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Jebel Ali Land Bridge

TUSHAR
JANI

“
I WISH I WAS YOUNG
”

INTERVIEWS

ANDREW SALLAY
CO-FOUNDER AND CEO OF
CEQURA

UMANG SHUKLA
FOUNDER OF EDGISTIFY

ARTICLE

ANGOLA'S \$900M
PORT BET

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The Hormuz Watershed: How the US-Iran War Redrew the Gulf's Trade Map

Six months into the closure of the Strait of Hormuz, one thing is clear: this is a structural break in how cargo moves through the Gulf, and the region is already rebuilding around it.

The numbers tell the story starkly. IMF PortWatch data for the week ending August 2 recorded an average of just four ships a day transiting Hormuz, against roughly 90 a day in the same week of 2025. At Jebel Ali, the Gulf's largest transshipment hub, daily container movements fell from about 40,000 to around 1,000 at the height of the disruption. For a port built on open water access, that is an existential shock.

What makes this a genuine watershed is the response. Dubai did not wait for the strait to reopen. It built a land bridge around it. Containers now discharge at Omani ports on the safe side of Hormuz, principally Sohar, with Salalah and Duqm in supporting roles, then move overland into Dubai under bond, crossing at Hatta and Al Wajajah. Sohar's vessel calls have risen roughly 40% and handling capacity 55% since the war began. This is not improvisation. It is infrastructure. DP World's move is even more telling. On July 22, the company struck a 50-year concession with the Fujairah Ports Authority to build two deepwater terminals on the Gulf of Oman coast, entirely bypassing Hormuz and lifting its UAE container capacity from 19.4 million TEU to nearly 22 million TEU. That is a permanent redrawing of where cargo enters the region.

The pattern extends well beyond Dubai. Saudi Arabia is leaning harder on its East-West Pipeline from Abqaiq to Yanbu, and the UAE's Habshan-Fujairah corridor already gives Abu Dhabi direct access outside the strait, with further expansion planned. For engineering firms, EPC contractors and infrastructure investors, this opens opportunities across storage terminals, pumping systems, marine



facilities, rail links, automation and security systems. Fujairah and Yanbu are becoming the backbone of the region's export strategy.

Container traffic through Hormuz has picked up from its July low, but the increase reflects rerouted trade, not restored trade. Freight on the Shenzhen-Jebel Ali corridor was quoted at \$8,250 to \$9,500 per 40-foot box in early August, up 35 to 55% from July. That premium is unlikely to fully unwind. The irony is that Iran has gained little from closing the strait beyond short-term leverage. Every week Hormuz stays contested is another week Gulf states invest in bypassing it for good, while Tehran's own trade options narrow toward deeper dependence on China.

Jebel Ali's port is being fed from the desert rather than the sea. The question is no longer whether the Gulf will change its cargo geography. It already has.

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TRADEPULSE

Charting India's Maritime Future

The Rise of a Global Seafaring Power





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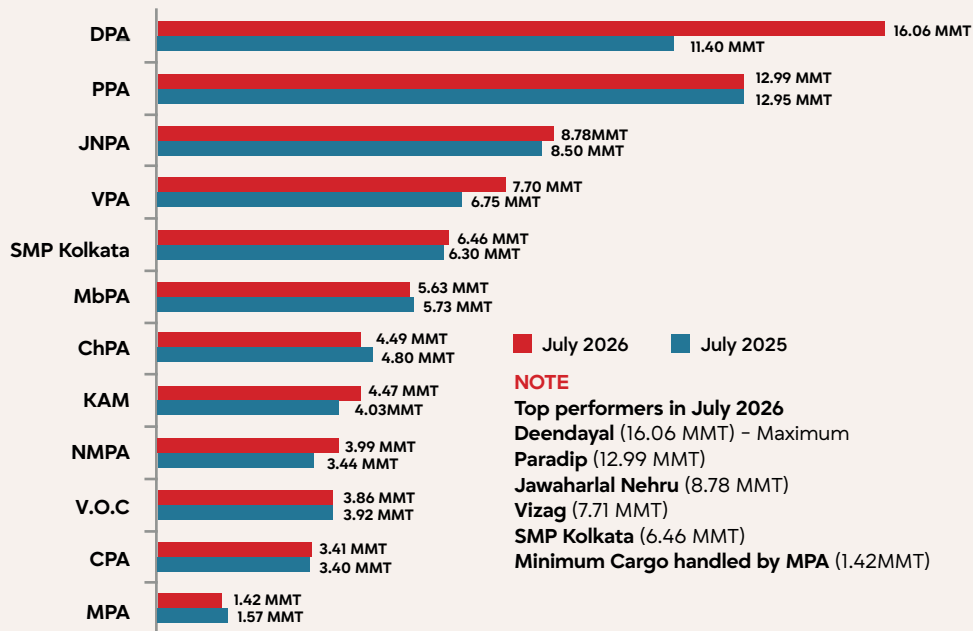


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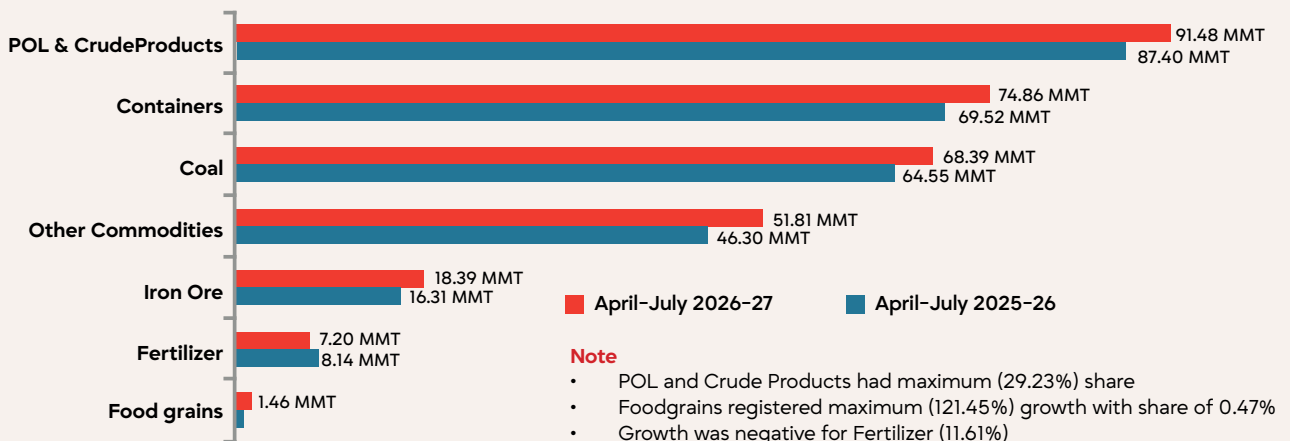


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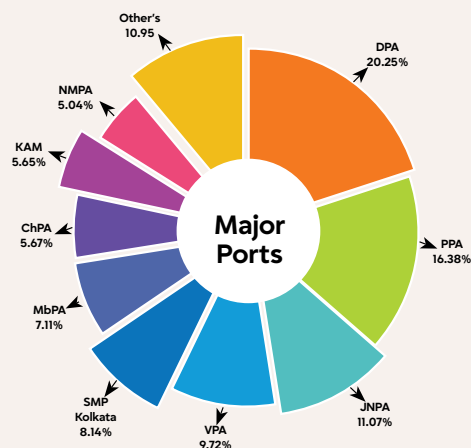
Cargo handled by Major Ports in July 2026 vis-a-vis July 2025



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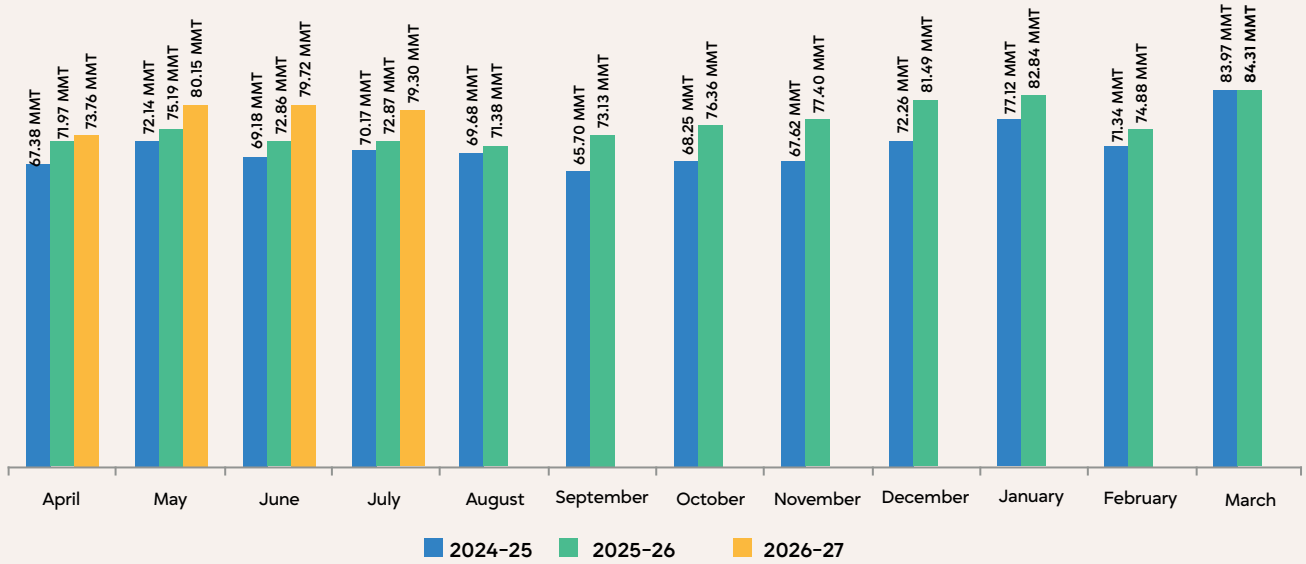


Share of Cargo handled by Major Ports in July 2026

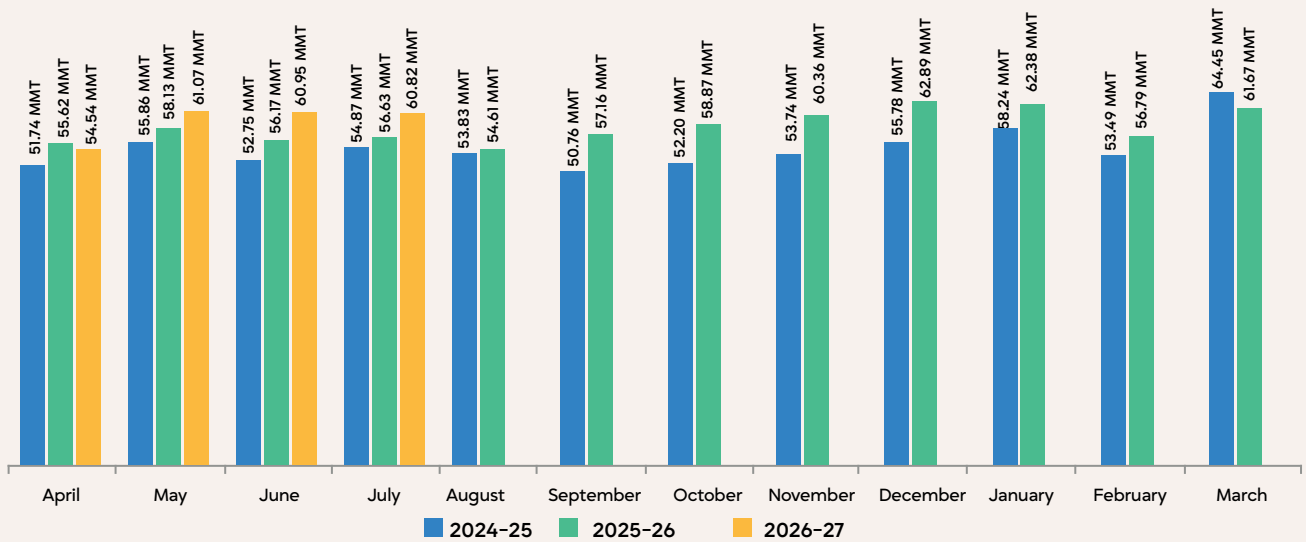
**NOTE**
Top performers in July 2026

- Top 5 Major Ports handled 65.56% of total cargo
- Maximum cargo handled by Deendayal Port Authority (20.25%)
- Minimum cargo handled by MPA (1.79%)

