chairman of Deendayal Port Authority (DPA), Rizwan Soomar, CEO & Managing Director, Middle East, North Africa, India Subcontinent, DP World, and Przemek (Ben) Paczek CEO Nevomo Group BV along with other senior dignitaries in Kandla, Gujarat, on 15th July 2025.

India seeks re-election to IMO council

India has presented its candidature for re-election to the International Maritime Organisation (IMO) Council at the organisation's 134th session in London, where the Ministry of Ports, Shipping and Waterways highlighted key aspects of maritime safety and gender inclusivity. At a special India-themed reception at the IMO Headquarters, Ministry Secretary T K Ramachandran and Indian High Commissioner to the UK Vikram Doraiswami announced the decision to seek re-election in Category B of the Council. The election for the 2025-26 biennium will take place at the organisation's Assembly later this year and follows India's re-election with the highest tally back in December 2023. "India embraces the philosophy of One Earth, One Family, One Future, and we bring this vision to life through fostering robust and collaborative maritime efforts," said Ramachandran in his address at the reception.

CONCOR reports 11.29% growth in total throughput for Q1 FY26

The Container Corporation of India (CONCOR) reported its preliminary physical volumes for the quarter that concluded in June 2025, indicating a strong 11.29 per cent rise in total throughput from the previous year. In the first quarter of the current fiscal year, the multi-modal logistics firm, a Navratna CPSE of the Government of India, recorded a total throughput of 12,90,101 Twenty Foot Equivalent Units (TEUs), up from 11,59,251 TEUs in the same quarter last year. The notable increase in throughput volumes highlights CONCOR's growing operational reach and its crucial position in the Indian logistics industry. For container transportation companies, throughput—which is expressed in TEUs and represents the volume of cargo handled—is a crucial operational parameter.

Sonowal unveils ₹276 crore infrastructure boost at Visakhapatnam Port

Union Minister of Ports, Shipping & Waterways Sarbananda Sonowal launched a series of capacity-building and modernisation initiatives worth over ₹276 crore at Visakhapatnam Port. The Minister laid foundation stones for six major infrastructure projects totalling ₹116 crore, aimed at augmenting port capacity and strengthening maritime operations. Notable among these is the B-Ramp construction within the port (₹33.49 crore), development of a new finger jetty and wharf at the fishing harbour (₹32.61 crore), and the addition of breasting dolphins at OSTT (₹20.87 crore). These efforts will significantly enhance cargo handling capacity while also supporting the local fishing community. Other key projects include an additional ramp connecting Ambedkar Centenary Flyover to the L-17 corridor (₹8.31 crore), the development of a public promenade near the cruise terminal (₹15.90 crore) to boost cruise tourism, and installation of toilet facilities at 15 locations across the port (₹5.50 crore), aimed at improving hygiene and accessibility. In addition to the foundation-laying ceremony, projects worth ₹159.96 crore were inaugurated, reinforcing Visakhapatnam Port's transformation.

Shipping Corp buys two VLGCs for $127 million

Shipping Corporation of India Ltd (SCI) has agreed to buy two second-hand Very Large Gas Carriers (VLGCs) for some $127 million, the carrier's first ship purchase in eight years as it shrugs off a privatisation plan that has lost steam. The two VLGCs, each with a capacity to carry about 82,000 cubic metres of Liquefied Petroleum Gas (LPG), will add some ₹260 crore in annual revenue to the company at the prevailing time charter rate of about $41-42,000 a day for one-year charter. These two VLGCs are expected to be inducted into the SCI's fleet during the current quarter of FY 2025–26," Shipping Corporation said in a regulatory filing. It did not disclose the details of the ship acquisition, including the price.

200 Gati Shakti terminals to come up along rail freight corridors

Over the coming years, the government intends to construct 200 Gati Shakti Cargo Terminals (GCT) along the new freight corridors as part of a public-private collaboration. There are currently 77 GCTs throughout the nation's rail system. A terminal typically costs ₹70 crore. Four GCTs are now in operation under the Dedicated Freight Corridor Corporation of India (DFCCIL), and six more terminals are expected to be put into service along the corridors in FY26. Fifty to fifty-five of the 115 stations on DFCs are appropriate for Gati Shakti terminals. The complete western DFC will be put into service by December 25. Several terminals for Gati Shakti are arriving on this line. The dedicated freight corridors can over the next few years contribute significantly to the financial health of the Indian Railways and help prevent passenger fares from flaring up.

Allcargo Terminals raises ₹38.28 cr to build capacity and set up new CFS/ICD

Allcargo Terminals Ltd. (ATL) has announced a proposal to raise ₹38.28 Cr. through the issuance and allotment of up to 1,32,00,000 Fully Convertible Warrants to the Promoters/Promoter Group. The Board of Directors of ATL has approved the preferential allotment in its meeting held on July 15, 2025. Each warrant has a face value of ₹2 per share, at an issue price of Rs. 29 per warrant at a premium of ₹27 per warrant, subject to shareholder and regulatory approvals. This issuance accounts for approximately 5% of ATL's post-conversion equity share capital and is priced at a ~1% premium to the SEBI-defined floor price. This kickstarts ATL's three-year expansion plans.

JNPA surges ahead with 15.52% growth in the first quarter of FY 2025

Jawaharlal Nehru Port Authority (JNPA), India's Largest Conatiner Port, from April 2025 to June 2025, handled 19,50,188 TEUs of container traffic, an increase of 15.52 per cent compared to the corresponding period in the previous financial year. JNPA handled 19,50,188 TEUs of containers & 24.20 million Tonnes of total cargo from Apr-2025 to Jun-2025, which is higher by 15.52 per cent & 10 per cent respectively as compared to the corresponding period in the previous financial year.

JSW Infrastructure to develop container berths at Kolkata port

JSW Infrastructure Limited has received a Letter of Award from the Syama Prasad Mookerjee Port Authority for the reconstruction of Berth 8 and mechanisation of Berths 7 and 8 at Netaji Subhas Dock, Kolkata. The project, awarded on a Design, Build, Finance, Operate, and Transfer (DBFOT) basis under the PPP model, is aimed at enhancing container handling capacity at the port. The project comes with a 30-year concession period and aligns with JSW Infrastructure's strategy to expand its terminal portfolio under the Government's port privatization initiative. With an estimated capex of ₹740 crore and a construction timeline of two years, the Company will also be able to commence operations during the construction phase, leveraging Kolkata City's steady cargo volumes. Post-completion, the project is expected to significantly enhance both capacity and operational efficiency.

Gujarat launches Cruise Bharat Mission to boost maritime tourism

As part of the Union govt's Cruise Bharat Mission, Gujarat has proposed three cruise circuits along the western coast covering Diu, Veraval, Porbandar, Dwarka, Jamnagar, Okha, and Padala Island, alongside the operational Ghogha-Hazira Ro-Pax (Roll-On/Roll-Off Passenger) service. The govt said that the three clusters identified for cruise ship circuits are Padala Island–Rann of Kutch, Porbandar–Veraval–Diu, and Dwarka–Okha–Jamnagar. Each cluster is designed with tourism logic, ensuring that key religious, natural, and cultural destinations are within a 100km radius, making shore excursions efficient and attractive for cruise passengers. The Gujarat Maritime Board (GMB) conducted a day-long workshop recently with various stakeholders as a preliminary exercise of drafting the state's cruise shipping policy.

Driving digital logistics

In this interview with *Maritime Gateway*, **Vineet Malhotra, Co-Founder and Director, Kale Logistics Solutions** discusses how Kale's platforms powered by AI, IoT and blockchain are enhancing efficiency, transparency and compliance across airports, ports and supply chains while preparing for the future of logistics.

How is Kale's Cargo Community System (CCS) transforming air cargo and adapting to e-commerce growth?

Our CCS digitises processes to reduce dwell time, improve coordination, and eliminate paperwork. A unified dashboard enables digital document submission and smart truck slot booking, cutting turnaround times from hours to minutes. Technologies like OCR and APIs automate data sharing, streamlining export processing. As e-commerce expands, CCS scales to handle higher volumes while complying with GST and e-waybill norms. AI-driven analytics and route optimisation further boost supply chain responsiveness.

What challenges emerged during CCS's global rollout, and how were they addressed?

In Africa, regulatory fragmentation, digital readiness gaps, and infrastructure limitations posed challenges. We overcame these through flexible workflows, stakeholder engagement, and change management. In Oman, the National Port Community System improved customs clearance, shipment visibility, and compliance via real-time data sharing, setting a benchmark for similar regions.

How do AI and IoT improve warehouse efficiency and decision-making?

AI models like time series forecasting predict cargo arrivals, optimize inventory, and reduce mismatches. IoT enables real-time tracking, providing visibility into shipment status and allowing proactive adjustments, enhancing operational efficiency and customer satisfaction.

What benefits do truck slot management and digital trade corridors offer, and how does blockchain support them?

Truck slot management reduces waiting times and congestion, saving costs. Digital trade corridors enable pre-arrival data sharing between airports, improving cargo visibility. Blockchain secures documentation, enhancing transparency in cross-border processes.

How do drone-enabled last-mile solutions fit into Kale's ecosystem?

Drones bypass traffic and tough terrain, cutting delivery time and costs for high-priority shipments. GPS and sensors ensure accurate navigation, while our CCMS integrates with drone systems for tracking and real-time updates, making them ideal for time-sensitive deliveries.

What is the role of Kale's Centre of Excellence, and how will the $30 million funding be utilized?

Our Pune-based Center of Excellence drives AI innovation, skill-building, and best practices. The $30 million funding will support global expansion, deep-tech R&D, and broader adoption of digital logistics solutions. Partnerships with industry associations will further scale tech integration.

What barriers exist in deploying tech, and how are they addressed?

Resistance to change and low digital awareness are key challenges. We tackle these through training, awareness campaigns, and demonstrating tangible benefits like reduced paperwork and faster processing, which help convert skeptics into advocates.

Final thoughts on industry trends?

Sustainability is critical. Technology minimizes environmental impact via paperless operations and fuel-efficient routing. Some airports have saved millions of paper copies and hundreds of fuel gallons using our solutions. The future lies in merging smart-tech with sustainable practices.

India's Quest for a Domestic P&I Club

Strategic Necessity or Mutual Fantasy?