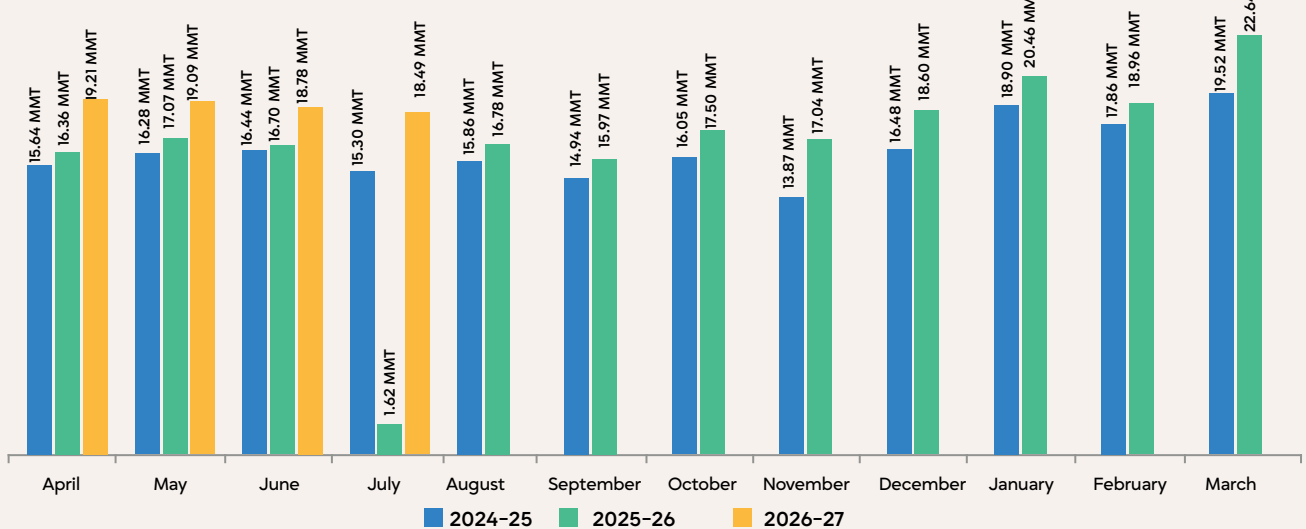
Monthly Total Cargo Handled by Major Ports



Monthly Overseas Cargo handled by Major Ports



Monthly Coastal Cargo handled by Major Ports



DEALS *Roundup*

Oil dominates, Shipping takes charge, and Odisha beckons in this summary.

Indian Oil Signs Five-Year Deal to Supply Petroleum Products to Mauritius

Indian Oil Corporation (IOC) has signed a five-year agreement with Mauritius' State Trading Corporation (STC) to supply petrol, diesel and aviation turbine fuel (ATF) to the island nation. The agreement will cover Mauritius' entire import requirement for these key petroleum products, strengthening energy security and ensuring a stable supply amid volatility in global energy markets.

The deal also deepens India-Mauritius cooperation in the energy sector and reinforces India's position as a reliable regional fuel supplier. For IOC, the agreement provides a long-term export market and strengthens its presence in the Indian Ocean region. The partnership is also expected to support regular maritime movement of petroleum products between India and Mauritius, contributing to stronger trade and connectivity between the two countries.



India Plans 100 New Merchant Ships to Cut \$75 Billion Freight Bill

India plans to add 100 new vessels to its merchant fleet over the next five years as part of efforts to reduce the country's annual freight bill by \$75 billion. Union Minister for Ports, Shipping and Waterways Sarbananda Sonowal said India currently has around 1,600 seagoing merchant ships, highlighting the need to expand domestic shipping capacity and reduce dependence on foreign-flag vessels. The government is also focusing on strengthening shipbuilding, ship repair and maritime financing to support fleet expansion. Sonowal highlighted the ₹10,000-crore Container Manufacturing Assistance Scheme, under which Maersk has begun ordering containers manufactured in India. The initiative is aligned with India's broader Maritime India Vision 2030 and Maritime Amrit Kaal Vision 2047, with the government aiming to build a stronger domestic maritime ecosystem, create employment and enhance India's role in global shipping.

U.S. and Russia Compete for a Larger Share of India's Energy Market

The United States and Russia are competing to strengthen their positions in India's energy market, the world's third-largest energy consumer. India's rapidly growing energy demand and its dependence on imported crude oil have made the country an increasingly important market for global energy suppliers. Russia has emerged as a major crude oil supplier to India following the disruption of traditional trade flows, while the U.S. has been seeking to expand its energy exports and strategic presence in the country. The competition comes as India balances energy security, affordability and diplomatic relationships with major global powers. With domestic oil production unable to meet rising demand, India is expected to remain heavily dependent on imports, creating significant opportunities for international suppliers. The evolving energy relationship also has wider implications for India's trade, shipping and refining sectors, as changes in crude sourcing influence tanker movements, refinery economics and regional energy flows.





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DEALS *Roundup*

Oil dominates, Shipping takes charge, and Odisha beckons in this summary.

Indian Oil to Import LPG from Algeria's Sonatrach in 2027

Indian Oil Corporation (IOC) is finalising a deal with Algeria's state-owned energy company Sonatrach to import liquefied petroleum gas (LPG) in 2027, as India seeks to diversify its supply sources and reduce dependence on the Middle East. Under the proposed agreement, IOC is expected to receive monthly LPG shipments of around 45,000–55,000 tonnes, comprising propane and butane, transported through very large gas carriers. Algeria's competitive LPG pricing compared with Saudi Aramco's contract prices is reportedly a key factor behind the arrangement. India began importing LPG from Algeria in June and is expected to receive around 110,000 tonnes in August. The move comes amid disruptions to Middle Eastern energy supplies and efforts to strengthen India's energy security. India is also looking to increase LPG imports from the U.S., potentially sourcing up to 25% of its LPG requirements from the country in 2027.



GAIL, DPA and DNV Explore LNG Bunkering Facility at Kandla Port

GAIL, Deendayal Port Authority (DPA) and classification society DNV have signed a tripartite agreement to explore the development of an LNG bunkering facility at Kandla Port. The partnership will assess the infrastructure, LNG supply chain, safety framework and operational requirements needed to support LNG-fuelled vessels. GAIL will contribute its expertise in LNG, while DPA will provide port infrastructure and DNV will support the initiative with technical and maritime safety expertise.

Bidding Heats Up for VOC Port's New Container Terminal

Competition is intensifying for the development of a new container terminal at V.O. Chidambaranar (VOC) Port in Thoothukudi, with major operators including DP World and JSW Infrastructure showing interest. The port has invited private players to develop its existing Berth No. 7 as a container terminal under a PPP model, with an indicative project cost of around ₹517 crore. The upgraded facility is planned to handle vessels of up to 12,100 TEUs and a draft of 14.2 metres, improving VOC Port's ability to handle larger container ships. The project is aimed at strengthening the port's position as a key container gateway on India's eastern coast, while improving connectivity and cargo evacuation for EXIM trade. The increased participation of major port operators highlights growing private-sector interest in expanding India's container-handling capacity.

Reliance Explores Aluminium Entry as Adani Plans \$11.5 Billion Odisha Investment

Reliance Industries is reportedly exploring an entry into the aluminium sector, while the Adani Group is preparing a major investment of around \$11.5 billion in Odisha. Reliance is evaluating opportunities linked to aluminium production and associated raw materials, reflecting growing interest among India's largest business groups in the country's metals and mining sector. Meanwhile, the Adani Group is considering a large-scale integrated industrial investment in Odisha, including projects related to bauxite mining, aluminium production, coal gasification and associated infrastructure. The proposed investments could significantly strengthen Odisha's position as a major hub for aluminium and mineral-based industries. The developments also highlight the increasing competition among large Indian conglomerates to secure access to critical mineral resources and build integrated supply chains. With Odisha possessing substantial bauxite and coal reserves, the state is attracting investments aimed at expanding value-added manufacturing, supporting industrial growth and creating new opportunities across mining, logistics, ports and downstream industries.





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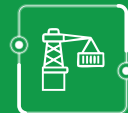
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India's first
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with a deep draft
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Business' through tech
and infrastructure



Home to a dedicated
SEZ driving
export-ready growth



JNPA achieved more than
60% of green renewable energy
share in 2025



Contributes 21% of
India's total customs
revenue



I WISH I WAS YOUNG

FIVE DECADES IN THE SUPPLY CHAIN, ONE WISH TO DO IT ALL OVER AGAIN — TUSHAR JANI ON BUILDING BLUE DART, BACKING ITS SUCCESSORS, AND WHY MID-SIZED LOGISTICS PLAYERS SHOULD THANK THE TARIFF WARS.

Tushar Jani built Blue Dart from scratch and sold it at its peak in 2005. Two decades on, through the SCA Group, CSE and Fundalogical, he has moved from operator to investor and mentor. In this candid conversation, he speaks about why he still works 16-18 hour days at 73, what he really tests for before writing a cheque, why India's mid-sized logistics companies are sitting on a rare geopolitical opportunity, and why he believes every logistician of the future will need to double up as a data scientist.

Ramprasad Ravi

You built Blue Dart from the ground up and walked away from it at its peak in 2005. Almost two decades later, with the SEA Group, CSE and Fundalogical all on your plate, what does a typical week look like for you today? And which of these genuinely gets you out of bed in the morning?

My first wish in life is that I was young again. I have had 50 years in this industry, and if I think about starting now and going another 50 years forward, imagine where that would lead. It is a great opportunity to be in this sector, not just in India but across the world. And because I am Indian, I have a better opportunity than my colleagues anywhere else, including China. People say you cannot beat China, but that is only true on manufacturing volume. On complex supply chains, solution-based logistics and delivering the right thing to the right place at the right time, India is ahead. That is not an opinion, it is five decades of experience across more than 70 countries. When I stepped into the air cargo complex in 1976, cargo sat there for 21 days after landing, even though the flight itself took a matter of hours. Today that 21-day dwell time has come down to a couple of hours. My first piece of automation was an ₹800 Casio calculator. Then came telex, fax, electronic typewriters, computers and the internet.

When I joined Blue Dart in 1983, getting a telephone line took years; today you can get a phone and internet connection in 30 minutes, from home, from the road, from a ship. I feel

fortunate to have witnessed that entire revolution.

I am 73 now, but my day is still full. I work 16-18 hours, and I still send mail to my senior management team at two in the morning, just so they see it the moment they wake up. I am still learning, still meeting people, still a student. Nothing has really changed since 1976 when I first walked into a port or an airport. I wish I could do another 10 to 15 years of this.

What made you go from being an operator who built physical infrastructure to becoming a venture backer writing cheques for early-stage founders? What was the trigger for Fundalogical and Vanana Logistics? And when a supply chain founder pitches you today, what are you really testing for, beyond the numbers on the slide?

There are 15,000 companies actively doing freight forwarding and supply chain work in this country. How many have crossed a thousand or two thousand crore? You can count them on one hand. I started Blue Dart with two friends on ₹30,000, about \$1,100 at the time, and eventually sold it for \$280 million; the company is valued at roughly \$3.2 billion today. My simple belief is, if I could do it, why can't the next person? I have gone from customs broker to forwarder to courier company to cargo airline to airport operator, and travelled widely along the way. That kind of experience is worth passing on. Youngsters today have energy, ideas and understanding, but what they lack is the grey hair, the grey matter that only time gives you. A group of us,

Tushar Jani

(born 29 April 1953) is an Indian entrepreneur, investor and philanthropist best known as the co-founder and former chairman of Blue Dart Express, India's premier domestic and international courier company. A science graduate from Mumbai University, he joined his family's clearing and freight-forwarding business, SCA Logistics, as a management trainee in 1975 before pioneering small-parcel air cargo operations in 1979. In 1983, together with Khushroo Dubash and Clyde Cooper, he launched Blue Dart Express, later establishing Blue Dart Aviation, India's first private air-cargo carrier. Jani also founded the Express Industry Council of India and has held leadership roles in industry bodies such as the Confederation of Indian Industry (CII) and the Association of Multimodal Transport Operators of India (AMTOI). Today he chairs the Cargo Service Center (CSC) Group and SCA Group, while supporting social initiatives including tuberculosis research and disaster-relief programmes.

including Krishna Kotak, Suresh Parekh, Khalid Dhoraji and Manish Kheraawala, felt the same way: we wanted to give something back. Setting it up as a fund gave it structure, a proper platform, and real accountability for responsible investing. I have now met more than 150 companies, and my first question to every one of them is simple: why do you need money?