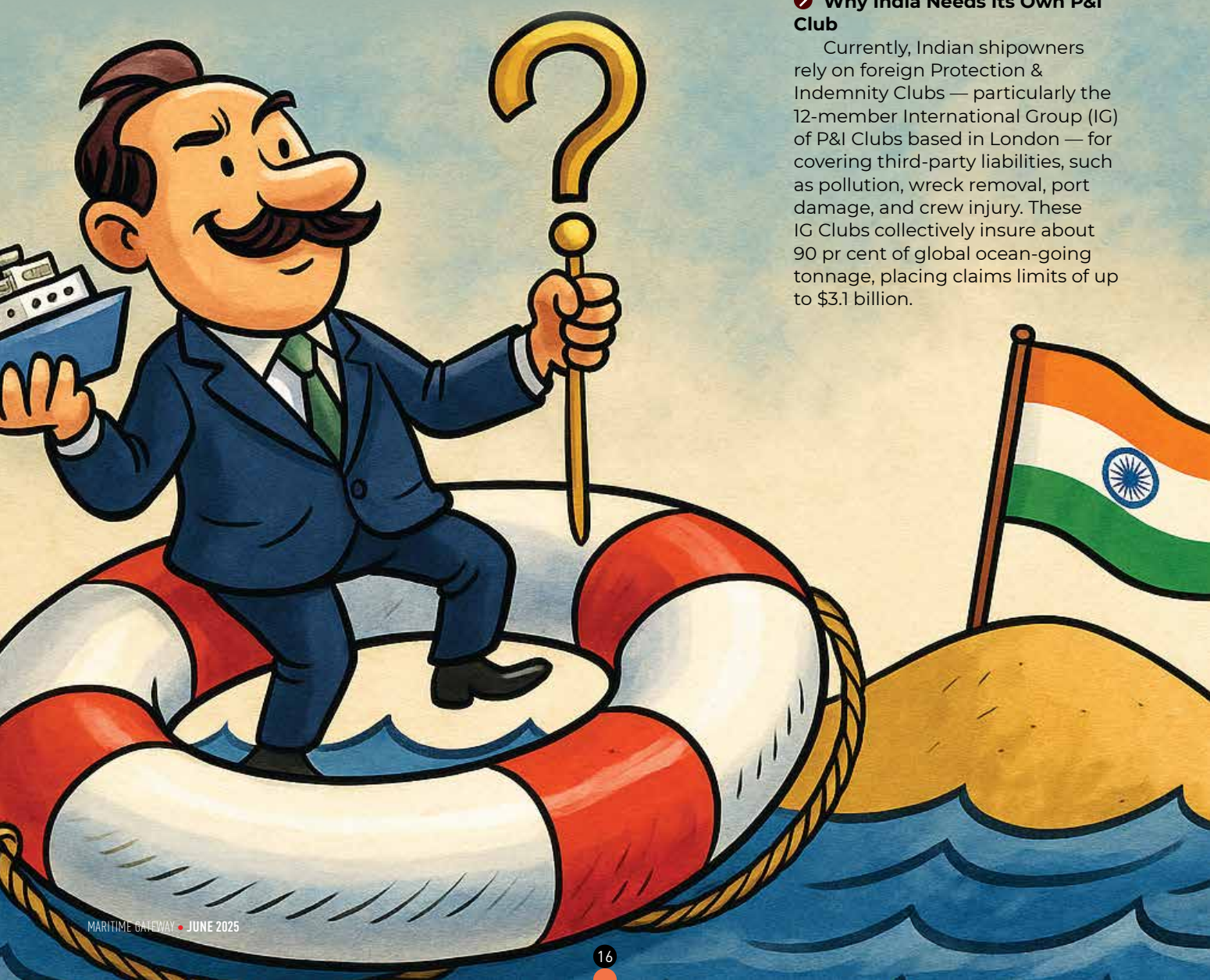
India is exploring a domestic P&I Club to reduce reliance on foreign insurers, enhance maritime self-reliance, and safeguard trade, while the success of it relies on ensuring alignment with industry needs and financial sustainability.

In a landmark development, the Directorate General of Shipping has entrusted ACE Insurance Brokers Pvt Ltd with the task of conducting a feasibility study on establishing a homegrown Protection & Indemnity (P&I) Club.

The initiative follows a strong pitch made by Finance Minister Nirmala Sitharaman at the Global Maritime India Summit in October 2023, where she emphasised the need for "an India-owned and -based P&I entity" to protect Indian shipping interests in an increasingly uncertain geopolitical environment. "Such a club would reduce India's vulnerability to international sanctions and provide greater strategic flexibility," she said.

Why India Needs Its Own P&I Club

Currently, Indian shipowners rely on foreign Protection & Indemnity Clubs — particularly the 12-member International Group (IG) of P&I Clubs based in London — for covering third-party liabilities, such as pollution, wreck removal, port damage, and crew injury. These IG Clubs collectively insure about 90 pr cent of global ocean-going tonnage, placing claims limits of up to $3.1 billion.



But as geopolitical tensions rise and global trade becomes more fractured, India's maritime policymakers are increasingly wary of foreign dependence. In scenarios involving sanctions or embargoes — such as those affecting Russian or Iranian oil shipments — IG Clubs, largely influenced by Western financial jurisdictions, may refuse coverage, affecting not only Indian vessels but also the nation's energy and trade security.

A local P&I entity could serve dual roles: offering coverage for Indian-flagged ships and extending conditional protection to foreign vessels carrying Indian EXIM cargo during hostile times. Additionally, many inland vessels, port crafts, and smaller sea-going vessels currently operate without comprehensive third-party liability coverage. A domestic P&I club could fill this gap and offer risk coverage that is presently unavailable.

The Case for Strategic Self-Reliance

India's national fleet contributes less than 1 per cent to global shipping tonnage but pays nearly $15 million annually in P&I premiums to foreign entities. Marine insurance accounts for only 2 per cent of India's non-life insurance market. Advocates of a domestic P&I entity argue that this mismatch reflects both lost economic opportunity and strategic vulnerability.

Proponents suggest a phased approach — beginning with fixed premium P&I coverage offered by public sector insurance companies, backed by reinsurance from global underwriters. Inland and coastal vessels, port craft, and offshore support vessels could form the initial coverage pool. Over time, as the national fleet expands, India could evolve into offering mutual P&I coverage, emulating the self-insurance model of global P&I clubs.

The Indian Register of Shipping (IRS) offers a precedent. Despite initial resistance, IRS is now a member of the International Association of Classification Societies (IACS), demonstrating that with policy resolve and industry support, capacity building is achievable.

Challenges and Scepticism: Risk Pool and Market Readiness

However, not everyone is convinced. Critics argue that India's small and homogenous shipping fleet fails the basic test of risk diversification — a cornerstone of mutual insurance. The very essence of a P&I Club lies in wide, varied, and deep mutualisation of risk. In India's case, similar risk profiles across a small fleet raise concerns about sustainability and credibility, especially during high-claim years.

Further, heavy claims — often settled in foreign jurisdictions and currencies — require deep financial buffers and seamless global reinsurance access. Without sufficient premium accumulation or a large base of insured tonnage, such an entity may become a fiscal liability, especially if it cannot attract or retain IG-level credibility.

Global Comparisons and Learning Curves

The feasibility study by ACE Insurance Brokers will explore international benchmarks, especially non-IG P&I clubs operating on fixed-premium models in Japan, China, South Korea, Iran, Russia, and Singapore. Many of these countries began with state-backed initiatives before transitioning to independent or mutual models once their domestic shipping tonnage matured.

The consultant will assess governance frameworks, premium structures, claims management practices, and reinsurance strategies — with the aim of developing a phased implementation plan, legal roadmap, and financial model suited to India's maritime context.

A Sovereign Fund or a Sovereign Risk?

Some argue that rather than mutualising liability through a P&I club, India should instead create a sovereign trade protection fund that specifically insures ships, cargo, and trade impacted by embargoes or blockades. Such a mechanism could sit outside conventional insurance frameworks and be activated during exceptional geopolitical disruptions.

While this idea addresses strategic vulnerabilities, it may not offer a commercially viable alternative for the broader shipping industry, which still requires everyday third-party liability cover rooted in financial stability and regulatory oversight.

The Way Forward: Balancing Vision with Pragmatism

The feasibility study marks an important step toward maritime financial self-reliance. While the idea of an Indian P&I Club carries merit, its success will depend on aligning ambition with industry realities. A multi-tiered model — starting with fixed-premium coverage, backed by PSU insurers and global reinsurers, and evolving into a mutual club as tonnage grows — appears to be the most balanced path.

More importantly, policymakers must ensure that Indian shipowners are not made to feel insecure or exposed during the transition. Any push toward domestic risk retention must be underpinned by strong regulatory, legal, and financial infrastructure — and most critically, by trust.

As with IRS, building a credible Indian P&I Club will be a long-term journey. But with strategic resolve, industry collaboration, and international engagement, India could eventually claim its place in the global P&I ecosystem — not just as a premium payer, but as a risk bearer.

Leading With Vision

As one of India's most dynamic major ports, Visakhapatnam Port Authority (VPA) has been steadily climbing the ranks—both in volume and operational excellence. In an exclusive interaction with *Maritime Gateway,* **Dr. M. Angamuthu, IAS, Chairman, VPA,** shares insights into the port's record-breaking cargo performance, global rankings, digital transformation, and the roadmap to becoming a smart, sustainable port of the future.

Visakhapatnam Port has posted record throughput in recent years. What is driving this cargo growth?

We've had an excellent run over the past two years. In FY 2024–25, VPA handled 82.62 million tonnes (MT) of cargo—our highest ever—surpassing the previous year's 81.09 MT. This growth has been broad-based across commodities, including crude oil, ores like manganese and bauxite, rice, and general cargo. What's notable is the strength of our container trade, which continues to grow at a healthy pace. VPA now ranks among the world's top 20 container ports by performance, a distinction that reflects not just volumes but our increasing service quality.

Our growth strategy has centred around diversifying cargo profiles, strengthened connectivity, and simplified processes for stakeholders. Even in a globally volatile trade environment, we've remained resilient. By continuously engaging with trade partners, investing in equipment, and making VPA a predictable and efficient hub, we've been able to attract and retain more cargo.

What makes VPA stand out in terms of performance indicators and global competitiveness?

Our improvement in global rankings has been remarkable. In the World Bank's Container Port Performance Index, we jumped from rank 122 to 19 within a year. This was no coincidence. We've implemented targeted enhancements in terminal productivity, digitisation, and turnaround time reduction.

Today, at our container terminals, we achieve 27.5 crane moves per hour. Vessel turnaround time averages just 21.4 hours, and idle time at berth is as low as 13 per cent. These figures are competitive by global standards and critically important to shipping lines. We've also made consistent investments in process automation, workforce training, and marine coordination. As a result, we're seeing increasing trust and confidence from global carriers.

"Recently, we hosted a high-level Nepalese delegation to explore expanding this partnership. One proposal discussed was to allow bulk fertilizer movement through Vizag—a move that could redirect 150,000 to 200,000 tonnes of cargo annually. They see VPA as a reliable alternative to Kolkata and Haldia."

Our philosophy is continuous benchmarking. We measure ourselves against the best, not just within India, but internationally. Operational excellence is not a one-time achievement; it's a culture we nurture every day.

How is VPA improving customer satisfaction and trade facilitation?

Customer-centricity is at the heart of our operations. We understand that for shippers, consignees, and carriers, predictability and responsiveness are key. That's why we have invested in 24x7 operations, online single-window systems, and regular stakeholder engagement.

A case in point: When a rail disruption caused a backlog of 2,847 Nepal-bound containers, we quickly mobilized. Coordinating with Indian Railways and Maersk, we rerouted cargo, increased train frequency, and cleared the backlog within a week. That's the level of responsiveness we aim for.

We also conduct regular trade meets and feedback sessions to capture pain points and resolve them. Whether it's documentation delays, storage issues, or cargo evacuation challenges, our approach is proactive and solutions-oriented.

What are the major infrastructure projects currently underway at the port?

We're in the midst of a transformative infrastructure expansion worth $18.01 mn (₹1,563 crore). This includes new berths, modernised terminals, a mechanised fertilizer handling facility, and increased PPP participation. By 2026, we aim to operate 15 berths under the PPP model, bringing in greater efficiency and private sector innovation.

We're also enhancing our support facilities—12 acres of covered storage, a 20-acre truck terminal, electrification of 38 km of internal rail lines, and acquisition of new mobile harbour cranes. These upgrades will increase our annual capacity to over 100 MTPA and boost productivity, safety, and sustainability.

Additionally, our focus is on seamless intermodal connectivity. These infrastructure upgrades are designed not just for higher capacity, but also for faster, safer, and greener cargo handling.

Nepal is emerging as a strategic partner for VPA. Could you elaborate on this relationship?

Yes, Nepal is a very important trade partner. Since being designated as Nepal's second gateway port, we've steadily built up our engagement. We handle both imports and exports, including containerized goods and fertilizers.

Recently, we hosted a high-level Nepalese delegation to explore expanding this partnership. One proposal discussed was to allow bulk fertilizer movement through Vizag—a move that could redirect 150,000 to 200,000 tonnes of cargo annually. They see VPA as a reliable alternative to Kolkata and Haldia.

We've assured Nepal of full support—be it warehousing, rail logistics, or documentation. Their feedback was encouraging, and they mentioned a potential volume increase to 1.5–2 lakh tonnes with improved facilitation. We are fully committed to helping Nepal connect with global markets through our port.

How is VPA reducing vessel turnaround times and improving last-mile connectivity?

Turnaround time (TRT) has always been a key metric for us. A decade ago, vessels spent days at berth. Now, an average container vessel turns around in about 21 hours. This improvement is the result of closely coordinated marine and landside operations—from pilotage and tug deployment to cargo evacuation and documentation.