BLUE DART

Started with two friends and

₹30,000

\$1,000 at the time



sold for

\$280 M

Company valued at

\$3.2 B

today



A MID-SIZED INDIAN LOGISTICS COMPANY SHOULD THANK THE US PRESIDENT. THIS IS THE BIGGEST OPPORTUNITY THEY HAVE HAD. THERE IS NO MORE “GLOBAL VILLAGE,” THERE IS A GLOBAL PATCHWORK OF CORRIDORS. PICK YOUR COUNTRY, PICK THE CORRIDOR IT DOES BUSINESS WITH, AND PUT YOUR TIME, ENERGY AND MONEY INTO MASTERING THAT CORRIDOR RATHER THAN TRYING TO BE EVERYWHERE.



Selling equity is like selling a piece of yourself, so are you sure you're ready? I spend hours understanding their model and giving them my thinking, and in that process I learn too. This is less about writing cheques and more about giving back to an industry that made me who I am. There should not be only one **Shreyas Shetty**, one **Krishna Kotak**, one **Tushar Jani**. There should be a thousand of them. And frankly, it is easier to be an

entrepreneur in our industry than in most others. What people need is not just capital, but ideas, support and someone to brainstorm with.

What is your appetite going forward? Which sub-sectors of logistics and supply chain are you actively hunting in for the next Fundalogical bet? Cold chain, EV, last mile, port technology, warehousing automation, or something else entirely?

Let me give you a recent example. We invested in a company that collects used cooking oil from restaurants, filters it, and sells it to a biofuel company. It operates across 11 cities, collecting around 500 kilos a day against a market of roughly 80,000 kilos a day. You might ask where the logistics are in that. It is everywhere: building collection hubs, running what is effectively a reverse milk-run model, similar in spirit to Amul but working backwards. Oil is tested the moment it arrives, batched, and moved out within five hours. Nobody would have called used cooking oil a supply chain opportunity, but it is exactly the kind of first-generation entrepreneur story I want to back, rather than someone who simply inherited a family business.

We have also backed a cold chain company where a young couple identified more than 400 facilities across India, including large FMCG players, running at only 80 percent utilisation. They take the unused capacity, monetise it through revenue share, and run a completely asset-light model. Another portfolio company 3D-prints machine parts designed in the US and Europe and ships them

worldwide; their real challenge was never manufacturing, it was supply chain, getting parts made, stored and delivered on time. These are metallurgical engineers who knew nothing about logistics when they started. That is exactly the kind of unique, non-routine operation Fundalogical looks for.

Geopolitics, the Red Sea disruptions, tariff wars, has moved from background noise to the boardroom agenda. How should a mid-sized Indian logistics company build resilience into its network design today?

A mid-sized Indian logistics company should thank the US President. This is the biggest opportunity they have had. There is no more “global village,” there is a global patchwork of corridors. Pick your country, pick the corridor it does business with, and put your time, energy and money into mastering that corridor rather than trying to be everywhere. If the current polarisation continues, and it looks like it will, large integrated global players may struggle to survive in their current form. Look at the FTAs India has signed, with New Zealand, Australia, the EU, the UK. Each one implies a corridor with its own specialisation. That is where mid-sized players should build depth rather than breadth. If you have three sons, send one to build one corridor, another to build a second, and develop that traffic deliberately.

The old model of global scale, the kind that made Agility's acquisition of Ecu Worldwide look brilliant, was the right move for its era under an entrepreneur I consider one of the smartest our industry has produced. But the question

today is whether that model still works. I genuinely believe it does not, and I tell friends, somewhat provocatively, that if they are holding shares in a large integrated logistics company, they may be better off holding gold instead.

Which part of the value chain, ports, air cargo, road, rail, warehousing, cold chain, do you think is most under-invested relative to the opportunity in front of it? If you started today with no legacy to protect, where would you build?

Opportunity exists across every vertical, some capital intensive, some less so. Take gas: as the world moves away from oil during this energy crisis, gas distribution, through pipes, cylinders, and in liquid form, is going to need real infrastructure. Take pharma: walk into any chemist and you will get an automatic 10 percent discount on MRP, something almost no other retail category offers without asking. That discount exists because the leakage in the domestic pharma supply chain runs close to 45-50 percent, largely because, unlike pharma exports, domestic pharma distribution in India is barely temperature-controlled. Then look at consumer durables. Roughly eight million television sets are sold in a city like Mumbai in a month. Most buyers never use half the features on their smart TV because nobody teaches them how. If a company charged even a thousand rupees more per television and sent someone to spend two hours setting up and training the family on the product, most customers would happily pay for it, and at even a modest market share,

the economics work. The same logic applies to microwaves, refrigerators, washing machines. This is not just about moving a box, it is a much larger definition of supply chain and after-sales value than most players in the industry currently see.

Apple, semiconductors, defence, EVs are reshaping cargo flows, and you have flagged cold chain, medical equipment and specialty chemicals as areas where India is quietly becoming a global hub. Which of these clusters do logistics players underestimate, and what has to happen in the next five years for India to actually own that position rather than just supply into someone else's chain?

China's technology has moved so far up the value chain that it no longer wants to manufacture mundane, lower-margin products, a flask, a pen, or even certain categories of mobiles.

That manufacturing is going to shift to India. That is exactly why being a corridor expert matters, because India offers both a large domestic market and improving manufacturing capability. That is why Apple is here, and why Samsung now makes 60 percent of its global phone volumes in India. That is the opportunity, across both cross-border and domestic logistics: build the best delivery system, the best product, and become a genuine partner to your customer from the factory floor to the end consumer, not merely a pickup-and-delivery vendor. As I said earlier about televisions, logistics companies can go a step further than delivery and actively help customers use what they bought.

Whichever sector you choose in this environment, there is money to be made. The Prime Minister has called this the golden age, the swarnakal, of the logistics industry, and I agree.

Multi-modal logistics parks, dedicated freight corridors, GIFT City, maritime clusters, India has built a lot of physical and financial infrastructure. What is the single biggest white space opportunity for a startup to build on top of this new base?

Interfacing between modes is still a real challenge in this country, and any young entrepreneur solving that technological interface problem is solving something valuable. Multi-modal is genuinely the name of the game: inland waterways, rail, road corridors are all coming together. Consider that moving cargo from Srinagar to Rameswaram by truck costs around seven rupees a kilo and takes four days. Convert that into dollars, it works out to six or seven cents per kilometre, a cost structure you will not find almost anywhere else in the world. That cost advantage is India's real power, and it will only be unlocked further as Gati Shakti and multi-modal parks mature and infrastructure outside ports, airports and stations catches up with what has been built inside them.

From the investor's chair rather than the operator's chair, what does the government need to do differently on tax treatment, regulation, clarity and ease of exit to get risk capital flowing into logistics startups?

Ease of doing business needs



INTERFACING BETWEEN MODES IS STILL A REAL CHALLENGE IN THIS COUNTRY, AND ANY YOUNG ENTREPRENEUR SOLVING THAT TECHNOLOGICAL INTERFACE PROBLEM IS SOLVING SOMETHING VALUABLE. MULTI-MODAL IS GENUINELY THE NAME OF THE GAME



work; on a scale of ten, I would put us at around five. Many processes are still outdated. Capital availability is a bigger issue than people realise: India does not have significant container shipping capacity of its own, no national wide-body cargo airline, and a fairly small owned shipping tonnage relative to a global fleet running into the tens of thousands of vessels. GIFT City is a good example of an underused opportunity. It is a virtual platform, you can bank through it from anywhere in the country, yet very few people in logistics understand that you can register assets there and lease them back to your own operating company, the same sell-and-lease-back structure that made IndiGo's aircraft model work. That should not be limited to ships and aircraft; it should

extend to trucks and other logistics assets too, lightening balance sheets and insulating companies from currency swings. The government has not marketed or propagated this model well enough, and frankly it is not always clear within the government who owns driving that adoption.

If you had the Finance Minister and Commerce Minister in a room for 15 minutes, what would you ask on behalf of the Indian logistics ecosystem?

I would want a transport ministry treated as one unified function for logistics, even if shipping, railways and roads remain organisationally separate for broader mobility purposes. I would ask the Finance Minister why a passenger clears immigration, collects luggage and gets home within two hours, while cargo arriving on the same flight can sit at the airport for four to six hours. I would ask the Commerce Minister why, despite having signed several strong FTAs, it can still take six months to open a foreign bank account for an Indian company trying to set up a branch abroad. And I would ask the Transport Minister to resolve a basic multi-modal liability question: when a container moves from factory to rail yard by truck, then by rail, then back onto a truck, then onto a ship, whose liability regime actually governs that journey?

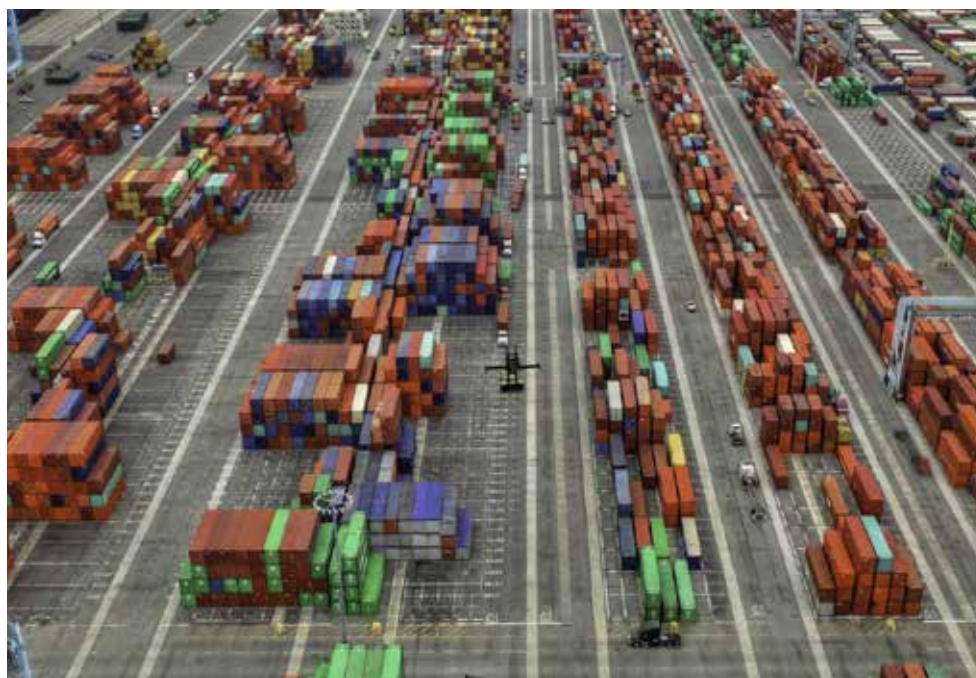
These are not abstract questions; they need practitioners in the room, not bureaucrats and ministers trying to solve problems they have not lived through. To be fair, engagement with industry delegations has improved significantly compared to earlier years, and I recognise the government operates on a

much larger canvas, in service of the citizen, with a different lens than a businessman's. I raised the idea of a unified logistics board, secretaries from railways, shipping, road and aviation, commerce and customs, headed by the Cabinet Secretary, with sector practitioners invited to the table, back in 1996. It exists in some form now. What it needs is the authority to decide on the spot and execute immediately.

What is the most common mistake young logistics entrepreneurs make when they pitch to you? How would you translate Fred Smith's comment into advice for today's tech-first founders who sometimes build the platform before proving the groundwork?

Youngsters are in a hurry, which is not necessarily wrong, and they carry a lot of self-belief, which can cut both ways. Where they fall short is being reluctant to take experienced people's input. If they let people like us, call us dinosaurs, sit at the table, it helps, because we have already walked that road. There is no harm in listening, even if you are smarter than we are. When their smartness and our wisdom come together, that is when real progress happens. I have even suggested to the government that if a company generates significant profit and takes on an obligation to mentor a set number of dependent entrepreneurs, it should earn a small tax benefit in return, not as charity, but as a structured obligation.

India's logistics sector is at an inflection point, infrastructure catching up, capital flowing, policy aligning. If you had to place one bet on



what the Indian logistics landscape looks like in 2035, what would you say?

I would break that further down to 2030 first, because that is really the beginning of a new era, and by 2040 India will look unrecognisable compared to today. If you are a young entrepreneur, you should be preparing now to be running by 2030: 141 new airports are planned, with around 100 expected to be operational by then; the Vande Bharat trains already compare favourably with European and American rail, and port capacity will reach meaningful scale. The real opportunity lies in the infrastructure that has to grow around these assets, outside the ports, airports and stations themselves.

The bigger shift, though, is that every entrepreneur, investor and business owner in this space will need to think less transactionally and more strategically, and

that means becoming a data scientist as much as a logistics operator. The way every company today needs a finance function and an accountant, it will soon need a data scientist just as fundamentally. Predictive science is where cargo handling is headed. I sometimes tell people that every logistician of the future has to become something of an astrologist too, someone who can genuinely predict what is coming.