To strengthen hinterland connectivity, we're building a 3.3 km flyover in collaboration with Rail Vikas Nigam Ltd. This $3.46 mn (₹300 crore) project will eliminate 11 level crossings and streamline truck movement to and from the port. On the rail front, electrification and improved yard capacity have reduced train turnaround times.

We're also deepening and widening the navigation channel to handle larger vessels more efficiently. These efforts not only save time and cost but make us a preferred port for global carriers.

What are the key sustainability and innovation initiatives being implemented at VPA?

Sustainability is a core pillar of our long-term vision. We're aligned with India's Green Ports initiative and are actively working toward net-zero carbon emissions. Our roadmap includes expanded solar power generation, electric and hybrid port equipment, and a one-million-tree afforestation program.

We're investing in clean cargo handling systems—mechanised conveyor belts, dust suppression technologies, and covered storage. Our truck terminal reduces congestion and pollution, while planned projects like shore power and a green hybrid tug further our green goals.

On the innovation front, we're implementing the National Logistics Portal - Marine, smart yard systems, cargo pipe conveyors, automated mooring, and robotic handling arms. We also plan to launch a hackathon to crowdsource green tech solutions for port operations.

These initiatives are not just good for the environment—they also build customer confidence, improve efficiency, and help us stay future-ready.

What are your growth targets and vision for VPA by 2030?

Our immediate target is to handle 90 MT of cargo this fiscal and cross the 100 MTPA milestone soon after. By 2030, we aim to operate largely under the landlord model, focusing on regulation and facilitation while private players manage terminal operations.

VPA is well-positioned to be a top global port—not just in volume, but in value. With strong fundamentals, robust infrastructure, and a highly motivated team, I'm confident we will achieve this.

Finally, what message would you like to share with your stakeholders?

Our journey of transformation is driven by the collective strength of our ecosystem—our employees, shipping lines, trade partners, logistics providers, and government agencies. I sincerely thank each one of them for their trust and commitment.

At VPA, we operate with a clear mission: to deliver efficient, sustainable, and globally competitive port services. We are open to feedback, agile in responding to change, and relentless in our pursuit of excellence. Together, we will make Visakhapatnam Port a model of maritime leadership and a true engine of regional and national growth.

VPA's standout achievements

Cargo Volume

Handled **82.62** million tonnes (MT)

Global Ranking

Climbed from Rank **122** to **19** in the World Bank's Container Port Performance Index

Terminal Productivity

Achieved **27.5** crane moves per hour at container terminals

Vessel Turnaround Time

Averaged just **21.4** hours

Berth Idle Time

Held at a low **13%**

Tech fuels logistics revolution

In an exclusive interview with Maritime Gateway, **Liji Nowal, Founder & CEO of ODeX India Solutions Pvt Ltd** shares how the platform is revolutionising shipping documentation and customs clearance in India. By digitizing processes and automating workflows, ODeX reduces errors, cuts delay and empowers businesses with real-time visibility and financing options.

How does ODeX simplify shipping documentation and customs clearance, and how does the Track & Trace API enhance transparency?

ODeX digitises manual, paper-heavy shipping and customs procedures by centralising documentation, bill processing, and payments into a single platform. This reduces paperwork, cuts errors, and accelerates turnaround times, which is critical given India's complex regulatory framework. The Track & Trace API enables real-time visibility across multiple carriers, allowing importers to make faster decisions, enhance scheduling, and boost supply chain resilience. Clearance times are reduced by up to 50 per cent, significantly improving customer satisfaction.

How do modules like e-VGM and e-Form-13 ensure compliance and streamline operations? What technical challenges were overcome?

The e-VGM module facilitates electronic submission of container weights to comply with SOLAS regulations, while e-Form-13 digitises Gate-In approvals, cutting paperwork and terminal delays. ODeX overcame integration challenges with ICEGATE and weighbridges by building robust APIs and working closely with regulatory bodies to ensure compliant data exchange. To ease adoption for SMEs, ODeX offers hands-on training and personalised onboarding through workshops.

How does ODeX help clients navigate sudden regulatory changes and reduce documentation costs?

ODeX automatically integrates updates like HS code changes into its workflows, eliminating manual adjustments and ensuring compliance amid shifting trade dynamics. By digitising end-to-end documentation processes, the platform reduces manual rework and physical paperwork, cutting document processing costs by 30–50 per cent. This improves accuracy, audit readiness, and cost efficiency.

How has financing improved SME liquidity, and what adoption metrics highlight ODeX's impact?

A "pay-later" option developed with DBS Bank provides SMEs with up to ₹50 lakhs in unsecured credit, easing cash flow during shipment cycles and optimizing cash conversion. Rising monthly active users and transaction volumes reflect strong demand for credit and growing adoption of ODeX across India.

How does ODeX use AI/ML and blockchain to enhance reliability?

AI/ML tools detect anomalies like document mismatches or duplications, enabling preemptive correction and compliance. A blockchain partnership ensures tamper-proof certification, preventing document forgeries and building trust in global trade.

What's next for ODeX in India and abroad?

ODeX plans expansion into MENA, West Africa, and the US through strategic partnerships. In India, it will address tech gaps by enhancing visibility, streamlining customs workflows, expanding digital payments, and rolling out AI-driven solutions in the next 3–5 years.

The missing link

Rethinking ship finance and leasing

As India aspires to emerge as a competitive shipbuilding and maritime manufacturing hub, the success of this ambition hinges not just on steel and infrastructure—but on finance. Access to structured capital, efficient leasing frameworks, and risk-adjusted asset valuation models are increasingly being recognised as the keystone for India's maritime future.

While recent government initiatives and industrial policies have reignited interest in domestic shipbuilding, a deep-rooted structural gap remains: India lacks a robust ecosystem for ship finance and leasing that can support both public and private sector aspirations.

Asset-based financing: The missing middle

For decades, India's ship financing models have largely been ad hoc and project-specific, often relying on conventional lending practices or government subsidies. Financing decisions were seldom based on the intrinsic value or long-term utility of the vessel as an asset. This approach has created a vacuum in institutional ship finance, leaving shipyards and operators heavily dependent on external partnerships or overseas lenders.

However, the global trend is unmistakable—asset-based financing is becoming the backbone of maritime investment. Leasing arrangements, residual value evaluations, and revenue-backed repayment models dominate the playbook of nations with thriving shipbuilding industries. In contrast, Indian banks and financial institutions often lack the technical understanding or risk appetite to engage in vessel-backed financing. There is a clear need for trained specialists within the banking ecosystem who can assess shipyard performance, understand hull value depreciation, evaluate long-term charter contracts, and price in residual value risk.

A move towards asset-based financing—supported by buyer contracts and commercial leasing frameworks—can significantly improve the bankability of Indian shipbuilding projects. It also enables a shift from transaction-led funding to long-term capital investment strategies.

Leasing models: Learning from global practice

Globally, leasing has emerged as a dominant method for vessel acquisition—offering flexibility to shipowners and recurring revenue to financiers. Countries like China, Japan, and South Korea have leveraged ship leasing to anchor domestic orders, promote financial circularity, and deepen engagement with global shipping lines.

In India, however, maritime leasing is still at a nascent stage. Institutional investors, public sector insurers, and leasing arms of major banks have shown only limited interest, largely due to a lack of specialized instruments and standardized risk mitigation frameworks.

There are early signs of policy alignment. India's International Financial Services Centres (IFSCs)—particularly GIFT City in Gujarat—are now being positioned as potential hubs for ship leasing. But to succeed, this vision must be backed by investor education, regulatory clarity, and international partnerships. Structured joint ventures with established players in Singapore, South Korea, or the

UAE could help accelerate the development of India's leasing capabilities.

Bridging the knowledge gap: Institutional competence and risk analysis

One of the fundamental challenges in India's maritime finance landscape is a lack of dedicated institutional capacity. Ship financing is not real estate or auto lending—it is a technically intensive, globally benchmarked domain that requires domain expertise. From assessing engine specs to understanding charter party agreements and evaluating scrap value, the due diligence process is multi-dimensional.

There is an urgent need to build capacity within Indian banks, insurance companies, and NBFCs to undertake such evaluations. A centralised ship financing agency, under the aegis of the Ministry of Ports, Shipping and Waterways or in partnership with the Reserve Bank of India, could offer a dedicated credit evaluation mechanism for maritime assets.

Incentivizing maritime lending through tax benefits, interest subvention, or guarantee backstops could also help derisk participation by domestic financial institutions. Creating an Indian ship finance corpus—similar to Korea's K-SURE or China Exim's targeted funds—could bring much-needed depth to the market.

Foreigninvestment and strategic collaboration

Multiple global players have shown interest in Indian shipbuilding projects—from Korean design firms to Japanese leasing companies. However, many remain cautious, citing lack of clarity in financing structures, uncertain timelines, and an underdeveloped leasing ecosystem.

As one industry expert observed, "We've seen Reliance, KPR, ADB and others attempt partnerships, but many of those collaborations haven't yielded expected results." This underscores the need for credible, long-term policy continuity and professionalisation of project development cycles.

A strategic approach could involve encouraging Indian shipyards to offer build-own-lease-transfer (BOLT) models to global shipowners, where the yard finances and constructs the ship, leases it to the operator for 20–30 years, and eventually transfers ownership. Such models require high upfront capital but can be de-risked with government-backed guarantees and long-term offtake contracts.

Creating a pipeline: Demand visibility and risk sharing

Financiers seek predictability, and the shipbuilding sector must work closely with the government and shipping lines to offer long-term visibility into demand. India's push toward fleet expansion under the Maritime India Vision 2030, coastal cargo promotion, and fleet modernisation for inland waterways can create that predictable demand base—if tied with structured tenders, lease-backed procurement, and viability gap funding.

For example, port craft, coastal cargo vessels, inland ferries, and offshore supply vessels represent a viable pipeline for Indian shipyards. By enabling states and port authorities to procure these vessels via long-term lease or lease-purchase mechanisms, the government can create a steady order book while reducing fiscal burden.

Looking ahead: Scaling Indian shipbuilding with smart capital

India's maritime industry is at an inflection point. With over 1,500 registered vessels, a growing coastline economy, and renewed strategic focus on shipbuilding, the country has the ingredients to become a formidable maritime player. But the capital architecture remains fragmented and underprepared.

As one veteran observed, "We need to go beyond one-off projects. The ecosystem needs a financial nervous system—connected, responsive, and built for scale.

GIFT City poised to anchor global ship leasing by 2030

India's maritime sector is witnessing a renewed focus on ship finance and leasing, with the GIFT City initiative aiming to replicate global maritime finance hubs. In this exclusive interview, **Amit Oza, Chief Executive Officer, Astramar Shipping & Trading Services,** a leading expert in maritime finance, discusses the current landscape, regulatory hurdles, the role of IFSC at GIFT City, and what it will take for India to emerge as a global ship financing hub by 2030.

How would you describe the current landscape of ship finance and leasing in India? What progress has been made in the past two to three years?

India's ship finance and leasing landscape has historically been limited. The post-2009 financial crisis significantly curtailed ship financing by Indian banks. Due to regulatory constraints, Indian banks cannot own ships, and private equity activity in this domain has been negligible. Tax complexities and unfavourable regulations have also driven capital out of India into more enabling jurisdictions.

However, the past 2–3 years have shown signs of revival, especially with the advent of the International Financial Services Centre (IFSC) at GIFT City, which offers a globally competitive platform for ship leasing and finance.

What are the key regulatory and financial challenges Indian shipowners and lessors face compared to global hubs like Singapore or Hong Kong?

There are several persistent challenges:

- Limited flexibility in registering ships in jurisdictions of choice.
- Complex taxation, including withholding taxes and restrictive tonnage tax norms.
- Indian lenders lack access to long-term dollar-denominated funds, resulting in asset-liability mismatches.
- FEMA and ECB guidelines make borrowing in foreign currency cumbersome and costly.

These issues collectively impact the competitiveness of Indian players in the global ship finance arena.