Blue Dart made you a builder. Fundalogical is making you a backer. Twenty years from now, how do you want this second chapter of your career to be remembered?

With Blue Dart, I was fortunate to build something known for quality, service and a strong name. Before I hang up my uniform, what I want most is to look back and know I helped five entrepreneurs build their own version of Blue Dart. That is really why Fundalogical exists,



THERE SHOULD NOT BE ONLY ONE SHREYAS SHETTY, ONE KRISHNA KOTAK, ONE TUSHAR JANI. THERE SHOULD BE A THOUSAND OF THEM.



so that years from now, I can point to a handful of people I backed and say, they built it themselves. 

JEBEL ALI LAND BRIDGE

As Iran's grip on the strait chokes container traffic, DP World reroutes Gulf cargo through Oman by road and stakes its future on new terminals that bypass Hormuz altogether.

Container traffic through the Strait of Hormuz has all but collapsed since Iran effectively shut the waterway in late February following the US-Israel war on Iran, and the numbers show just how severe the squeeze has become.

IMF PortWatch data for the week ending August 2 recorded an average of only about four ships a day passing through the strait, against roughly 90 a day in the same week of 2025. Daily container movements at Jebel Ali, the Gulf's largest transshipment hub, fell from about 40,000 to around 1,000 at the height of the disruption in the spring, according to reporting citing DP World and industry data.

How Is Jebel Ali Keeping Cargo Moving?

Dubai has responded by building a land bridge around the strait rather than through it. Containers originally bound for Jebel Ali are increasingly discharged at Omani ports on the safe side of Hormuz, principally Sohar, with Salalah and Duqm playing supporting roles, then cleared and trucked into Dubai under bond. The land leg crosses the border at Hatta on the UAE side and Al Wajajah in Oman. Forwarders report a rapid shift of Jebel Ali-bound volume onto this route since it opened, with Sohar alone seeing vessel calls rise by about 40 per cent and handling capacity up 55 per cent since the war began, per Oman's transport ministry.

Why Is DP World Building Outside the Strait?

Beyond emergency rerouting, DP World is now investing in permanent capacity that bypasses Hormuz altogether. On July 22, the company reached an agreement in principle with the Fujairah Ports Authority for a 50-year concession on the UAE's Gulf of Oman coast to build two deepwater terminals: Al Rugaylat, for containers, vehicles and general cargo, and Dibba, for general cargo. Together they add close to 5.3 million tonnes of cargo capacity and lift DP World's total UAE container capacity from 19.4 million TEU to nearly 22 million TEU, entirely outside the strait. A separate Sharjah-Oman road and rail corridor launched earlier this year offers a further bypass option.

The Bigger Bet: Pipelines, LNG and Rail Beyond the Terminals

The container story sits on top of a much larger energy story. The Abu Dhabi Crude Oil Pipeline, in operation since 2012, already moves 1.5 to 1.8 million barrels a day from onshore fields to Fujairah, bypassing Hormuz entirely. Reporting on the UAE's expansion plans describes a new West-East pipeline intended to double that export capacity by 2027, eventually moving up

to 3.6 million barrels a day to the same coastline, alongside a planned Fujairah LNG facility with capacity of up to 9.6 million tonnes a year — more than double the emirate's current LNG handling capacity.

Saudi Arabia is pursuing the same logic at greater scale: its existing East-West pipeline, which can move roughly 7 million barrels a day from the Eastern Province to the Red Sea port of Yanbu, is reportedly being expanded further, while Riyadh has also built out Red Sea container capacity at Jeddah and King Abdullah Port. Between them, oil flows through the strait are estimated to have fallen from around 21.6 million barrels a day before the crisis to about 4.9 million barrels a day by mid-2026 — a decline the new pipeline and terminal investment is explicitly designed to make permanent rather than temporary.

How Much Spare Capacity Does the Gulf Actually Have?

The Persian Gulf's container trade is small next to its energy trade — UAE, Saudi, Kuwaiti, Qatari and Bahraini terminals handle a combined 33 million TEU a year, only about 3.5 per cent of global port throughput — but Hormuz is the only maritime



DAILY CONTAINER MOVEMENTS AT JEBEL ALI, THE GULF'S LARGEST TRANSSHIPMENT HUB, FELL FROM ABOUT 40,000 TO AROUND 1,000 AT THE HEIGHT OF THE DISRUPTION IN THE SPRING

-DP WORLD AND INDUSTRY DATA

gateway for entire economies, including Qatar, Kuwait, Bahrain and Iraq, which cannot simply reroute the way transshipment cargo can. Analysts at Drewry have identified more than 20 million TEU of spare annual capacity across the Gulf's principal bypass ports, but the figure comes with heavy caveats: Khorfakkan, about 130km from Dubai on a dual carriageway, offers the most usable capacity; Sohar, roughly 230km from Dubai and 280km from Abu Dhabi with its new green corridor, is a reasonable second; Salalah has around 3 million TEU of latent capacity but sits some 1,700km from Dubai across open desert with no rail connection, pushing trucking costs to \$3,000–\$5,000 a container against \$200–\$400 for a domestic Jebel Ali move. Industry outlooks describe a

New Fujairah Terminals at a Glance

Terminal	Cargo focus	Notes
Al Rugaylat	Containers, vehicles, general cargo	Deepwater terminal, Gulf of Oman coast
Dibba	General cargo	Deepwater terminal, Gulf of Oman coast



THE MORE IRAN USES THE STRAIT AS A PRESSURE TOOL, THE GREATER THE INCENTIVE FOR GULF NEIGHBOURS TO BUILD AROUND IT, WHILE TEHRAN'S OWN TRADE OPTIONS NARROW TOWARDS GREATER DEPENDENCE ON CHINA.

-MIDDLE EAST COUNCIL ON GLOBAL AFFAIRS

is one piece of a Gulf-wide shift toward inland multimodal networks that predates this crisis but has accelerated sharply because of it. Saudi Arabia has expanded Red Sea capacity at Jeddah and King Abdullah Port and launched a roughly 1,700km rail freight corridor linking its Eastern Province terminals at Dammam and Jubail to the Al-Haditha border crossing with Jordan, giving Gulf cargo a second overland exit that avoids Hormuz altogether.

Oman functions as the Gulf's second pillar, with Salalah and Sohar absorbing volume that once went straight into upper-Gulf terminals. Ocean carriers have followed with branded emergency products: Maersk's landside bridge network, for instance, moves export cargo from Dammam, Jubail, Bahrain and Kuwait via Jeddah, and from Iraq via Aqaba, while running import distribution the other way. The carrier's own advisories underline how fluid this remains — it has at various points paused landside bookings on specific corridors, including cargo bound for the UAE and Qatar via Jed-

Six Months of the Hormuz Standoff: Key Numbers

Metric	Before the standoff	Now (early August)
Daily vessel transits through the Strait of Hormuz	~90/day (2025)	~4/day (week of Aug 2)
Daily container throughput, Jebel Ali	~40,000	~1,000 (spring low)
Sohar port vessel calls	Baseline	Up ~40% since the war began
Sohar handling capacity	Baseline	Up ~55% since the war began
Freight rate, Shenzhen-Jebel Ali (40ft container)	July rate	\$8,250-\$9,500 (+35-55%)
DP World total UAE container capacity	19.4 million TEU	~22 million TEU (pending)

Sources: IMF PortWatch; DP World; Oman Ministry of Transport, Communications and Information Technology; Middle East Council on Global Affairs; industry and freight-market reporting.

three-stage adjustment: severe disruption in the first six months, with UAE east-coast ports able to absorb only 60-70 per cent of local consumer import demand while Qatar, Bahrain, Kuwait and Iraq face acute shortages; a six-to-24-month window in which emergency infrastructure becomes deliverable but logistics costs across the Gulf run three to five times normal; and, beyond two years, the point at which rail networks and new container hubs stop being contingency measures and become economic necessities.

The Wider Landbridge Race

Dubai's road bridge to Oman

Six-Plus Months of the Hormuz Standoff: Key Numbers

Metric	Before / earlier	Now (Sept 6, 2026)
Daily vessel transits, Strait of Hormuz	~85–90/day (2025 baseline)	~6/day (Aug 30) — 7% of normal
Daily container throughput, Jebel Ali	~40,000	~1,000 at spring low
Oil flow through the strait	~21.6 million bpd	~4.9 million bpd, mid-2026
Brent crude	~\$72/barrel (pre-crisis)	\$96.28/barrel (+34%)
War-risk insurance on Gulf transits	Normal rates	~40× normal; ~\$10M premium per VLCC crossing
Vessels stranded / holding position	—	306
Sohar port vessel calls	Baseline	Up ~40% since the war-bega
Freight rate, Shenzhen–Jebel Ali (40ft)	July rate	\$8,250–\$9,500 (+35–55%)
DP World total UAE container capacity	19.4 million TEU	~22 million TEU (Fujairah, pending)
Odds of reopening by Dec 31, 2026 (prediction markets)		~26%

China's Iranian Crude Imports Since the War Began

Period	Chinese imports of Iranian crude	vs. pre-war / peak
Feb 2026 (pre-blockade)	~2.16 million bpd	baseline
June 2026	~654,000 bpd	~70% vs Feb
Jul–Aug 2026 average	~530,000 bpd	~48% vs pre-war; ~72% vs Oct 2024 peak (1.9M bpd)

dah, citing security conditions, on top of emergency ocean freight surcharges of \$1,800 to \$3,800 a container and storage charges of \$25 per TEU per day for cargo held up in transit. Control over contracted capacity on these routes has become, as one industry analysis put it, a priced strategic asset: shippers who locked in landbridge capacity early are absorbing the disruption; those who didn't are facing idle inventory, emergency airfreight bills, or factories waiting on parts.

Containers Are Moving Again, But the Trade Map Has Shifted

Commercial transits through

Hormuz have picked up from their July nadir — 877 vessels have transited since June 18, according to tracking cited by United Against Nuclear Iran — but analysts caution this reflects rerouted, not restored, trade, and it has not come cheaply. Iran has reportedly imposed a toll regime on vessels attempting the crossing of \$1.5 million to \$2 million each, on top of war-risk insurance running at roughly 40 times normal rates and an estimated \$10 million premium on a single VLCC transit. Freight rates on the Shenzhen–Jebel Ali corridor were quoted at \$8,250 to \$9,500 per 40-foot container in early August, up 35 to 55 per

cent on July, layered with war risk, emergency conflict and fuel surcharges. As of September 6, some 306 vessels remain stranded holding position rather than risk the transit, and prediction markets tracking the standoff put the odds of a reopening by the end of 2026 at only around 26 per cent, rising to just over half by mid-2027. The deeper shift, in other words, is structural: Saudi Arabia is leaning harder on its pipeline and Red Sea ports, Oman is expanding Duqm and Salalah, and the UAE is building permanent Gulf of Oman infrastructure — moves regional analysts describe as reducing Gulf reliance on Hormuz for good, whenever it does reopen.

Iran's Ledger: Who Actually Pays for a Closed Strait?

Iran, meanwhile, has gained little from the closure beyond short-term leverage, and by some measures is absorbing the heaviest cost of its own blockade. The IMF projects Iran's economy will contract by 6.1 per cent this year, with inflation near 69 per cent and the parallel-market trading at roughly 42 times the official exchange rate.

China now takes more than 80 per cent of Iran's seaborne oil exports, but Iranian crude is only about 12 per cent of China's own oil imports, making Tehran the more dependent partner by far — and Chinese demand has proved volatile, with imports of Iranian crude falling from about 2.16 million barrels a day in February to roughly 654,000 by June, and averaging only around 530,000 barrels a day in July and August, down 48 per cent from pre-war levels and 72 per cent from the October 2024 peak. Some of that gap shifted briefly to the Red Sea route via Bab al-Mandeb and Suez, which spiked to 2.62 million barrels a day in April before falling back to roughly 1 million barrels a day by August. The UAE, Iran's



IN A REGION WHERE WE CANNOT SELL OIL, NO ONE WILL SELL OIL.

- MOHAMMAD-BAGHER GHALIBAF, SPEAKER OF IRAN'S PARLIAMENT



second-largest trading partner at roughly \$27 billion in annual bilateral trade, has also cooled: Iranian strikes on Gulf energy infrastructure, including Qatari LNG facilities, Saudi refineries and UAE installations, are reported to have “broken trust” with neighbours who otherwise maintain official neutrality.

The Middle East Council on Global Affairs, in an assessment published this summer, sketches three paths from here — a fragile “conditional engagement” in which disruption persists without full collapse (its most likely scenario), a mediated re-engagement with Gulf neighbours brokered by Oman, Qatar or Pakistan, or deepening dependence on China and Eurasian trade routes — and concludes that none of them resolve Iran's underlying structural problems: weak productivity, IRGC dominance crowding out private enterprise, water and power shortages, and a domestic gasoline shortage now running at some 30 million litres a day. 

THE CHOREOGRAPHY BEHIND THE TEN-MINUTE DELIVERY

Edgistify founder Umang Shukla tells **Kalpana Pandey** how packed neighbourhoods, disciplined dark-store operations and years of grocery-supply experience are turning quick commerce into India's next big retail battleground

In 2010, three teenagers grinding through engineering entrance coaching in Kota had no way of knowing they were also preparing for a very different kind of exam — one that India's crowded cities would set nearly a decade later, measured in ten-minute delivery windows and dark-store shelf counts. **Umang Shukla, Antim Suman** and **Kamal Kishore Kumawat's** friendship, built over years of coaching classes and shared school ties, eventually became Edgistify, the fulfilment company the trio formally incorporated in May 2017 as OptiSupply Chain Solution. Their backgrounds — a mix of college entrepreneurship and engineering discipline — pushed them toward supply chain rather than the consumer apps most of their peers were chasing, and that choice has aged well as quick commerce has turned fulfilment into the industry's central battle.

A Country Built For Ten-Minute Delivery

Ask Shukla why quick commerce has taken off in India the way it has, and he does not start with venture capital or app design. "Population density is the main cause," he says — the smaller the delivery radius and the greater the local volume packed into it, the better the unit economics work out. Indian residential societies routinely house five to ten thousand people within a few hundred metres of each other, which shrinks last-mile distances in a way few other markets can match. Layer on top of that the steady migration of workers into metros and larger Tier-2 and Tier-3 cities, which keeps a concentrated, scalable pool of riders and pickers available, and a third factor: consumption in smaller cities is growing fast enough that most quick-commerce players are now expanding well beyond the metros they started in. India's e-commerce penetration also remains uneven across geographies, Shukla points out, which is precisely why the market has room for several quick-commerce

players to grow rather than consolidating around one.

Not E-Commerce's Rival — The Kirana Store's

The more interesting claim Shukla makes is about who quick commerce is actually competing with. Not Amazon or Flipkart, in his telling, but the mom-and-pop store on the corner. "It is primarily competing with local general stores for urgent, convenience purchases," he says, which changes what it takes to win: the right assortment for a specific locality, tight coordination between inventory and replenishment, and operational execution sharpened by data and automation. He expects the market to settle with multiple winners — somewhere between two and four large players — rather than a single monopoly, because scale alone does not guarantee survival; execution does. Platforms that came up through grocery, such as Grofers before it became Blinkit, carry an advantage here, having had more time to learn assortment and supply-chain nuances that newer entrants are still working out. That said, Shukla is candid about the risk of overbuilding: an unchecked expansion of dark-store networks could saddle some players with unsustainable burn. But he does not think the opportunity is exhausted — demand in Tier-2 and Tier-3 India, he says, still leaves "meat in the market," provided operators focus on unit economics and dark-store utilisation rather than footprint for its own sake.

The Economics Of A Dark Store

Shukla is unusually willing to talk numbers, and they explain a lot about why this business is so hard to get right. A typical dark store runs 2,000 to 2,500 square feet, handling around 1,500 orders a day, with monthly rent in the region of INR 150,000 — which works out to a rental component of roughly INR three to four per order. That is the easy part. Overall last-mile logistics cost, once wages, city-specific factors and other overheads are

Edgistify At A Glance

Founded: 2017, by Umang

Shukla, Antim Suman and Kamal Kishore Kumawat

Legal entity: OptiSupply Chain Solution, incorporated May 16, 2017

What it does: Technology-

led warehousing, dark-store operations, inventory management, order processing, transportation and last-mile delivery

Clients: 70+ brands across e-commerce and quick commerce

Notable engagements: Flipkart Quick; grocery/quick-commerce projects from the Grofers-Blinkit era; Fresco/Frazo; ongoing discussions with curated platforms such as First Club

Funding: Approximately \$3 million in cumulative funding (estimate, as reporting varies), including a \$1.4 million Pre-Series A round in January 2026 co-led by NB Ventures and Rajesh Ranavat

Key investors: NB Ventures, Sterling Auxiliaries, LetsVenture, PitchRight Ventures, Rajesh Ranavat, Azeem Zainulbhai and other angel investors

Stage: Pre-Series A / growth stage

Use of latest funds: Customer acquisition, AI-led fulfilment through its EdgeOS platform, and expansion into Tier-II and Tier-III markets

added in, runs anywhere from INR 55 to 80 per order. Most of the blue-collar workforce behind these numbers — pickers in the dark stores, riders on the road — are not employees of the quick-commerce platforms at all, Shukla notes, but are sourced through manpower and payroll service providers, with platforms blending their own in-house riders with third-party capacity to scale up or down as demand shifts.

From Mother Hub To Your Doorstep

Behind every ten-minute delivery sits a two-layer supply chain that most customers never think about. The first layer belongs to the brand: manufacturers and their third-party logistics operators move stock into city or regional “mother hubs.” The second layer belongs to the marketplace — quick-commerce platforms run milk-run routes from those mother hubs to replenish individual dark stores, which then handle the final ten-minute leg to the customer. Platforms manage this by issuing purchase orders to brands or their 3PL partners in deliberately constrained quantities, balancing limited warehouse space against the breadth of assortment they want to offer. That assortment itself is tailored hyper-locally — a dark store in South Mumbai might stock niche, premium SKUs that would make no sense in a Tier-2 city, and vice versa. Almost all of this replenishment movement happens overnight or in the early hours of the morning, deliberately timed to avoid city traffic and to leave dark stores fully stocked before the day’s order volumes begin.

“It’s A Choreography”

It is at the dark-store level that Shukla’s operational obsession is most visible.



Behind every ten-minute delivery sits a two-layer supply chain that most customers never think about. The first layer belongs to the brand: manufacturers and their third-party logistics operators move stock into city or regional “mother hubs.”

—Umang Shukla
Co-founder and CEO
Edgify

These are small but tightly systematised spaces — barcoded slots, SKU-to-address mapping, handheld picklists, and workers specialised into distinct roles as pickers and packers. The target is to complete picking and packing within two to three minutes of an order coming in, leaving the rider

roughly ten minutes to complete delivery within the platform’s overall ten-to-fifteen-minute promise. None of this happens by accident: through the night, while the store is closed to orders, teams run cycle counts, reconcile inventory, and audit shelves so that the next morning’s fulfilment starts from an accurate base. Shelving is arranged scientifically — rows, racks and shelves barcoded for speed — so that picking stays fast and predictable no matter who is on shift. “It’s a choreography,” Shukla says of the whole operation — standard operating procedures, role specialisation, technology and disciplined cycle counts, all timed against each other to produce a consistent ten-minute outcome, order after order.

Edgify’s Dual Role

Edgify has built its business straddling both halves of that chain — helping brands fulfil quick-commerce hubs on the backend, and operating or optimising dark-store execution and last-mile delivery on the front end. The company’s client list traces the industry’s own history: early engagements from the Grofers-to-Blinkit era, work with Flipkart Quick, and past operations for Fresco and Frazo, alongside ongoing conversations with newer, curated platforms such as First Club. In practice, that means helping brands with purchase-order fulfilment, inventory planning and city-level assortment mapping, while supplying the on-ground execution capability — largely through service providers — to make those plans work in the last mile.

Today, Edgify counts more than 70 brands as clients, spanning warehousing, replenishment, transportation and last-mile delivery under one roof. That track record helped Edgify close a \$1.4 million Pre-Series A round in January 2026, co-led by NB Ventures and Rajesh Ranavat, with participation from investors including **Prateek Maheshwari, Vivek Gaur** and **Vikram Tandon**.

The company says the capital will go toward customer acquisition, building out AI-led fulfilment capabilities through its EdgeOS platform, and pushing further into Tier-II and Tier-III markets — the same smaller cities Shukla points to as quick commerce’s next growth frontier. With India’s grocery consumption alone estimated at well over \$100 billion, and much of the country still under-served by organised retail, Shukla’s bet is straightforward: the platforms that master the choreography — not just the ones that raise the most capital — will be the ones still standing when the market settles. 



MACHILIPATNAM RISING

Andhra Pradesh’s greenfield deep-sea port at Manginapudi is racing towards a December 2026 finish line, aiming to open a new maritime gateway for Amaravati and the Krishna–Godavari industrial belt.

Centuries ago, the ancient port of Gilakaladindi anchored trade routes linking this stretch of India’s east coast to Southeast Asia and Europe under the Golconda dynasty. Known later as Masulipatnam, and still later simply as Bandar, the town hosted Dutch, French, Portuguese and British trading posts through the sixteenth to eighteenth centuries before shallow drafts, unprotected anchorage and the shift to larger iron-hulled vessels pushed shipping traffic away — first to Madras, then into memory. Nearly two centuries on, a modern greenfield facility is rising a few kilometres from that

old anchorage, and this time the construction data suggests it is finally within reach.

The Machilipatnam Greenfield Port at Manginapudi, in Krishna district, is one of three state-led ports — alongside Ramayapatnam and Mulapeta — that Andhra Pradesh is pushing to commission by December 2026, as part of a broader maritime grid strategy aimed at lifting the state’s share of India’s port cargo and easing the load on Visakhapatnam, the state’s dominant gateway for decades. Sitting on a 1,053-km coastline, the third-longest of any Indian state after Gujarat and Tamil Nadu, Andhra Pradesh has long had more coast than

commercial outlets to show for it. Machilipatnam is designed to change that calculus for the central Krishna–Godavari belt, and to do so within sight of the new capital coming up.

Where things stand

Planning for the port rested on two technical partners: RITES Ltd, which prepared and vetted the Detailed Project Report, and the Netherlands’ Royal Haskoning, which handled design and engineering studies for the port’s layout and structures.

Megha Engineering and Infrastructure Ltd (MEIL) is the EPC contractor executing the build, working under the Machilipatnam Port Development Corporation Ltd, the special purpose vehicle set up in 2020 to steer the project after more than a decade of false starts dating back to 2007 under earlier developers, including an initial attempt involving Navayuga Engineering Company.

By early July 2026, the project had crossed roughly 59 percent overall physical progress, with completion targeted for December 2026 — though officials caution that mechanisation and commissioning work will take roughly another year, meaning the port is unlikely to receive its first commercial vessel before late 2027.



MACHILIPATNAM WOULD EMERGE AS A MAJOR GATEWAY TO THE DEVELOPMENT OF AMARAVATI AND WITNESS RAPID INDUSTRIAL GROWTH WITH THE COMPLETION OF THE MACHILIPATNAM PORT.

KOLLU RAVINDRA,
ANDHRA PRADESH
MINISTER, MINES &
GEOLOGY AND EXCISE



Breakwaters, dredging and foundations: the build in numbers

The marine protection works are close to done. The 250-metre northern breakwater, complete with its stone armour layer, has been fully built. The much longer southern breakwater — 2.075 km long and packed

PORT AT A GLANCE

Metric	Detail
Location	Manginapudi coast, Krishna district, Andhra Pradesh (16.170000° N, 81.129997° E)
Phase-I capacity	35.12 MMTPA across 4 berths
Master-planned ultimate capacity	~116 MMTPA (up to 16 berths)
Total project cost	₹11,464 crore
Phase-I cost	₹5,156 crore
Approach channel	16.75 km, 12.8 m depth, 450 m turning circle
Design vessel size	Up to 80,000 DWT
Land footprint (initial phase)	~2,000 acres
Physical progress	~59% (as of July 2026)
Technical partners	RITES Ltd (DPR); Royal Haskoning, Netherlands (design & engineering)
EPC contractor	Megha Engineering and Infrastructure Ltd (MEIL)
Target commissioning	December 2026 (construction); commercial operations expected ~end-2027

Machilipatnam Port — key project metrics



CONSTRUCTION PROGRESS BY COMPONENT

Construction component	Status
Northern breakwater (250 m)	100% complete
Southern breakwater (2.075 km, ~9 lakh tonnes rock)	~95% complete
Dredging (24 million cu. m planned)	~65% complete
Piling & pile caps, all 4 Phase-I berths	Complete; beam casting and deck work under way
Soil replacement	~60 lakh cu. m completed
Vertical drainage	1.8+ crore metres installed

Construction progress by component

with close to 9 lakh metric tonnes of rock — is about 95 percent finished, with tetrapod placement and crest-wall construction continuing.

Dredging, arguably the most technically demanding part of the build, is roughly 65 percent complete against a planned 24 million cubic metres. Hopper dredgers are cutting the 16.75-

km approach channel, deep enough and wide enough — with its 450-metre turning circle — for incoming vessels to manoeuvre safely.