How has GIFT IFSC helped overcome some of these challenges? What makes it attractive for both domestic and international stakeholders?

GIFT IFSC has been a game-changer in many ways. IFSC entities are treated as non-residents under FEMA, giving them the freedom to operate in US dollars and other hard currencies. They enjoy a 10-year tax holiday, sidestepping complications linked to the Indian tonnage tax regime. GST exemptions are available for both import of ships and services rendered to or from IFSC units. Charter hire payments from GIFT are exempt from withholding tax.

All of this positions

GIFT IFSC as a globally competitive maritime finance hub.

What has been the response from Indian and global shipping companies in setting up leasing operations at GIFT City?

The response has been very encouraging, especially since regulatory clarity emerged around 2022. While operations are currently limited to Indian-flag vessels due to the Merchant Shipping Act, the ecosystem is developing rapidly.

More than 20 companies, including global names like CMA CGM, MOL, ArcelorMittal, and Transworld Group, have registered at GIFT City. Indian banks have also started offering dollar-denominated debt, marking a significant return to ship financing.

Which vessel types are seeing more traction under the GIFT IFSC framework?

Most of the vessels financed or leased under GIFT IFSC are linked to India's coastal trade and PSU contracts. These include bulk carriers, product and chemical tankers, and container ships. There's potential for expansion into offshore vessels and LNG carriers in the future.

How does the Indian ship leasing ecosystem align with the broader Maritime India Vision 2047?

Maritime Vision 2047 aims to increase India's footprint in global shipping. GIFT IFSC provides a tax and regulatory environment similar to global hubs, encouraging capital inflow and professional expertise. While the measure of success shouldn't solely be the share of Indian cargo carried by Indian vessels, building capacity and competitiveness through GIFT is a step toward reducing strategic dependence and building a vibrant maritime finance ecosystem.

What further policy reforms or incentives are needed to accelerate ship financing in India?

While GIFT IFSC has addressed many tax concerns, the following areas need attention:

- Abolishing taxes on royalties and fees for technical services (FTS).
- Revisiting dividend withholding tax from IFSC units.
- Allowing Indian-owned ships to register overseas under open registries via Foreign Maritime Entity (FME) schemes.
- Clarifying frameworks for shipbroking, asset management, and related services.
- Permitting banks to own leased assets, especially ships, by revisiting current banking restrictions.

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Outlook for India becoming a global maritime finance hub

- Ownership of vessels trading globally (beyond coastal and PSU markets).
- Shift from balance-sheet to asset-based financing.
- Legal framework enabling financial leasing by banks.
- Establishment of a comprehensive maritime ecosystem comprising asset managers, law firms, insurance companies, and brokers.

Are Indian banks and NBFCs prepared to support long-tenure ship financing? How can their role be enhanced?

With ships now classified as infrastructure, there's greater scope for banks to extend long-tenure loans. However, most banks still lack dedicated maritime finance teams. The way forward lies in developing specialised units, adopting asset-based financing models, and embracing financial leasing as a structured offering.

How can public-private partnerships, sovereign funds, and FIIs contribute to India's maritime finance sector?

Sovereign wealth funds typically invest via fund-of-funds, though specific large-scale projects like LNG carriers might attract direct interest. Public-private partnerships can play a pivotal role in credit enhancement, guarantee mechanisms, and viability gap funding. Foreign Institutional Investors (FIIs) bring much-needed expertise and capital to catalyze the sector's growth.

What is your outlook for India becoming a global maritime finance hub by 2030? What milestones must we achieve?

India has the fundamentals—a $3 trillion banking system, skilled workforce, and a maritime market handling close to a billion tons. Annual PE/VC investments in India range between $40–60 billion, making it ripe for structured maritime investments.

With sustained policy support and industry commitment, India is well-positioned to become a top-tier maritime finance hub by the end of this decade.

Navigating volatility, trade shifts and fleet dynamics

The global tanker market is navigating a volatile landscape shaped by geopolitical shocks, evolving trade flows, and shifting supply-demand dynamics. Following a robust start to 2025, driven by sanctions-related disruptions and strategic realignments, spot tanker rates have experienced notable turbulence. As we look toward the remainder of 2025 and into 2026, the market's course will be influenced by a complex interplay of OPEC+ decisions, fleet renewal patterns, and global oil demand trends.

This outlook unpacks the key forces shaping the tanker sector and offers forward-looking insights across geopolitics, tonne-mile trends, fleet dynamics, and oil market fundamentals.

Spot rates rebound, then retreat

The second quarter of 2025 saw a strong rebound in spot tanker rates, particularly in March and April. This uptick was primarily driven by longer-haul crude movements from the Atlantic Basin to Asia. The surge followed U.S. sanctions on more than 150 tankers involved in Russian oil exports, sidelining capacity and compelling key importers such as India and China to diversify their crude sourcing, shifting attention to West Africa, the U.S. Gulf, and the Black Sea.

This reconfiguration of flows boosted tonne-mile demand and lifted freight rates, especially for Aframaxes and Suezmaxes. VLCCs also gained some upward traction,

although more moderately. However, as sanctioned vessels found alternative routes or were gradually replaced in the market, the spike in tonne-miles began to normalise. By May and June, rates started to decline in line with seasonal expectations and restored tonnage availability.

The typical summer lull would have set in, but geopolitical tensions between Israel and Iran injected fresh volatility. Concerns over potential disruption to shipping through the Strait of Hormuz, through which nearly 20 million barrels per day of crude transit, triggered a temporary spike in VLCC, Suezmax, and LR2 rates. Yet, with no actual supply disruption and a ceasefire reached in early July, market sentiment quickly stabilised and rates began to soften again.

Winter tailwinds: Supply unwinds and export ramps

Looking ahead to the fourth quarter of 2025, the market appears poised for a measured recovery. A key factor will be the phased unwinding of OPEC+ voluntary output cuts, initiated in April. Of the 2.2 million barrels per day in cuts, approximately 1.4 million barrels are scheduled to return by the end of July.

While Russia, Iraq, and Kazakhstan had already been exceeding their quotas, Saudi Arabia's rollback marks a genuine production boost. However, most of this oil is currently consumed domestically during the peak summer power demand. These barrels are expected to re-enter export markets by September and October, bolstering seaborne flows and supporting demand for VLCCs and Suezmaxes, particularly on Asia-bound routes.

Simultaneously, supply growth from Latin America is gathering pace. Brazil is set to commission four new FPSOs in 2025, and Guyana's latest offshore unit is expected to begin production by September. These additions will not only expand global crude availability but also lengthen voyage distances, boosting tonne-miles to Asia and Europe.

Inventories and floating storage: Contango in play

Oil market fundamentals suggest a gradual shift toward surplus in the second half of 2025, leading to an inventory rebuild. This could trigger a mild contango, where future prices are higher than spot prices, encouraging floating storage, particularly using VLCCs.

Such a scenario could tighten vessel supply, especially during winter months, and help support spot rates. However, excessive inventory buildup may eventually exert downward pressure on crude prices and prompt another round of output restraint from OPEC+ as we head into 2026.

Cautious outlook for 2025–26: Demand growth slows

Despite near-term tailwinds, the tanker market faces headwinds into 2026. Global oil demand growth is softening, with forecasts for 2025 revised downward from 1.3 million barrels per day to around 1 million barrels per day. This reflects persistent inflation, trade fragmentation, weak industrial output, and the continued shift toward electrification in advanced economies.

While demand is still expected to grow, it may not be robust enough to absorb all new supply or sustain elevated freight rates unless geopolitical or structural catalysts intervene.

Fleet dynamics: Low ordering and high scrappage potential

Fleet supply trends offer a degree of support to market balance. Since mid-2023, new ordering has slowed substantially. The current global orderbook remains modest, with most deliveries scheduled for 2026 and 2027.

This aligns with the aging profile of the existing fleet. Vessels built before 2006 are approaching or exceeding 20 years of age and will increasingly face operational and regulatory pressures. Many of these older ships may be scrapped or drift into the gray or dark fleet servicing sanctioned trades.

While scrappage helps curb fleet growth, the dark fleet poses challenges. It still competes for port slots, bunker fuel, and crew, distorting capacity calculations and complicating compliance for mainstream operators.

Geopolitical risk: The persistent wildcard

The Middle East remains a critical wildcard. Around 20 per cent of global oil flows, or approximately 20 million barrels per day, pass through the Strait of Hormuz. Any escalation involving Iran or regional adversaries could disrupt this lifeline and spark another surge in tanker rates.

Although the recent de-escalation between Israel and Iran has calmed markets, tensions remain simmering. The events of April and June showed how even perceived risks can cause dramatic rate spikes. Operators and charterers will need to stay alert, with contingency planning and risk pricing becoming central to voyage strategy.

Conclusion: Agility Will Define Winners

The tanker market's path through 2025 and 2026 will be anything but linear. It is shaped by opposing forces—rate spikes driven by geopolitical fear, followed by corrections from market normalization. Structural shifts in oil demand, fleet aging, and uncertain trade flows are creating a new operating environment.

For shipowners, operators, and charterers, staying agile and informed will be key. Those who invest in adaptability, data-led decision-making, and resilient planning will be best positioned to thrive amid uncertainty. The next 18 months will reward those prepared to manage volatility as much as those poised to seize emerging opportunities.

PSA's vision for a smarter and more resilient port ecosystem

In this interview, **Alvin Foo, Head of Technology & Sustainability Solutions PSA Corporation Limited,** discusses how PSA's approach to next-generation port operations integrates innovation, resilience, and human-in-the-loop systems to enhance efficiency and sustainability.

What are the biggest lessons you've learned from deploying automated terminal solutions at your flagship ports in Singapore and Antwerp?

We have found that solutions must be tailored to our operational context. In Singapore, where PSA operates the world's largest automated container terminal at Tuas Port, we are diving deeply into solutions to enhance and implement vessel-side automation, with challenges remaining in lashing and unlashing requirements, which necessitate human-in-the-loop systems.

To navigate these complexities, PSA is adopting a phased approach in Singapore, starting with proven technologies such as Automated Guided Vehicles (AGVs) and automated yard cranes, while continuing research and development into quay crane automation in collaboration with likeminded partners such as NTU and ZPMC.

Our journey began with proof-of-concept trials in controlled environments to validate technologies and refine safety protocols before scaling up. Change management has been pivotal, ensuring that our workforce is not only equipped with the right skills but also aligned with the broader transformation agenda.

Crucially, automation must be driven by sound operational concepts and clear business imperatives and not pursued for its own sake. To support terminals newer to automation, PSA has developed comprehensive blueprints and playbooks that serve as practical implementation guides.

As emerging technologies such as autonomous driving and embodied AI gain traction, continuous workforce upskilling becomes essential. At the same time, the growing availability of operational data is enabling a shift from scheduled to predictive maintenance, further enhancing efficiency and resilience.

What are some of the key technologies driving your next-generation terminal operations under PSAT 4.0?

PSAT 4.0 is PSA's enhanced technology blueprint, spanning five families: Port, Marine, Data, Digital, and Sustainability Technologies. It integrates autonomous horizontal transport (AHT), robotic process automation, AI, blockchain, and energy optimisation systems to support smart engineering, machine-augmented workforces, and sustainable infrastructure.

Key technologies include:

- Autonomous prime movers (aPMs) and automated empty container handlers (aECHs)
- Equipment electrification and charging (battery swapping, fast charging)
- Battery and energy storage systems and technologies
- Hydrogen and solar energy
- Fleet management systems
- Remote and automated quay cranes
- Robotics and embodied AI for stevedoring activities and labor-intensive tasks

How is PSA leveraging AI and ML to optimise port and terminal efficiency?

AI and Machine

Learning (ML) are embedded across PSA's operations from predictive maintenance to intelligent berth planning and container stacking. Our fleet management systems use AI to optimise AHT routing and reduce idle time. We're also exploring embodied AI for mobile robotics in vessel lashing/unlashing to improve safety and turnaround.