Underneath the berths, pile driving and pile-cap work are finished across all four berths planned for the initial phase, and crews have moved on to beam casting, precast deck-panel installation and in-situ

slab work. Engineers have replaced roughly 60 lakh cubic metres of sand and soil with a sturdier mix of gravel, mud, stone and sand, anchored by 10 lakh metric tonnes of rock and cement for long-term durability.

Around 65,000 cubic metres of tetrapods are being positioned along the port's edges to manage wave energy, while a concrete diaphragm wall using 65,000 metric tonnes of material forms a watertight barrier beneath the seabed, reinforced with a further two lakh cubic metres of reinforced concrete.

Separately, more than 1.8 crore metres of vertical drainage material, laid in 20-metre lengths, is stabilising soil in areas with poor natural drainage.

Of the four berths under construction, one is earmarked exclusively for coal, with the remaining three built for multipurpose use, expected to handle containers, fertiliser,

granite, cement, edible oil and other bulk cargo.

A notable design choice — lagoon-style berthing suited to the region's flat coastal terrain — has already drawn interest from Odisha's port planners, who are reportedly studying whether a similar approach could work for their upcoming Suvarnarekha deep-water port.

A three-port push, and where Machilipatnam ranks

Machilipatnam's 35.12 MMTPA Phase-I capacity is the largest among the three new state-sector ports Andhra Pradesh is building simultaneously, ahead of Ramayapatnam and Mulapeta. Together, the three add 108.66 MMTPA of new greenfield capacity in their first phase, on top of the roughly 5 MMTPA already handled by the state-run Kakinada

Anchorage Port. Andhra Pradesh's Minister for Ports **B.C. Janardhan Reddy** has framed the state's approach as a mixed model — full state ownership at Machilipatnam and Mulapeta, and a public-private partnership at Ramayapatnam — arguing that “the PPP model, followed globally for infrastructure development, allows private firms to operate and maintain projects under strict contractual conditions while ownership of ports, land, coastal rights, tariffs, environmental regulations and policy decisions remains with the government.” Land acquisition for the next phase is already under way: roughly ₹347 crore has been sanctioned for Machilipatnam's Phase-II land, part of a broader ₹1,638.52 crore package covering all three greenfield ports.

The Amaravati connection

The port's value proposition leans heavily on geography. Machilipatnam sits close to two National Highways and within reach of the Vijayawada rail and road hub, putting it within relatively easy haulage distance of Amaravati, the upcoming state capital, and of agro-processing, fertiliser, chemical,

steel and construction-material industries scattered across the Krishna–Godavari belt. A ₹573.77-crore, six-lane external port connectivity road has been sanctioned to tie the port directly into this network, while APCRDA's master planning for Amaravati's surrounding villages — roads, drains, water supply, sewerage and utility corridors — is being aligned to support the logistics growth expected once cargo starts moving.

At the launch of a residential venture near Machilipatnam in late August 2026, Kollu Ravindra and Pedana MLA Kagitha Krishna Prasad pitched the port town's proximity to those highways as a key draw for investors, tying port-led industrialisation to a wave of real-estate interest already visible along the Vijayawada–Machilipatnam corridor.

That pattern is a familiar one around Indian port developments: industrial clusters typically form within a 50–100 km radius of a new port, logistics real estate (container freight stations, truck terminals, warehousing) builds up along the connecting highway corridors, and nearby towns see

urban expansion as workers and service providers relocate closer to the port and its associated industrial areas. For Amaravati, the port raises the prospect of a dual role — administrative capital on one hand, planning hub for logistics and industrial policy on the other — leveraging Machilipatnam's cargo-handling capacity as it scales up.

What could slow it down

The engineering data points to a project in its final, most visible stretch, but several factors will decide how quickly that translates into cargo actually moving through Machilipatnam. Any slippage beyond the construction target could delay the cargo-diversion and investment plans now being built around the port's opening. Road and rail links to the Vijayawada freight hub and onward to Amaravati need to keep pace with the marine works to avoid bottlenecks once berths go live — officials themselves note that mechanisation and commissioning typically add another year beyond civil completion, pushing realistic first-vessel timelines into late 2027.

Locking in long-term cargo contracts from core Krishna–Godavari industries will matter just as much as the physical infrastructure in determining whether Phase-I's 35.12 MMTPA capacity gets used anywhere close to design levels in its early years. And as a new deep-sea facility on an open coast, the port will need sustained attention to coastal-zone management and dredging maintenance to keep the approach channel navigable through monsoon seasons.

Outlook

Once operational, Machilipatnam is expected to serve as a cargo gateway not just



MACHILIPATNAM PORT IS REWRITING THE MARITIME STORY OF ANDHRA PRADESH. ONCE A HISTORIC TRADING GATEWAY KNOWN AS MASULIPATNAM AND BANDAR, THE COASTLINE IS NOW BEING TRANSFORMED INTO A MODERN DEEP-SEA PORT AT MANGINAPUDI.

MEIL GROUP,
EPC CONTRACTOR FOR
THE MACHILIPATNAM PORT
PROJECT



for coastal Andhra Pradesh but for Telangana, Chhattisgarh and parts of Madhya Pradesh and eastern Maharashtra — a considerably larger hinterland than its Krishna-district address might suggest. Read alongside Ramayapatnam, Mulapeta and the existing Kakinada Anchorage, it forms one leg of a coordinated state push backed by significant capital and land acquisition for future expansion. For shipping lines, terminal operators, logistics firms and investors watching the east coast, the project is less a standalone port than a bet that the Vijayawada–Amaravati–Machilipatnam triangle can become a distinct maritime-industrial axis in its own right — one that, if the December 2026 construction target holds and cargo commitments follow, could begin reshaping east-coast routing options within the next two to three years.

ANDHRA PRADESH'S NEW GREENFIELD PORTS COMPARED

Port	Phase-I capacity	Notes
Machilipatnam	35.12 MMTPA	4 berths; largest of the three new ports
Ramayapatnam	34.04 MMTPA	Built under a PPP structure; government retains 12% non-dilutable equity, ₹1,500 crore upfront premium from the private operator
Mulapeta	23.50 MMTPA	Third of the trio targeted for December 2026
Kakinada Anchorage (existing)	~5 MMTPA	State-run, already operational
Combined new capacity (3 green-field ports)	108.66 MMTPA	

Note: coordinates for Machilipatnam Port — 16.170000° N, 81.129997° E

**Brijendra
Pratap Singh**
CMD of NALCO



WE DELIVERED STRUCTURAL GROWTH IN NET PROFIT ON THE STRENGTH OF HIGHER VOLUMES AND IMPROVED EFFICIENCIES. ALUMINA PRICE PRESSURE WAS A DRAG, BUT STRONG ALUMINIUM PRICES HELPED OFFSET IT — AND WITH OUR 5TH ALUMINA STREAM NOW COMMISSIONED, WE EXPECT THIS MOMENTUM TO CONTINUE ”

POWERING AHEAD

INSIDE NALCO'S RECORD YEAR AND THE ROAD TO POTTANGI

CMD Brijendra Pratap Singh on NALCO's highest-ever production year, the fifth stream alumina refinery, securing raw material through Pottangi, and why he wants aluminium declared a strategic sector for rail priority

NALCO has posted its highest-ever production and sales numbers across virtually every parameter in FY 2025-26. Four decades into the company's journey, what does this milestone mean to you personally, and what do you attribute it to beyond the favourable commodity cycle?

This milestone is personally very fulfilling and a matter of great pride for me. After four decades, NALCO achieving the highest-ever production and sales across virtually all parameters reflects the maturity and strength of the organisation. Beyond the favourable commodity cycle, I attribute this success to our sustained focus on operational excellence, improved techno-economic parameters, and the unwavering commitment of our employees and partners.

Record performance in bauxite, alumina, aluminium, and coal production, along with efficient CAPEX utilisation, has strengthened our integrated operations and long-term competitiveness. This is the outcome of years of collective effort and strategic initiatives.

Net profit for the first nine months of FY26 rose 26 percent to Rs 4,098 crore. How much of this growth is structural, driven by operational improvements, and how much is a function of elevated global aluminium prices that may not persist?

Higher volume of production and sales with improved techno-economic parameters contributed to the structural growth in net profit. Though elevated global aluminium prices contributed to the rise in the metal

segment, reduction in alumina prices significantly affected the bottom line. With commissioning of the 5th stream alumina refinery, we expect the growth momentum will continue in the future.

The fifth stream alumina refinery expansion at Damanjodi is being commissioned, with full commercial volumes expected by June 2026. Are you on schedule, and what is the single biggest execution challenge you faced in getting there?

Pre-commissioning activities for the 5th Stream Alumina Refinery have already started from June 2026. The single biggest challenge during execution was managing multiple external disruptions simultaneously. Local agitations during boundary wall construction, impact of the COVID pandemic, and extended monsoon conditions adversely affected the project initially. In addition, global geopolitical developments — particularly the Russia-Ukraine conflict and the Middle East crisis — led to sharp escalation in fuel prices, logistics costs, and delays in procurement of critical equipment.

However, through proactive coordination with all stakeholders, effective contingency planning, and continuous monitoring at the highest level, NALCO is steadily progressing towards commissioning.

The Pottangi bauxite mine is described as critical for raw material security. What is the status of that project? All statutory clearances required for the operationalisation of Pottangi Bauxite Mines have been obtained, and land acquisition for associated facilities, including the Overland Conveyor

and Water Intake Facility are in an advanced stage. An MDO (Mine Developer and Operator) has been appointed for operation and maintenance of the mines for a period of 25 years, and site mobilisation activities are currently under progress. Operations are expected to commence during the current financial year.

Aluminium smelting is one of the most energy-intensive industrial processes. NALCO achieved its highest-ever net power generation at 6,953 million units, largely from captive thermal capacity. What is your honest timeline for transitioning a meaningful share of that power to renewable sources, and what does it cost?

While captive thermal capacity has been the backbone of our energy security, we are fully committed to a structured transition toward renewable sources. On the renewable energy front, our installed wind capacity is 198.4 MW, and another 15 MW of wind capacity is expected within the next year. Our present rooftop solar capacity is around 1 MW, and another 7 MW will be commissioned during this financial year. Another 20-25 MW of solar capacity will be added at the available vacant spaces of NALCO within the next two years. We are also procuring and using 150 MW of green power during solar hours (8 am to 4 pm) to reduce our fossil fuel generation as a green initiative.

This transition will be done in a phased manner, balancing operational reliability with sustainability goals. The cost is quite significant. Overall, the per-unit generation cost of renewable power will be around Rs 1-1.5 more than the thermal power generation cost.



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NALCO's integrated model depends on moving bauxite from mines in Odisha's Eastern Ghats to the Damanjodi refinery. What is the current annual tonnage being moved on that corridor, and how does the fifth stream expansion change the logistics equation in terms of volumes, fleet size, and infrastructure?

NALCO is currently moving approximately 77 lakh MT of bauxite annually on this corridor. With the commissioning and full ramp-up of the 5th Stream Alumina Refinery (1.0 MTPA capacity), the annual bauxite requirement is expected to increase significantly to around 112 lakh MT. This will necessitate scaling up of fleet size, further optimisation of the existing cable belt system, strengthening of road infrastructure, and

development of supporting logistics for the additional volumes from Pottangi Mines.

The Pottangi mine adds 3.5 MTPA of bauxite mining capacity. What is the evacuation plan for Pottangi, and is the road and rail infrastructure in that corridor ready to handle those volumes from day one of commercial operations?

The long-term evacuation plan for Pottangi Bauxite Mines is through an 18.5 km Overland Conveyor system connecting Pottangi Mines to the Alumina Refinery at Damanjodi. However, due to delays in the acquisition of private land involved in the Conveyor Corridor Project, it is planned to have an interim evacuation arrangement through an alternate road connecting the mines to NH-26 for the initial period of 3-4 years of operation. Forest diversion for the said alternate road has been completed and tree felling permission obtained. Construction of the road is expected to commence shortly. So, while the permanent conveyor infrastructure is under implementation, the company has already put in place an interim evacuation strategy to ensure operational readiness during the initial phase of commercial production.

Coal is critical to NALCO's captive power operations, and you achieved record coal production of 40 lakh tonnes this year. What proportion of your coal requirement is met from captive mines versus procured externally, and how do you manage the logistics of coal supply to ensure uninterrupted power generation?

In FY 2025-26, NALCO's Captive Power Plant required 7.2 million tonnes of coal to generate 6,953 MU of net power. From captive mines, 4.1 million tonnes of coal was consumed, whereas from MCL, 3.1 million tonnes was consumed. As far as coal receipt is concerned, 4.0 and 3.0 million tonnes were realised from captive mines and MCL linkage, respectively. Coal supply from captive mines during the year was in road mode. For MCL coal, all three modes — MGR, rail and road — were utilised to ensure steady supply and uninterrupted power generation.