PSA employs AI and ML to support intelligent trip planning for Singapore's haulier community, improving asset utilisation and reducing emissions. It also optimised operating costs by eliminating various operational inefficiencies. AI also enables anomaly detection in crane equipment and components, allowing proactive maintenance that enhances reliability, high operational service levels and maximises asset lifespan.

What role does Internet of Things (IoT) devices play in enabling real-time visibility, predictive maintenance, or cargo tracking at your terminals?

At PSA, Internet of Things (IoT) devices form the backbone of our digital twin infrastructure, enabling enhanced operational intelligence and resilience. These devices deliver real-time telemetry from cranes, vehicles, and yard equipment, supporting predictive analytics and condition-based maintenance. This proactive approach reduces unplanned downtime, enhances safety, and improves overall system reliability.

By seamlessly integrating physical infrastructure with digital systems, IoT devices continuously collect and transmit high-resolution data both streaming and batch. This data provides real-time visibility into asset performance, facilitates timely decision-making, and supports continuous operational optimisation.

Beyond equipment monitoring, IoT also plays a critical role in cargo tracking and workflow orchestration. The insights derived from these devices empower PSA to anticipate maintenance needs, optimise resource deployment, and respond swiftly to dynamic operational demands.

Together, these capabilities form a robust, data-driven foundation that supports PSA's vision of a smarter, more agile port ecosystem.

Data is the new fuel for digital transformation. How does PSA ensure meaningful use of data analytics across port operations while maintaining cybersecurity and data integrity?

PSA has established a secure and resilient digital ecosystem anchored in robust data governance, encryption protocols, and stringent access controls. At the heart of this ecosystem is our Control Tower architecture, which integrates data from diverse sources to enable real-time visibility and operational decision-making while ensuring full compliance with cybersecurity standards.

PSAT 4.0 is PSA's enhanced technology blueprint, spanning five families: Port, Marine, Data, Digital, and Sustainability Technologies. It integrates autonomous horizontal transport (AHT), robotic process automation, AI, blockchain, and energy optimisation systems to support smart engineering, machine-augmented workforces, and sustainable infrastructure.

To embed data-driven thinking across the organisation, PSA adopts a multi-pronged approach. Through PSA University and our in-house data experts, we deliver targeted training programmes that build analytical capabilities and foster a culture of evidence-based decision-making. This is complemented by the expertise of our resident data practitioners, who guide teams in applying data insights to real-world challenges

Data access is democratised through enterprise-wide platforms such as the Big Data Platform, Automated Machine Learning tools, and Business Intelligence (BI) dashboards. These tools empower employees at all levels to explore, analyse, and act on data, driving innovation and continuous improvement across operations.

All these efforts are underpinned by PSA's comprehensive data governance framework, as outlined in the PSA Group Data Governance Standards. This framework defines clear roles for Data Councils and Custodians, enforces compliance with internal policies and external regulations, and ensures data integrity, quality, and lifecycle management across business units.

Together, these initiatives form a cohesive strategy that not only safeguards PSA's digital assets but also unlocks the full potential of data as a strategic enabler for operational excellence and innovation.

How does digitalisation enhance PSA's ability to respond to cargo demand fluctuations, geopolitical disruptions, or other operational risks?

Digitalisation plays a pivotal role in realising PSA's Node to Network strategy and strengthening our ability to navigate cargo demand fluctuations, geopolitical uncertainties, and operational risks. Through a combination of advanced technologies and integrated platforms, PSA has built a responsive

and resilient port ecosystem. AI-powered forecasting and scenario modeling tools enable PSA to anticipate demand shifts and simulate disruption scenarios. This allows for proactive planning and dynamic resource reallocation in response to vessel delays, cargo surges, or geopolitical events.

Digital platforms provide end-to-end visibility across the supply chain. By integrating data from terminals, warehouses, and customs nodes, PSA enables real-time monitoring, and optimised routing, critical capabilities during times of disruption.

Operational agility is further supported by dynamic job allocation and resource pooling, allowing PSA to flexibly manage manpower and equipment in response to fluctuating cargo volumes.

How do collaborations with startups, accelerators, and institutions help you stay ahead of the technology curve?

PSA Ventures' collaboration with startups, accelerators and research institutions is a vital part of how PSA as a whole stay agile and future-ready. These partnerships allow us to tap into fresh thinking by exploring emerging technologies and test new ideas in real-world scenarios. For example, our engagements with funds and government entities, such as the National Industrial Development and Logistics Program (NIDLP) in Saudi Arabia, give us the opportunity to test-bed and develop cutting-edge solutions in areas such as autonomous transport, robotics, enhanced human capital management and supply chain data integration. They enable us to plug into global innovation ecosystems and co-create solutions that address real-world port and supply chain challenges.

A significant portion of PSA's container-handling equipment such as quay side cranes, automated yard cranes and AGVs are already electric-powered. PSA is now progressively transitioning its fleet of internal combustion engine (ICE) prime movers to fully electric variants.

Most importantly, these varied partnerships support our ambition to future-proof not only the overall supply chain, but the maritime industry as well. As global shipping decarbonises and supply chains become more data-driven, we see ourselves playing a catalytic role in shaping how the next-generation maritime network functions across end-to-end trade corridors.

What role will alternative fuels and electrified infrastructure play in the future PSA terminal ecosystem?

PSA is embedding clean energy technologies at the heart of its automated port operations to drive decarbonisation, enhance operational resilience, and future-proof its terminal ecosystem.

A significant portion of PSA's container-handling equipment such as quay side cranes, automated yard cranes and AGVs are already electric-powered. PSA is now progressively transitioning its fleet of internal combustion engine (ICE) prime movers to fully electric variants. This shift is supported by the development of a robust charging infrastructure, including fast-charging systems and battery-swapping facilities, to ensure seamless operations.

Looking ahead, PSA's decarbonisation roadmap includes the adoption of alternative fuels such as hydrogen and ammonia to support a low-carbon terminal ecosystem.

What do you see as the biggest disruptors on the technology horizon for the port and logistics sector over the next 5–10 years?

Over the next decade, the port and logistics sector will undergo transformative change driven by the convergence of advanced technologies and sustainable energy solutions. PSA is at the forefront of this evolution, with several key disruptors shaping the future terminal ecosystem:

1. **Artificial Intelligence and Embodied Robotics**
   AI is already reshaping port operations through predictive analytics, automation, and real-time decision-making. The rise of embodied AI, where intelligence is embedded in physical systems, will enable autonomous cranes, vehicles, and inspection robots, significantly enhancing efficiency and safety.
2. **Autonomous Vessel Handling and Blockchain**
   Technologies such as automated mooring, berthing systems, and blockchain-enabled trade platforms will streamline vessel turnaround and cargo documentation, improve transparency and reduce friction across global supply chains.
3. **Clean Energy and Sustainable Fuels**
   The shift to low-carbon fuels like hydrogen and ammonia will be a major disruptor. PSA is piloting hydrogen fuel cell-powered prime movers and developing supporting infrastructure such as refuelling stations, laying the foundation for a green fuel ecosystem.
4. **Small Modular Nuclear Reactors (SMRs)**
   In the longer term, SMRs could provide stable, carbon-free power for 24/7 port operations, offering a scalable solution.

Chowgule Shipyard: Navigating the next wave of Indian shipbuilding

In this interview, **Shrikanth Itagi, Director - Projects and Commercials, Chowgule & Company Shipbuilding Division,** highlights key challenges faced by Indian shipbuilders, such as prolonged supply chain delays due to reliance on European equipment, limited domestic expertise in ship design, and the growing difficulty in attracting skilled labour.

Could you give us a brief background of Chowgule Shipyard?
Chowgule Shipyard is part of a family-owned enterprise that dates back to 1916—over a century of legacy in Indian business. It began as a small trading firm dealing in port operations and later moved into supplying iron ore to Japanese buyers. What's remarkable is the trust-based relationship they established with Japan, despite being small-scale traders at the time. This became popularly known as the "Chowgule formula"—a model built on ethics and credibility rather than financial muscle.

This trust laid the foundation for the group's diversification. From trading and mining, the business expanded into logistics, which brought the need for transporting iron ore. Initially, they bought and hired barges, and eventually realised the importance of having their own shipbuilding and repair facilities. That's how Chowgule Shipyard was born—first with ship repairs and then full-fledged barge building, particularly during the 1990s.

When did Chowgule enter the export market in shipbuilding?
Around 2002-03, the global shipbuilding industry witnessed a boom, and that's when we began engaging with European shipowners. That marked our foray into exports. Since then, we've delivered 42 export vessels. Presently, our order book stands strong with another 42 ships, valued at approximately $861.90 mn (€750 million - Rs 7,500 crore). It's a promising phase, as global and domestic winds both favor India's maritime development.

What type of vessels are you currently building?
We're working on a range of technologically advanced vessels. For example:

- 12 hybrid ice-class vessels for a Finnish-Swedish client, designed for Baltic Sea conditions. These are Ice Class 1A and reduce carbon emissions by nearly 50 per cent.
- 16 diesel-electric vessels optimised for fuel efficiency, especially for short voyages with multiple port calls. These can achieve fuel savings of up to 60 per cent.
- 12 Ice Class 1B vessels for a Dutch client, with 8,500 DWT capacity. Deliveries for these will begin this November from our Mangalore yard.

Across India, we operate four yards—three in Goa (Rautalim, Rasayim, and one leased facility), and the Mangalore yard, which we took over in April 2023. Since then, we've made major upgrades, and it is now fully operational.

What are the key challenges facing Indian shipbuilders like you?

1. **Supply Chain Delays:** Most of our equipment must come from Europe due to owner preferences and after-sales considerations. Lead times can stretch

up to 14 months, and geopolitical disruptions like the Red Sea crisis or the Ukraine war add further delays. We often have to carry large inventories, which increases working capital costs.

2. **Design Capabilities:** Indian design houses are yet to match European expertise in commercial shipbuilding. While some like SEDS are catching up, especially in naval projects, we still lack deep capabilities for international commercial vessel standards. To bridge this, we are collaborating with a Dutch design firm to establish our own design house.
3. **Skilled Manpower:** Though India has abundant human capital, the working conditions in shipbuilding—confined spaces, demanding tasks—make it less attractive compared to civil infrastructure jobs. Additionally, many experienced welders' children are moving away from the trade, creating a skills gap.

The government is responsive to this issue. We've initiated discussions for skill development programs and ITI partnerships, which can help produce welders, fitters, and marine technicians ready for immediate employment.

How is Chowgule investing in innovation?

We have identified port related issues relate to regulatory matters, green energy, induction of latest IT tools, inter and intra-port competition, capacity augmentation, operational efficiency improvement, availability of long-term liberalised funds, and creating safe and sustainable world class ports to address growing trade volume needs while reducing the logistics cost through better evacuation and cost-effective processes. Which need to be addressed immediately.

We're adopting hybrid and diesel-electric propulsion technologies, and increasingly incorporating automation into shipbuilding processes. That said, shipbuilding still demands significant human involvement—around 60% of tasks still require skilled labor. Continuous training and upskilling will be key to staying ahead.

Looking ahead, how do you see the next five years for Indian shipbuilding?

The future looks very bright. Five years ago, most of us in shipbuilding weren't as optimistic. Today, there's a real reason to smile. The government is supporting the sector through initiatives like the Shipbuilding Financial Assistance Policy, Maritime Development Fund, and Maritime India Vision 2047. There is two-way communication happening between industry and policymakers—a significant shift from the past.

With global supply chains rebalancing and Europe facing demographic and labor shortages, India has a golden opportunity. We have the workforce, ambition, and now the policy environment to emerge as a global shipbuilding hub.

Chowgule Shipyards – A Beacon of Shipbuilding Excellence in Goa

Chowgule Shipyards operates two key facilities: the Loutolim Shipyard and the Rassaim Shipyard.