NALCO is a significant exporter of alumina. Which ports handle your export volumes today, and how dependent are you on Visakhapatnam and Paradip?



PRESENTLY, WE ARE USING 5% OF OUR ENERGY FROM RENEWABLE SOURCES AND WE PLAN TO INCREASE THIS TO AROUND 25% BY 2030

Are port congestion and berth availability a constraint on your ability to scale exports as the fifth stream comes onstream?

NALCO exports calcined alumina from Visakhapatnam Port on an FOB Visakhapatnam spout-trimmed basis. NALCO has established mechanised storage (silos), conveyors (up to 2,200 TPH ship loading for alumina), and ship handling (loading and unloading) facilities for exporting alumina in bulk and importing caustic soda.

Additionally, the WQ5 (West Quay 5) berth at Visakhapatnam Port (VPT/VPA) is a captive/dedicated berth for NALCO, and as per berth occupancy statistics from VPT, it is approximately 60 percent occupied, indicating spare capacity. Moreover, due to the FOB nature of the shipments, pre-berthing and priority berthing is handled by the overseas buyer's agents. Furthermore, the installation of the new ship loader has enabled NALCO to handle calcined alumina exports efficiently for Handymax/Panamax-class vessels at WQ5 (draft ~11.5 m).

The Strait of Hormuz disruption has affected global shipping lanes and freight rates. Has that impacted the economics of your alumina and metal exports, particularly to Middle Eastern and Asian buyers, and have you had to reroute any shipments?

NALCO exports alumina on an FOB basis through tendering. Due to disruptions in the Strait of Hormuz, Middle Eastern traders and buyers have reduced their participation in NALCO tenders. However, a few other buyers who have destined their cargoes to the Middle East have alternate arrangements in place for smooth passage of their vessels. Alternatively, a few consignments have also gone to China and Russia. 🇮🇳

INDIA SECURES BOTH SIDES OF THE MALACCA STRAIT

A new port deal with Indonesia at Sabang, just 160 km from India's own Great Nicobar project, gives New Delhi a rare dual-anchor presence at one of the world's busiest and most contested shipping chokepoints.

Ramprasad Ravi

India and Indonesia have signed an agreement to jointly develop Sabang Port, located at the northern tip of Indonesia's Sumatra island, in a move that strengthens maritime cooperation in the Indo-Pacific and gives India a strategic presence near one of the world's busiest and most sensitive shipping lanes.

The agreement comes at a time when India is simultaneously building up its own transshipment and military infrastructure at Great Nicobar. Sabang lies just 160 km from this upcoming Indian port project, and maritime experts say the geographic proximity is far from incidental. The Strait of Malacca is one of the world's most critical maritime chokepoints, linking the Indian Ocean to the South China Sea and the wider Pacific. A substantial share of global trade and energy shipments pass through this narrow waterway every year, making it central to the economic and energy security calculations of several nations across Asia.

India's dual-anchor approach around the Malacca Strait may well become a template for future regional maritime cooperation.

For China in particular, the strait functions as a vital economic lifeline. Nearly 80 per cent of the country's crude oil imports and around 60 per cent of its merchandise trade by volume move through this passage, leaving Beijing acutely exposed to any disruption or blockade at this single point. This dependency has long been described by Chinese strategists themselves as the 'Malacca Dilemma' — a vulnerability that regional powers are increasingly conscious of. For India, the Sabang project is not a standalone initiative but a natural complement to its Great Nicobar transshipment ambitions. Great Nicobar anchors India's presence on the eastern edge of the Bay of Bengal and the approach to the strait from India's own territory, while Sabang extends that reach into Indonesian waters, positioning India at the very mouth of the strait's northern entrance.

Maritime experts note that this dual footprint enhances India's ability to monitor, respond to and potentially influence developments along this chokepoint — a capability that carries both commercial and strategic weight, particularly as maritime security tensions in the wider Indo-Pacific region continue to evolve. Beyond its geopolitical significance, the Sabang initiative is expected to strengthen India's Act East Policy, a cornerstone of its regional engagement strategy. Improved maritime connectivity between India's Andaman and Nicobar Islands and Indonesia's Aceh province is likely to follow, opening up new avenues for trade, tourism and logistics cooperation across the Bay of Bengal. For the shipping and logistics community, the development signals a longer-term shift in how India is approaching chokepoint security — not through unilateral

Together, the two developments give India an operational footprint on both sides of the northern entrance to the Strait of Malacca — a rare positioning for any single country along this corridor.

infrastructure alone, but through calibrated partnerships with neighbouring littoral states. As global supply chains remain sensitive to disruptions at key maritime corridors, India's dual-anchor approach around the Malacca Strait may well become a template for future regional maritime cooperation. 



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BEYOND THE ALARM

INSIDE CEQURA'S BET ON MARITIME DECISION-MAKING

As vessels drown in data but starve for clarity, **Andrew Sallay, Co-Founder and CEO of Cequra**, sits down with **Ramprasad Ravi** and explains why the next frontier in maritime cyber-physical risk isn't detection — it's deciding what to do next, and proving you were right to do it

M

Maritime operators have spent the last decade wiring their fleets with sensors, cybersecurity platforms, OT monitors and fleet management dashboards. Yet when navigation, cyber and operational signals start telling different stories — as they increasingly do amid GNSS jamming incidents in the Strait of Hormuz, the Red Sea and beyond — many bridge and shore teams find themselves with more data than ever and no clearer picture of what to do next.

That gap is the reason Cequra exists. Founded to sit above the point solutions already running on a vessel, the company describes itself not as another alarm system but as a “cyber-physical decision layer,” a platform designed to help operators work out which signals to trust, what a conflicting picture actually

means operationally, and how to build an evidentiary record once the moment has passed. Andrew Sallay, Co-Founder and CEO of Cequra, expands about the thinking behind the platform, how it earns operator trust, and why the biggest resistance he encounters is organisational rather than technical.

Maritime Gateway: For readers coming across Cequra for the first time, how would you describe the problem you set out to solve, and what was the gap you saw in the existing maritime tech stack?

Cequra was built around a very practical problem: when something unusual happens at sea, the vessel and shore teams often have more data than ever before, but not necessarily more clarity. Many maritime operators have invested heavily in digital systems, sensors, connectivity, ECDIS, AIS, OT monitoring, cybersecurity tools and fleet management platforms. But those systems usually operate in separate silos. Navigation systems produce one set of signals. Cybersecurity tools produce another. OT systems produce another. Shore teams



▲ **ANDREW SALLAY**
CO-FOUNDER AND CEO OF CEQURA

may see something different again. The gap is not simply detection. The gap is decision-making when those signals don't align.

Cequra addresses that gap. We help operators answer three questions in moments of uncertainty: what data can we trust, what should we do next, and how do we prove afterwards

that the right decision was made?

You've described Cequra as a “cyber-physical decision layer” rather than a point solution. Could you unpack what that distinction means in practice for a vessel operator?

A point solution usually



TRUST IS NOT BINARY. IN REAL OPERATIONS, THE QUESTION IS RARELY WHETHER ONE SYSTEM IS ALWAYS RIGHT AND ANOTHER IS ALWAYS WRONG. THE QUESTION IS HOW MUCH CONFIDENCE THE OPERATOR SHOULD PLACE IN EACH SOURCE AT A GIVEN MOMENT

addresses one problem in one domain. It may detect GNSS interference, monitor OT assets, identify a cyber anomaly or track AIS inconsistencies. Those tools can be valuable, but they usually produce alerts within their own field of view. A cyber-physical decision layer has a different role. It sits across those domains and helps the operator interpret what the combined picture means. For a vessel operator, the question is not only, "Did something happen?" It is, "Does this matter operationally, is it connected to anything else, and what should the crew or shore team do now?" That is the distinction. Cequra is not intended to add another isolated alarm. It is intended to support better decisions when navigation, cyber, OT and operational signals no longer agree.

Digital transformation has given maritime operators more sensors, more systems and more data than ever before. Why hasn't that translated into more operational clarity, in your experience?

Because data alone does not create clarity. Context creates clarity. The industry has

digitised many parts of vessel operations, but the information architecture remains fragmented. A navigation system, an OT system, a cybersecurity platform and a fleet operations dashboard may all be technically advanced, but they do not necessarily understand each other.

That becomes a real problem during fast-moving situations. The crew may not have time to interpret multiple dashboards. Shore teams may not have the full onboard picture.

Different systems may each produce their own alerts. So the challenge is no longer the absence of data. The challenge is knowing which data matters, which data can be trusted, and which action is justified. When onboard systems start producing conflicting or contradictory signals, what typically goes wrong for a vessel or shore team trying to make a decision in that moment?

The first problem is time. These situations often arise when the bridge team is already under pressure. If the vessel's reported position, AIS picture, ECDIS display, sensor data or OT status starts to diverge, the team has to decide whether this is a technical fault, a cyber event, GNSS interference or simply a false alarm.

The second problem is fragmentation. The people who hold different parts of the answer may not be looking at the same evidence. The bridge may see one thing, the cyber team another, and the shore team something else. The result can be delay, overreaction or underreaction. A vessel may continue when it should slow down or escalate. Or it may stop operations unnecessarily because nobody can establish confidence in the underlying data. The real issue is not just the anomaly. It is the lack of a trusted decision process.

Could you walk us through a realistic scenario — GNSS spoofing or jamming, for instance — and explain how Cequra helps a team distinguish a genuine threat from a sensor glitch or false alarm?

A realistic scenario would be a vessel operating in an area where GNSS disruption has been reported. The bridge may begin to see inconsistencies in the vessel's reported position, traffic picture or navigation data. The crew and shore team then need to determine whether they are facing a genuine external threat, temporary signal disruption, a faulty sensor or a false alarm. In that situation, the important question is not whether one instrument has produced an alert. The important question is whether the broader operational picture makes sense. Is the vessel behaving as expected? Are systems telling a consistent story? Are there other indicators that support or contradict the initial anomaly?

Cequra brings those signals into context so the team can move from uncertainty to a structured assessment. If the evidence points to a genuine interference event, the team can escalate with greater confidence. If the issue appears isolated, they can avoid unnecessary alarm and focus on verification. The goal is not simply to detect an anomaly. It is to help the operator understand what is happening, how confident they should be, and what response is proportionate.

You mention correlating issues across cyber, GNSS, AIS, OT and operational systems. How does Cequra actually establish which data source to trust when they disagree with each other?

Trust is not binary. In real operations, the question is rarely

whether one system is always right and another is always wrong. The question is how much confidence the operator should place in each source at a given moment.

Cequra looks at consistency across different layers of evidence. Is the data physically plausible? Is it consistent with vessel behaviour? Is it consistent with other onboard systems? Is there a cyber, OT or operational issue that could explain the divergence? The result is a confidence-weighted view of the situation. The operator is not just looking at raw data. They are looking at the reliability of that data in context. That matters because maritime operations are cyber-physical. A cyber issue can have a physical consequence. A navigation anomaly can affect safety. An OT issue can create operational or compliance implications. The challenge is interpreting those relationships before they become operational problems.

Is this primarily a detection tool, a decision-support tool, or both? Where does Cequra's role end and the human operator's judgement begin?

It is both, but the emphasis is on decision support. Detection is necessary, but it is not sufficient. Operators do not need another system that simply identifies potential problems. They need help understanding whether an event matters, how it affects the vessel, and what response is proportionate. Cequra's role is to detect anomalies, correlate them, assess confidence, support response workflows and create a trusted record. The human operator remains in control of the decision. We are not replacing the master, the bridge team or the shore team. We are giving them a clearer, more defensible basis for judgement. That distinction is important.

In maritime, accountability remains human. Cequra is there to improve the quality, speed and evidentiary basis of the decision, not to remove human responsibility.

How does Cequra integrate with the systems already running on a vessel or at a shore-based operations centre? Is this a retrofit, or does it require new hardware or infrastructure?

Cequra is designed to work with the systems operators already have. We are not asking vessel owners to rip and replace existing navigation, OT, cybersecurity or fleet management infrastructure. The platform integrates through an onboard edge layer and an API gateway. The edge component allows Cequra to operate close to vessel systems, including in degraded connectivity environments. The API gateway allows data to be ingested from existing onboard systems where integration is available. That matters because maritime adoption has to be practical. Operators have mixed fleets, different vendors, different equipment ages and different connectivity profiles. A solution

that ignores that reality will not scale. For newbuilds, integration can be planned earlier with the yard, class, vendors and owner. For existing vessels, the approach is more retrofit-oriented and focused on the specific use case, vessel profile and available data sources.