The Loutolim Shipyard serves as the primary center for assembly and launching, spread across an expansive area of 42,000 square meters. It features a 220-meter-long slipway, two winches with capacities of 30 tonnes and 15 tonnes respectively, and two main construction berths measuring 90 by 36 meters and 130 by 25 meters. Each bay is equipped with a 60-tonne Goliath crane standing 23 meters tall. The fabrication infrastructure includes a covered shed of 120 by 22.5 meters and a hatch cover shed of 82 by 25 meters. Crane facilities are extensive, with four overhead cranes rated at 10 tonnes, one overhead crane of 70 tonnes, two 25-tonne cranes inside fabrication sheds, and eight 1-tonne jib cranes. Outfitting and jetty operations are supported by tower cranes rated at 16 tonnes at a height of 17 meters or 2.25 tonnes at 65 meters. Surface preparation is handled in a blasting and painting shed measuring 19.5 by 25.5 by 7.5 meters.

Located just 7 kilometers from Loutolim, the Rassaim Shipyard complements operations with its own robust capabilities over a 15,000 square meter area. It features a 123-meter-long side launching jetty and a grand assembly space of the same length and 27 meters wide. A tower crane provides lifting options of 25 tonnes at 16 meters or 4.9 tonnes at 70 meters. The shipyard's main construction berth measures 108 by 36 meters and is serviced by a 60-tonne Goliath crane at a 23-meter height. The outfitting jetty spans 123 meters and is also supported by a 60-tonne Goliath crane. With an annual structural capacity of 3,000 tonnes, Rassaim can handle load-outs of single blocks or equipment up to 80 meters in length, transported via a pontoon system with temporary rail tracks and motorized trolleys

Building a future-ready steel supply chain

As India's largest steel producer, Steel Authority of India Limited (SAIL) continues to shape the backbone of the country's infrastructure and industrial growth. In this exclusive interview, **Subhash Kr. Das, Executive Director(L&I), Steel Authority of India Limited,** speaks to *Maritime Gateway* about the company's logistics strategy, supply chain challenges, containerisation outlook, and the critical role of multimodal infrastructure in supporting its ambitious expansion.

How has SAIL performed in terms of domestic and export volumes in FY 2024–25, and what have been the key growth drivers or constraints in your supply chain?

FY 2024–25 marked a strategic shift for SAIL as we doubled down on meeting India's domestic steel demand—an effort closely aligned with the government's Atmanirbhar Bharat vision. Despite global headwinds, we achieved record-breaking domestic dispatches, backed by a robust product mix, quality focus, and cost optimization across our operations.

Key growth drivers included supportive policy measures like safeguard duties, rapid infrastructure development under the PM Gati-Shakti National Master Plan, and rising demand from automotive and engineering sectors.

On the flip side, exports faced pressure due to protectionist trade policies by the US and EU. Logistically, the heavy reliance on rail—with SAIL having one of the highest rail coefficients—has been both a strength and a challenge. The eastern region's saturated rail corridors, especially the Chakradharpur division, continue to experience congestion. We also face shortages of railway pilots and specialised wagons, compounded by limited real-time AI-enabled logistics visibility. Maritime logistics, particularly at eastern ports, also suffer due to semi-mechanised cargo handling. Collectively, these factors impact transit efficiency and increase logistics cost as a percentage of revenue.

Containerised cargo movement from steel plants remains niche. What is SAIL's experience, and how do you see this evolving?

While nearly 90 per cent of our cargo moves as bulk by rail, containerisation is increasingly playing a strategic role—especially for high-value finished goods, project cargo, and critical imports. In FY 2024–25, we handled 269 import containers, up from 242 the previous year. A notable highlight was the successful movement of over-dimensional cargo (ODC) via Haldia Port to Rourkela Steel Plant—a first for SAIL.

We foresee steady growth in containerized movement, driven by:

product mix diversification into value-added and sensitive goods, expansion of export footprints in Southeast Asia and beyond, increased import of input materials such as calcined lime, where containerization offers better protection, and integration with upcoming Multimodal

Logistics Parks (MMLPs), allowing seamless modal transitions and reduced turnaround times.

Containerisation will also help us build resilience against global shipping volatility. As global trade shifts, we are preparing to leverage container logistics more systematically.

What steps is SAIL taking to enhance logistics efficiency—both for domestic and overseas cargo?

Logistics efficiency is central to our competitiveness and future capacity expansions. Our approach combines infrastructure augmentation, multimodal integration, and digital transformation:

Multimodal diversification

We are actively exploring slurry pipelines for transporting iron ore fines from our mines to plants. MECON is preparing a TEFR for proposed pipeline grids to our major units and inland Waterways are being evaluated for select corridors—like National Waterways 2 & 16—for reaching the Northeast, particularly Assam and Tripura.

Strategic infrastructure partnerships

- We've entered into long-term tie-ups with deep-draft, mechanised ports. This year, we handled a Cape-size vessel at Paradip Port for the first time, a major milestone in port-based logistics optimization.
- With Indian Railways, we are collaborating on wagon induction and key decongestion projects—such as Banspani-Jakhapura Tripling and Padapahar-Sini-Kandra Quadrupling—to improve freight flow and reliability.

Digital transformation

We're undergoing a complete digital overhaul:

- Implementing SAP S4 HANA for a unified ERP across all units
- Partnering with McKinsey & Company to chart a digital roadmap that includes use-case-based transformation in logistics, operations, and decision-making
- Launching a dedicated vertical to accelerate automation, real-time tracking, and predictive analytics across our supply chain

While nearly 90 per cent of our cargo moves as bulk by rail, containerisation is increasingly playing a strategic role—especially for high-value finished goods, project cargo, and critical imports. In FY 2024–25, we handled 269 import containers, up from 242 the previous year.

What ecosystem reforms or support do you see as necessary to boost the steel sector's logistics competitiveness?

While government policies like the National Logistics Policy (NLP) have created a positive framework for growth, certain structural and infrastructural challenges persist that impact SAIL's competitiveness. SAIL's primary concerns lie in the rail and port ecosystems.

Infrastructure bottlenecks: The most significant bottleneck remains the capacity constraint on the Indian Railways network, which is the lifeline of SAIL's operations.

Rail network congestion: As detailed earlier, critical routes for raw material movement, especially in the eastern corridor, are heavily congested. The timely completion of key projects is vital. We have endorsed the expanded "Recommended Rail Action Plan" and have identified additional projects—such as the Kiriburu–Barbil New Line and the Rajkharswan-Dangoaposi 4th Line—as being absolutely critical for SAIL's raw material security. The Dalli Rajhara to Rowghat rail line, for instance, is crucial for the expansion of SAIL's Bhilai Steel Plant.

Port infrastructure: While we are forging new partnerships, challenges such as pre-berthing delays at ports remain a concern. Furthermore, inadequate last-mile rail and road connectivity to ports can create inefficiencies.

Ecosystem support and desired reforms:

To unlock the full potential of India's steel sector, we believe a collaborative, ecosystem-wide approach to reform is necessary. SAIL advocates for the following:

Synchronised railway modernisation: The procurement of new wagons by Indian Railways must be critically synchronised with the augmentation of tracks, locomotives, pilots, and maintenance infrastructure. Without this, new wagons will remain underutilised and fail to solve the core issues of availability and transit time.

Support for alternate infrastructure: We need a clear policy framework to facilitate the laying of slurry pipelines along existing or new railway and highway corridors. This would expedite land acquisition and enable faster project implementation, significantly decongesting the rail network.

Wagon design and maintenance: We support the recommendation for developing versatile wagons with features like detachable frames and automated securing clamps to reduce handling times. Additionally, establishing dedicated rolling stock maintenance depots near major steel clusters would ensure faster wagon turnaround.

Policy support in increasing the Indian flagged ships: Government has taken the initiative to give a boost to shipbuilding in India and for that draft proposal is already been circulated. Steel Industry will have two prong benefits.

Supply chain reimagined, costs tamed

Maritime Gateway explores how cutting-edge tech tackles global logistics inefficiencies with **Uddhav Kumar, Co Founder & CEO Lynkit,** Kumar details harnessing blockchain, IoT and AI to drive measurable cost savings for businesses across India and beyond.

How does your platform integrate blockchain and IoT to optimise supply chains?

We use IoT and telematics to collect real-time operational data, enabling automated contract enforcement for conditions like temperature thresholds or delays. Blockchain ensures this data is tamper-proof and transparent, curbing overpayments and fraud. In India, we focus on cost-effective, adaptable solutions; in markets like UAE and Singapore, we implement advanced automation. Every deployment must deliver practical, on-ground results.

Which AI initiatives enhance forecasting?

Our Precision AI analyses structured data from warehouses, transport, and client ERP systems—including orders, inventory, and schedules. It proactively detects delays, supplier risks, and stock mismatches. This improves planning, reduces errors, lowers inventory costs, and enhances reliability.

What machine learning application delivers highest client savings?

Dynamic route optimisation. By factoring GPS data, vehicle capacity, order density, and traffic, our algorithms find the most efficient real-time routes. Clients reduce fleet size by 10–15 per cent, increase vehicle utilization by 20 per cent, and save significantly on fuel and labour. Predictive maintenance also helps uptime, but routing yields the biggest impact.

How do non-technical managers engage with your system?

We offer no-code dashboards like our Yard Management System, allowing managers to set alerts, track KPIs, and generate reports without coding. Intuitive design plus thorough training ensures full platform utility.

How do clients measure ROI for cargo security solutions?

They assess reduced theft, lower insurance costs, faster dispute resolution via immutable data, and fewer manual hours. CMA CGM, for example, cut daily man-hours by 40 per cent using our Transport Management System. Blockchain is the foundation, but we now focus on scalable, cryptographically-enforced contracts for faster deployment.

How do you onboard mid-market firms wary of analytics?

We use phased rollouts, continuous support, and integrations that align with current workflows—minimising disruption and building confidence gradually.

How do you build trust with SMEs?

Flexible plans—monthly, quarterly, annual—with annual discounts help. No free pilots, but we set low-risk entry points and define ROI targets upfront. Our client success teams demonstrate measurable early gains.

Any recent strategic developments?

Our partnership with Xeneta adds real-time ocean and air freight rates into our platform. Indian clients report up to 50 per cent better budget accuracy, 10% cost savings, and 3 per cent gross margin gains during tendering, enhancing sourcing and planning efficiency.

Morbi: The Ceramic Power House

In Gujarat's Saurashtra region, Morbi has transformed from a modest pottery hub into a global ceramic powerhouse, producing nearly 90 per cent of India's ceramic tiles and positioning the nation as the world's second-largest tile producer. With an ecosystem driven by innovation, cost-effective production, and strategic logistics, Morbi generates ₹.45,000 crore ($5.26 billion) annually, fueling India's economy.

Morbi's journey to global prominence is underpinned by entrepreneurial foresight and a strategic location. Housing over 800–1,000 manufacturing units within a 60-km radius, the town employs more than 400,000 workers and generates around ₹39,000 crore ($4.56 billion) in annual turnover. Exports account for ₹17,500 crore ($2.05 billion) as of 2024.

Leading players like Commander Vitrified Pvt Ltd, operating under the brand Creanza, ship over 400 full container loads monthly. Raw materials sourced from Rajasthan, subsidized gas supplies, and proximity to major ports—Mundra, Kandla, and Pipavav—have enabled cost-effective scale. Mundra Port remains the preferred gateway, thanks to a mature ecosystem of Custom House Agents and third-party logistics handlers.

Large-format producers like Kajaria Ceramics (43.5 million sq.m/year) and RAK Ceramics (118 million sq.m/year) underline Morbi's capacity to cater to global demand.

Export Performance: Sustaining Global Momentum

India's ceramic tile exports surged from ₹17,550 crore in 2021 to ₹20,000 crore ($2.34 billion) in 2024. Porcelain tiles, comprising 72 per cent of export volumes, recorded a 48 per cent growth in 2023, totaling 423 million sq.m and ₹15,200 crore in value. The United States accounts for 60–70 per cent of these exports, followed by Saudi Arabia and the UAE.

Sanitaryware exports also grew significantly—touching ₹3,375 crore ($395 million) in 2023, up from ₹2,250 crore in 2020, with Europe and North America as key destinations.

However, competition from China (holding 35 per cent of global market share) and rising players like Vietnam and Turkey pose ongoing challenges, with India currently at 8 per cent.

Logistics as a Competitive Enabler

Strategically located near Mundra and Kandla ports, Morbi benefits from 20–25 per cent lower logistics costs. Approximately 1,500 containers leave the region daily. Coastal shipping improves reach to South India, while the Dedicated Freight Corridor (DFC), operational since 2023, has cut rail transit times by 40 per cent.

The US countervailing duty probe threatens Indian tiles that saw exports double from 19.8 million sq.m in 2021 to 36.6 million in 2023. On the domestic front, 70 per cent of tile demand comes from urban housing, while rural penetration lags below 20 per cent. Industry stakeholders are calling for a GST reduction from 18 per cent to 12 per cent to stimulate broader demand.

Export turnaround to the Middle East now takes 7–10 days, while Europe-bound shipments require 18–22 days. Yet, global freight volatility has impacted operations—freight costs have risen 15 per cent since 2022, and around 30 per cent of MSME shipments faced delays in 2023.

To address this, the Gujarat Maritime Board has committed ₹500 crore ($58 million) for port upgrades by 2026, and a proposed Ceramic Export Facilitation Centre is expected to reduce customs clearance time by 20 per cent.

A Thriving Ancillary and Industrial Ecosystem

Morbi's industrial base extends beyond ceramics. It hosts a strong network of ancillary industries—paper, laminates, clocks, and LED manufacturing—that support packaging, design, and diversified employment. This ecosystem strengthens the region's self-sufficiency and manufacturing resilience.

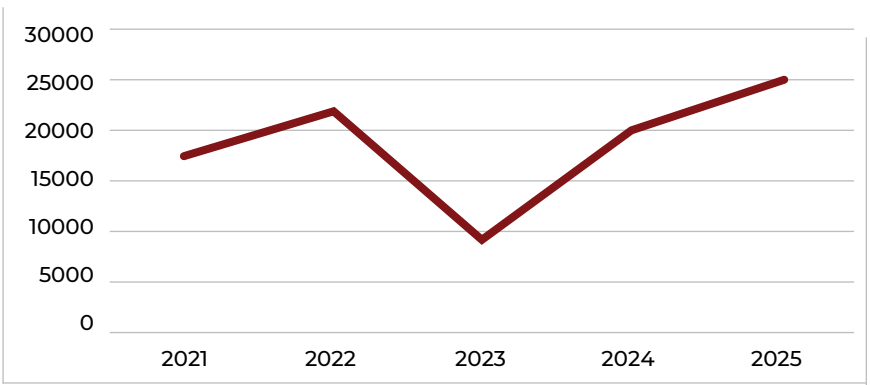
Sustainability and Tech-Driven Production

Morbi has embraced cutting-edge technology and environmental compliance. Over 200 units use digital inkjet printing for large-format slabs (1.2 × 3.6 m), rivaling Italian designs. Energy-efficient roller kilns with waste-

Industry Statistics (2025)

Aspect	Tile Industry	Sanitaryware Industry
Market Size	Rs.62,000 crore (USD72.47 billion)	Rs.8,000 crore (USD9.35 billion)
Domestic Consumption	Rs.42,000 crore (USD49.09 billion)	Not specified
Exports	Rs.20,000 crore (USD23.38 billion)	Not specified
Growth Rate (CAGR)	8-10% (next 5 years)	10-12% (next 5-6 years)
Key Export Markets	USA (60-70%), Saudi Arabia (20%), UAE (10%)	Not specified
Production Capacity	Kajaria Eternity: 43.55 million sq.m; RAK Ceramics: 118 million sq.m	RAK Ceramics: 5.7 million pieces
Employment	550,000 (50,000 direct, 500,000 indirect)	Not specified

Ceramic Tile Export Growth (2021-2025P) INR Crore



heat recovery and AI-driven control systems have cut carbon emissions by 20 per cent.

Sanitaryware leaders like Varmora and Senisto deploy low-energy tunnel kilns and high-pressure casting. Slurry-recycling has reduced water consumption by 30 per cent, and solar energy now powers 25 per cent of production. The Indian Council of Ceramic Tiles and Sanitaryware (ICCTAS) targets 50 per cent renewable usage by 2027, while compliance with the National Clean Air Programme (NCAP) mandates a 40 per cent drop in particulate emissions by 2025.

Challenges Ahead: Costs, Carbon, and Policy Shocks

Despite its growth, Morbi faces formidable headwinds. Natural gas, comprising 25–30 per cent of production costs, rose 50 per cent between 2021 and 2023, squeezing margins. The EU's Carbon Border Adjustment Mechanism (CBAM), set to begin in 2026, could impact ₹2,250 crore worth of exports.

The U.S. countervailing duty probe threatens Indian tiles that saw exports double from 19.8 million sq.m in 2021 to 36.6 million in 2023. On the domestic front, 70 per cent of tile demand comes from urban housing, while rural penetration lags below 20 per cent. Industry stakeholders are calling for a GST reduction from 18 per cent to 12 per cent to stimulate broader demand.

Looking Ahead: Towards a ₹1 Lakh Crore Industry

By 2027, Morbi aims to double its ceramic output and reach a turnover of ₹80,000 crore ($9.35 billion). The proposed Morbi Ceramic Park, featuring captive power plants, a dry port, and single-window clearances, targets an annual turnover of ₹1 lakh crore ($11.7 billion).

Government-backed schemes like PM Gati Shakti and the PLI Scheme (targeting ₹2,000 crore in investments by 2026) are expected to boost innovation in smart sanitaryware and large-format vitrified tiles. Digital trade platforms, blockchain-based tracking, and green energy adoption are set to drive transparency, efficiency, and competitiveness.

According to ICCTAS Chairman Rishi Kajaria, India's global market share in ceramics could rise from 8 per cent to 12 per cent by 2030 as global supply chains shift from China.

Conclusion

Morbi's evolution is a testament to India's manufacturing ambition—blending scale, innovation, and sustainability. With supportive policies, infrastructure investments, and digital transformation, the town is poised to become a global export hub not just for ceramics, but for the broader Make in India vision. As it readies for the next leap, Morbi offers a blueprint for regional industrial clusters to thrive on the global stage.

Hindalco powers India's maritime future with indigenous aluminium solutions

India's maritime ambitions are advancing swiftly, propelled by strategic goals, technological innovation, and a robust drive for self-reliance. Amidst this transformation, Hindalco Industries Ltd. has emerged as a key enabler—establishing itself as a trusted domestic provider of high-performance aluminium solutions for shipbuilding and marine infrastructure, says **Nilesh Koul, Senior President & CEO – Downstream Aluminium Business, Hindalco.**

How is Hindalco positioning itself as a key supplier of aluminium for India's growing shipbuilding and maritime infrastructure needs?

Being the premier downstream aluminium player in India, Hindalco has actively partnered with key Navy/maritime agencies in the country to develop aluminium products suitable for shipbuilding and maritime end applications. Using its proven manufacturing capability in both flat rolled products and extrusions, Hindalco is able to offer a range of sheets, plates, and extruded sections that are being used in shipbuilding as well as ship repair activities.

What are the advantages of using aluminium alloys over traditional steel in ship structures, decks, and superstructures, especially in terms of weight, corrosion resistance, and lifecycle costs?

Aluminium alloys, which are used in Navy/maritime end use, have very good corrosion resistance in marine environments. They offer a significant reduction in the overall weight of the ship, thereby allowing more carrying capacity and/or better speed—especially for smaller-sized boats, in which entire hull sections can be manufactured using aluminium alloy products. Similar use of aluminium alloy products for decks and superstructures in large-sized ships also results in a lower centre of gravity, thus offering better stability and manoeuvrability for those vessels.

Can you elaborate on the specific aluminium alloy solutions being developed by Hindalco for high-performance maritime applications?

Hindalco is supplying, for naval/maritime use, specific Al-Mg alloys developed jointly with Indian Navy HQ and the Directorate of Naval Architecture (DNA). This development was undertaken by Hindalco not only to increase aluminium usage in shipbuilding but also to reduce the dependency of Indian shipbuilders and shipyards on imported sources of aluminium alloy products.

Is Hindalco working with any Indian or global shipyards, marine engineering companies, or OEMs on aluminium-based components or maritime structural applications?

So far, Hindalco has focused on developing aluminium alloy products for the Indian shipbuilding industry. Having signed MoUs with key players and supplied products to shipbuilders as well as the Navy's Material Organisation (MO), Hindalco will continue to position itself as the indigenous supplier of aluminium alloy products for the domestic naval/maritime industry. That said, as Hindalco enhances its capabilities, capacity, and product development efforts, global shipyards, shipbuilders, and their supply chain partners will also be on Hindalco's supply radar.

How does Hindalco ensure quality, traceability, and performance standards in marine-grade aluminium products?

The plant locations from which Hindalco is supplying aluminium alloy products have the necessary certifications from reputed agencies like DNV and IRS. Qualifications/ interactions are also ongoing with global agencies like ABS and LR. All the products supplied by Hindalco are inspected as per the QAP (Quality Assurance Plan), finalized according to the requirements of end users, naval entities, and the inspection/ qualification agencies. These QAPs ensure that the properties and performance parameters are exactly as required for marine applications. As Hindalco is an integrated aluminium player, it is also able to maintain and provide customers with complete traceability of products- from the initial manufacturing stages of casting to the final finishing operations.

Do you see the maritime sector becoming a significant growth driver for aluminium usage in India over the next 5–10 years?

The maritime sector in India is expected to grow at a rapid pace, as our Navy and Coast Guard have embarked on fleet expansion to strengthen India's maritime capability in the ocean territories around the country. The supply chain ecosystem for both the Indian Navy and Coast Guard has been given aggressive targets to increase the usage of aluminium for building vessels- both large and small- by actively sourcing aluminium alloy products from within India. This is bound to become a growth driver for aluminium usage in the country.

In fact, Hindalco will need to continue developing more products to cater to this growing demand by partnering with the Navy, Coast Guard, and other industry partners in the 'Make-in-India' and 'Atmanirbhar Bharat' initiatives.

Are there any plans to introduce new aluminium product lines or R&D initiatives specifically catering to maritime or shipbuilding requirements?

As the requirements of India's maritime and shipbuilding industry increase and the partnerships between Hindalco and the shipbuilding/marine industry grow, it will be imperative for Hindalco to expand its existing product basket. To achieve this, Hindalco will also need to undertake the necessary R&D initiatives.

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How does aluminium contribute to improving fuel efficiency and reducing the carbon footprint of vessels and marine operations?

The lower weight and superior strength-to-weight ratio of aluminium alloys vis-à-vis steel, when it comes to certain structures and components, result in overall weight reduction of the vessels. This naturally leads to improved fuel efficiency and lower carbon emissions, as fossil fuel consumption is reduced.

What role can aluminium play in the modernization of inland waterway vessels, coastal shipping, and defense marine assets?

The role played by aluminium alloys will be multifaceted:

- **Inland Waterway Vessels and Coastal Shipping:** Longer life due to corrosion resistance properties, improved fuel efficiency and lower carbon emissions due to reduced weight, faster travel due to increased speed owing to weight reduction.
- **Defence Marine Assets:** As mentioned earlier, aluminium alloys play a critical role in naval vessels by reducing overall weight, improving corrosion resistance, and enhancing stability and manoeuvrability.

Integrated logistics drive EXIM gains for Balmer Lawrie

In this interview, **Adhip Nath Palchaudhuri, Chairman & Managing Director of Balmer Lawrie & Co. Ltd,** highlights how the company has become synonymous with resilience, adaptability, and foresight—qualities that are embodied in its proud 158-year legacy.

What steps is Balmer Lawrie taking to grow in freight forwarding and CFS, and how will it leverage its strengths to expand in maritime logistics over the next 3–5 years?

Balmer Lawrie has long been recognised for its resilience, adaptability, and foresight—qualities that define its 158-year legacy. As a diversified conglomerate, the company has consistently navigated challenges and emerged stronger.

Logistics remains a core focus, where Balmer Lawrie stands out as a leading Indian player offering end-to-end services backed by advanced infrastructure. Its capabilities span international freight forwarding, Container Freight Stations (CFS), temperature-controlled warehouses, and a fleet of temperature-controlled vehicles. In a dynamic logistics landscape, the company is expanding its freight forwarding and CFS operations through strategic capacity building and digital transformation. Its global freight forwarding strength lies in a robust international agency network that ensures seamless cargo movement for Indian exporters and importers.

Within the CFS segment, Balmer Lawrie continues to upgrade facilities to boost handling capacity, streamline customs clearance, and offer integrated services such as bonded warehousing, reefer management, and last-mile delivery. Its cross-sector expertise in travel, manufacturing, and logistics enables it to deliver bundled, value-added solutions to corporate clients. By leveraging synergies across its business verticals and aligning with national initiatives like PM Gati Shakti and the National Logistics Policy, Balmer Lawrie is focused on digital innovation, integrated logistics, sustainability, and strategic partnerships. Over the next 3–5 years, it aims to evolve into a comprehensive logistics ecosystem provider.

What's driving Balmer Lawrie's growth and profitability amid global uncertainty and logistics disruptions?

Balmer Lawrie reported a turnover of ₹2,578 crore and a profit after tax of ₹233 crore in FY 2024–25, reflecting a 7.2 per cent revenue growth and a 14.4 per cent rise in profitability. Logistics, Travel, and Greases & Lubricants emerged as the most profitable segments, while Industrial Packaging and Travel achieved record volumes. Logistics Services, Vacations, and Chemicals also posted strong top- and bottom-line growth.

Despite global headwinds—geopolitical tensions, inflation, and supply chain disruptions—the company maintained steady performance, driven by: customer-centric approach, cost optimisation,

product diversification, strategic capacity utilisation, skilled workforce investment, and strong balance sheet. The Travel business, particularly the government air ticketing portal, significantly boosted volumes, showcasing the impact of focused execution and collaboration.

How does Balmer Lawrie's partnership with GATX India enhance its multimodal logistics capabilities, and what's the latest on the Visakhapatnam Multi-Modal Logistics Hub and related infrastructure supporting cargo and shipping lines?

We've hit a major milestone in expanding our multimodal logistics with our entry into Rail logistics, and to cater to our rail needs we have entered into a new strategic agreement with GATX India. This partnership lets us integrate rail into our logistics chain, which means faster turnaround times and more environmentally friendly, cost-efficient transport solutions for our clients. It also aligns perfectly with India's vision for green logistics.

Our Multi-Modal Logistics Park (MMLP) at Visakhapatnam is making steady progress. This park is designed to seamlessly integrate road, rail and sea transport, creating a vital hub. It will not only support port operations but also serve the cargo needs of Eastern and Central India, unlocking immense value for exporters and logistics partners. We're planning this infrastructure to sync with the Government's Bharatmala and Sagarmala initiatives, ensuring synergy with their broader infrastructure roadmap.

How is Balmer Lawrie collaborating with ports, shipping lines, and tech partners to boost efficiency, and what are some successful examples shaping future trade facilitation?

Balmer Lawrie is deeply committed to partnerships that yield measurable improvements in service delivery and efficiency.

We've hit a major milestone in expanding our multimodal logistics with our entry into Rail logistics, and to cater to our rail needs we have entered into a new strategic agreement with GATX India. This partnership lets us integrate rail into our logistics chain, which means faster turnaround times and more environmentally friendly, cost-efficient transport solutions for our clients.

Our collaborations with major port authorities, leading shipping lines and technology service providers are crucial in streamlining cargo handling and enhancing transparency.

Our collaborations are not just transactional but strategic; they are shaping the contours of our long-term trade facilitation efforts and enabling a robust, interconnected logistics backbone that aligns with India's international trade ambitions. Our new projects Rail Logistics and 3PL Services in Eastern India are a result of successful collaboration. Also, in a major sustainability push, we've started movement of EXIM cargo through rail connectivity between CFS-Kolkata, Haldia Port and Nhava Sheva — a cost-effective, green logistics solution that will lower carbon emissions and improve efficiency. We have collaborated with the ports and private players like Pristine and HTPL to implement this initiative that is impacting the regional logistics landscape in a significant way.

What AI and IoT initiatives has Balmer Lawrie adopted for cargo tracking and analytics, and how are they improving efficiency and customer satisfaction?

Technology is truly at the heart of everything we do, both in our daily operations and our long-term strategy. We have implemented IoT devices across all our warehouses and Container Freight Stations for real-time visibility into cargo tracking, precise temperature monitoring and automated alerts for any deviation. Beyond just tracking, we're leveraging AI-driven analytics to sharpen our foresight helping us accurately forecast cargo volumes, optimise inventory space, and proactively identify and mitigate potential supply chain risks. The results have been significant: we've seen substantial improvements in asset utilization, predictive maintenance and overall service-level reliability. For our clients, this translates into tangible benefits: greater transparency, quicker turnaround and enhanced satisfaction. Internally, digital dashboards and centralised control towers are empowering our teams with better data for decision-making and boosting workforce productivity. These innovations align with our goal to become a data-driven organisation and elevate customer experience across touchpoints.

How does Balmer Lawrie's Chennai hub for perishables and pharma boost resilience, and are there plans to expand into agri-exports or vaccine logistics?

Balmer Lawrie's Chennai hub is poised to move beyond traditional bulk and EXIM cargo by targeting high-margin, low-

volume volatility segments like perishables and pharmaceuticals. Equipped with advanced cold storage, temperature monitoring, GPS-enabled reefer handling, and value-added services (grading, packaging, blast freezing), the hub ensures end-to-end integrity for temperature-sensitive shipments. The company already handles agri-exports via its Visakhapatnam MMLH and Chennai CFS, which has become a key node for this segment. Efforts are underway to expand agri-export operations across other strategic locations. Balmer Lawrie is also actively engaged in vaccine logistics, leveraging its cold chain infrastructure to deliver reliable, compliant solutions for pharmaceutical and vaccine transport.

How does Balmer Lawrie's UAE joint venture support India's trade hub ambitions, and are there plans to expand into new markets or maritime services like container leasing?

The establishment of our subsidiary in the UAE is a really exciting development, and it directly supports India's ambition to become a central player in global trade networks. We see the Gulf region as a critical trans-shipment and re-export hub, so having a direct presence there allows us to offer truly integrated logistics services. This means everything from warehousing and freight consolidation to seamless customs facilitation for our clients

We are actively exploring opportunities in Africa and Southeast Asia to build an intercontinental corridor for Indian exporters making it easier and more efficient for them to reach new markets. This subsidiary will give Balmer Lawrie a fantastic platform to eventually expand into asset-light maritime services such as container leasing and feeder services. These strategic moves enhance our global value proposition and facilitate smoother cargo flow between India and its trade partners.

Our clients, who range from MSMEs to large multinational corporations, all share common expectations: they want consistency, clear visibility, and speed in their logistics. They often face significant challenges like complex documentation, unpredictable transit times, and occasional infrastructure limitations.

What challenges do exporters, importers, and shipping lines face with Balmer Lawrie's logistics services, and how is the company addressing them to improve service delivery?

Our clients, who range from MSMEs to large multinational corporations, all share common expectations: they want consistency, clear visibility, and speed in their logistics. They often face significant challenges like complex documentation, unpredictable transit times, and occasional infrastructure limitations. We have tackled these head-on by digitising key customer interfaces, introducing a single-window cargo management system, and expanding customer service teams for real-time issue resolution. Further, our periodic stakeholder consultations help us tailor solutions to specific industry needs. These initiatives, coupled with our continuous investment in infrastructure and training, ensure that we stay ahead of customer expectations while reinforcing trust and loyalty in our brand.

How has the Port Link Express between Haldia and Kolkata improved logistics, what challenges were faced, and are there plans to scale this model elsewhere?

Balmer Lawrie marked a major milestone in regional logistics with the launch of the Port Link Express—a dedicated rail service connecting the Haldia Dock Complex (HDC) to its Kolkata CFS. Launched on 29th June 2024, the service began with 80 TEUs of import containers from Haldia (SITC Line) and 90 TEUs of export containers from Kolkata (MSC Line). It serves as a sustainable land bridge between two key logistics hubs in Eastern India.

The initiative addresses long-standing challenges at Kolkata Port, such as limited draft and slow vessel turnaround. Haldia, with deeper draft and better access to the Bay of Bengal, emerged as a more efficient alternative. Balmer Lawrie seized this opportunity, proposing a direct rail link to its inland facility in Kolkata. Backed by HDC authorities and major shipping lines, the project was formalized through an MoU.

Implementing the service required overcoming regulatory and operational hurdles, notably securing customs notification. Once cleared, Balmer Lawrie coordinated with shipping lines, rail operators, and port authorities to develop a Standard Operating Procedure (SOP) for seamless container handling and rail movement. Since launch, the Port Link Express has cut transport costs, improved delivery timelines, and reduced carbon emissions by shifting cargo from road to rail. It has enhanced efficiency along the Haldia-Kolkata corridor and created a scalable model for green logistics.

Building on this success, Balmer Lawrie has introduced a Rail & Sea logistics solution with Ocean Network Express (ONE), linking Kolkata to Nhava Sheva and improving access to mainline vessels. The Port Link Express exemplifies strategic infrastructure planning and sustainable logistics, setting a new standard for cargo movement in India.

Tidal Wave's bold bet on private 5G

In this interview, **Ankit Dixit, Chief Executive Officer, Tidal Wave Technologies Pvt Ltd,** his innovation journey, customer impact, and bold vision for scaling India's 5G-powered logistics future.

Tell us about your core solution—what specific problem in the shipping or logistics value chain does it address, and how is it different from existing alternatives?

Tidal Wave specializes in delivering Private 5G network solutions, specifically designed to address the critical need for secure, reliable, and high-performance connectivity within the shipping and logistics value chain. Existing wireless networks often fall short in environments like ports and logistics hubs, where mission-critical operations demand guaranteed bandwidth, ultra-low latency, and stringent data security. Our Private 5G networks offer dedicated, enterprise-grade connectivity that supports a range of advanced applications—including autonomous vehicles, remote-controlled equipment, real-time asset tracking, and intelligent operational monitoring—enabling faster, safer, and more efficient operations.

Take us through your startup journey so far. What inspired the idea, and what have been some defining moments or breakthroughs along the way?

The idea behind Tidal Wave was born out of the growing realisation that next-generation connectivity—especially in industrial environments—was a missing link in India's digital transformation journey. Our inspiration came from the increasing demand among enterprises and public sector undertakings (PSUs) for robust, secure, and scalable connectivity solutions. Key milestones in our journey include the successful deployment of pilot Private 5G networks for reputed PSUs such as Coal India, which validated both our technology and its impact on operational efficiency and safety. These breakthrough projects have served as strong proof-of-concept and positioned us as a frontrunner in the Indian Private 5G space.

Who are your primary customers, and how are you adapting your solution to meet the demands of a fast-changing logistics landscape in India and beyond?

Our primary customers include port authorities, terminal operators, and large public sector entities—particularly Maharatna companies—along with clients in mining, manufacturing, defense, and railways. We are deeply focused on customising our 5G solutions to meet the evolving needs of these sectors. This involves continuous R&D, staying ahead of the curve on 5G advancements, and working hand-in-hand with our clients to co-develop features that solve their operational pain points. Notably, Tidal Wave remains the only indigenous player with a field-proven Private 5G network in India, a distinction that has been instrumental in earning trust and traction across multiple sectors.

How are you approaching market entry and expansion? Which regions or industry verticals have shown the strongest response so far?

Our market entry and expansion strategy is focused on high-impact industrial zones and logistics corridors where digital transformation is already a priority. We've seen strong early adoption in verticals like mining, manufacturing, and logistics—particularly in states with major ports and industrial infrastructure. These sectors are increasingly investing in automation and intelligent operations, and our solutions have proven to be a natural fit. By aligning our offerings with national priorities such as Make in India and PM Gati Shakti, we aim to scale across multiple regions in a phased but focused manner.

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