You talk about producing a “trusted record” for response, compliance, claims and post-incident review. Why is this record-keeping function as important as the real-time detection itself?

Because after an incident, the question quickly changes from “What is happening?” to “What happened, who knew what, what action was taken, and was that action reasonable?” That matters for internal review, insurance, charterer discussions, class, flag, audits, claims and potential disputes. If the evidence is scattered across screenshots, emails, log files, bridge notes and vendor systems, it becomes very difficult to reconstruct the event with confidence. Cequra’s trusted record is designed to preserve the operational context: what signals were observed, how confidence changed, what recommendations or workflows were triggered, what actions

were taken, and what evidence supported those actions. That is valuable not only after serious incidents, but also for drills, compliance, near-miss analysis and continuous improvement. In many cases, the ability to prove that the organisation acted responsibly is almost as important as the initial detection.

How do insurers, flag states or classification societies view a solution like this? Is there growing recognition that this kind of trusted, auditable incident record could become a compliance expectation rather than a nice-to-have?

The direction is clearly toward more evidence-based cyber and operational resilience. The maritime industry is moving beyond policy documents and high-level declarations. Owners increasingly need to demonstrate that they understand their systems, can detect relevant anomalies, can respond appropriately, and can produce evidence afterwards. I would be careful about saying that a trusted cyber-physical incident record is already a universal compliance

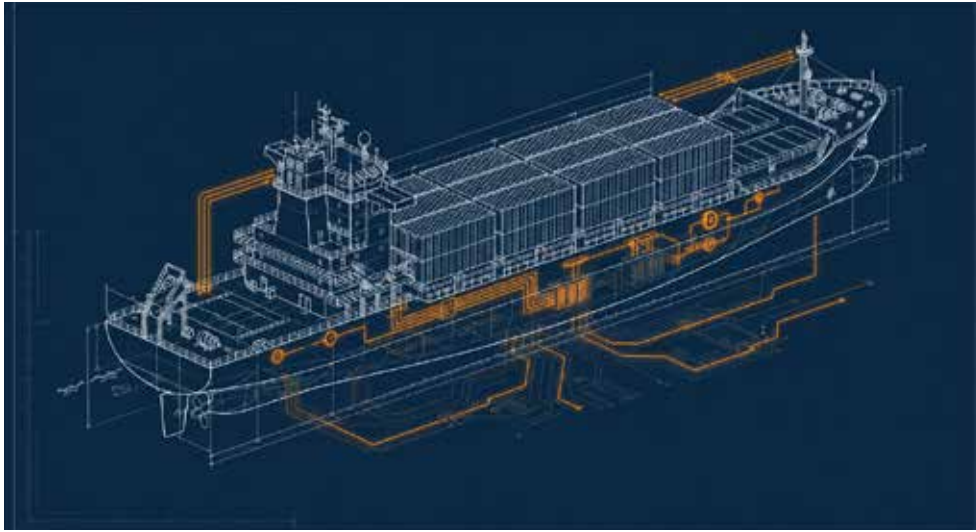
requirement. It is not. But it is very consistent with where the industry is heading. Insurers, class, flag states and charterers all care about operational resilience, risk controls and evidence after an event. A trusted record helps convert “we believe we acted properly” into “here is the evidence showing what happened and how we responded.”

Over time, I believe this type of evidence will become increasingly important, not only for compliance, but also because commercial counterparties will want greater confidence that cyber-physical risks are being managed in a disciplined and auditable way.

GNSS spoofing and jamming, and broader cyber-physical vulnerabilities, have been widely discussed following recent geopolitical disruptions in regions like the Strait of Hormuz and the Red Sea. Has that heightened operator interest in what Cequra offers?

Yes, absolutely. The heightened geopolitical risk has made the problem much more tangible.





For a long time, cyber and navigation integrity were often discussed separately. Cybersecurity was treated as an IT or OT problem. GNSS interference was treated as a navigation or regional risk problem. What recent events have made clear is that these issues converge operationally on the vessel. If the bridge team cannot trust position data, if shore teams cannot see what is happening with confidence, and if systems are producing inconsistent signals, then the operator needs more than another dashboard. The operator needs a way to manage uncertainty. That is where the conversation has changed. Operators are not only asking whether spoofing or jamming can be detected. They are asking what the vessel should do next: continue, slow down, escalate, switch procedures, notify shore, preserve evidence or prepare for a claim. That is the decision gap Cequra was created to address.

How do you see Cequra fitting alongside existing cybersecurity, navigation and OT monitoring vendors — as a layer above them, or in competition with some of them?

In most cases, we see ourselves

as complementary. There are many vendors solving important problems in cybersecurity, navigation, connectivity, OT monitoring and fleet operations. The issue is that most are optimised for their own domain. Cequra is designed to sit across those domains and help the operator make sense of the combined picture. There may be overlap with point solutions in some use cases, but that is not the main point. The broader value is helping operators interpret signals across domains, especially when those signals do not agree.

Existing systems generate important signals. Cequra helps the operator decide which signals to trust, what they mean together, and what to do next.

What has adoption looked like so far — which types of operators or fleet segments have been early movers, and what has driven their decision to bring in a system like this?

The strongest pull is coming from operators for whom uncertainty has a direct operational, commercial or compliance cost. That includes owners with large or high-value

fleets, operators with newbuild programmes, and companies operating in regions where GNSS interference and cyber-physical risk are becoming more visible.

We are also seeing interest where there is a specific operational entry point. For some operators, the immediate concern is position integrity. For others, it is cyber-physical incident response, compliance evidence, newbuild documentation or shore-side visibility across the fleet. That is an important point. We do not expect every operator to adopt a full cyber-physical decision platform on day one. The entry point may be a specific use case. But once operators see the value of correlating data across systems and preserving a trusted record, the broader platform logic becomes much easier to understand.

What's the biggest resistance point you encounter when talking to vessel operators or shore teams about adopting a decision layer like Cequra?

The biggest resistance is not disagreement with the problem. Most experienced vessel operators and shore teams recognise it quickly. They know



INSURERS, CLASS, FLAG STATES AND CHARTERERS ALL CARE ABOUT OPERATIONAL RESILIENCE, RISK CONTROLS AND EVIDENCE AFTER AN EVENT. A TRUSTED RECORD HELPS CONVERT “WE BELIEVE WE ACTED PROPERLY” INTO “HERE IS THE EVIDENCE SHOWING WHAT HAPPENED AND HOW WE RESPONDED.”

that when navigation, cyber, operational or compliance signals conflict, decision-making becomes harder.

The challenge is usually organisational. A platform like Cequra touches several parts of the company: navigation, cyber, compliance, technical operations, fleet management and sometimes risk or insurance. Each function may see the value, but procurement can become complex because budget ownership, technical evaluation and operational sponsorship may sit in different places. That is why adoption has to be use-case led. Rather than asking an operator to adopt a broad platform all at once, we start with a clearly defined operational problem, such as position integrity, compliance evidence or incident response. That gives the project a clear owner, a measurable outcome and a practical path to deployment.

The key point is that a decision layer should not add complexity. It should reduce it. If it does not help the crew and shore team make faster, clearer and more defensible decisions, then it is not doing its job. 



SUHASINI DESHMUKH, CO-FOUNDER AND DIRECTOR, MEDRABBITS HEALTHCARE

KEEPING INDIA'S SEAFARERS FIT TO SAIL

As Maritime India Vision 2030 fuels record growth in the country's shipping workforce, certified medical clinics are emerging as the frontline safeguard for seafarer health and vessel safety.

India's maritime sector is entering a transformative phase. With ambitious initiatives such as Maritime India Vision 2030 and sustained investment in ports, shipping infrastructure and coastal development, the country is strengthening its position in global maritime trade. Alongside this growth, India has also emerged as one of the world's leading suppliers of skilled seafarers, with more than 300,000 Indian seafarers serving on merchant vessels across the globe. As the industry continues to expand, one factor deserves far greater attention than it often receives: the health and medical preparedness of

the workforce that keeps global shipping moving. Unlike most professions, working at sea demands physical resilience, mental strength and the ability to perform under challenging conditions. Seafarers spend weeks or months away from shore, often working in confined environments with demanding schedules, changing weather conditions and limited access to specialised healthcare. In such circumstances, even a manageable health condition on land can quickly escalate into a serious medical emergency onboard. This makes comprehensive medical fitness an operational necessity rather than a procedural requirement.

Certified maritime medical clinics conduct specialised medical assessments that determine whether seafarers are physically and mentally fit to work safely in the demanding conditions at sea. Unlike routine health check-ups, maritime

pre-employment medical examinations evaluate vision, hearing, cardiovascular and respiratory health, neurological and musculoskeletal fitness, laboratory parameters and mental wellbeing. These comprehensive assessments help identify potential health risks before deployment, reducing onboard medical emergencies, improving crew safety and supporting uninterrupted vessel operations.

Early diagnosis has become increasingly important as non-communicable diseases continue to rise among working-age adults. According to the World Health Organization, non-communicable diseases account for nearly 66% of all deaths in India, with conditions such as hypertension, diabetes, cardiovascular disease and chronic respiratory illness often remaining undetected until complications arise. For seafarers, identifying

underlying health conditions before deployment enables timely treatment and reduces the risk of medical emergencies during long voyages, where access to specialised healthcare is limited. Mental wellbeing is equally important, as prolonged isolation, irregular sleep and physically demanding work can affect psychological health. Comprehensive maritime medical examinations that assess both physical and mental fitness help ensure seafarers are better prepared for the demands of life at sea, while supporting safer vessel operations.

As global shipping becomes more regulated, consistent medical assessments are essential. Indian seafarers must meet medical fitness standards aligned with national regulations and internationally recognised frameworks, including the Maritime Labour Convention, 2006, and the Standards of Training, Certification and Watchkeeping (STCW). Standardised examinations ensure credibility and consistency in the certification

For seafarers, identifying underlying health conditions before deployment enables timely treatment and reduces the risk of medical emergencies during long voyages, where access to specialised healthcare is limited.



About the author

Suhasini Deshmukh, Co-founder and Director of MedRabbits, is a dedicated healthcare professional and a qualified nutritionist focused on strengthening efficient and patient-centric healthcare delivery in Mumbai.

At **MedRabbits Healthcare**, she plays a key role in enhancing operational systems and improving overall patient experience.

Suhasini brings together strategic thinking and hands-on execution to streamline services and ensure quality care. With a collaborative approach and commitment to community wellbeing, she continues to contribute meaningfully to building reliable and accessible healthcare solutions.

process, giving employers, insurers and maritime authorities confidence that seafarers are fit for duty. They also strengthen India's reputation as a reliable source of skilled and medically prepared maritime professionals in the global shipping industry.

The role of maritime healthcare should not end with determining medical fitness before employment; preventive healthcare is becoming equally important in supporting the long-term wellbeing of seafarers. Regular health screenings, vaccination programmes, nutrition counselling, lifestyle



HEALTHIER SEAFARERS MEAN SAFER VOYAGES, MORE EFFICIENT SHIPPING OPERATIONS AND A STRONGER MARITIME ECOSYSTEM.

modification, chronic disease management and mental health support can all help reduce the burden of illness throughout a seafarer's career. A preventive approach lowers the likelihood of onboard medical incidents, emergency evacuations, voyage disruptions and associated operational costs. As India's shipping workforce continues to grow, integrating preventive healthcare into maritime medical practice will be essential to building a healthier, safer and more resilient workforce.

India's ambition to become a leading global maritime nation depends on safeguarding the

health of its seafarers. Certified maritime medical clinics play a crucial role by delivering specialised, standardised and preventive health assessments that go beyond regulatory compliance, helping ensure a fit and resilient workforce.

As the maritime industry continues to grow, prioritising seafarer health will strengthen operational safety, support sustainable shipping and reinforce India's position as a trusted global maritime hub. Ultimately, healthier seafarers mean safer voyages, more efficient shipping operations and a stronger maritime ecosystem. 

ANGOLA'S \$900M PORT BET

Barra do Dande's new terminal is the latest marker in China's decade-long, \$50 billion African port push and, as Indian refiners diversify their crude sources, a project New Delhi has good reason to watch closely.

Ramprasad Ravi

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On 20 July 2026, the Barra do Dande Development Company signed two agreements worth a combined US\$900 million with Huatong Angola Industry Ltd and Berkshire Waterhouse Infrastructure Development Ltd, covering a new port terminal and the supporting infrastructure for the wider Barra do Dande Integrated Development Free Zone, located in Bengo Province at the mouth of the Dande River, roughly 30 kilometres north of Luanda.

Around US\$450 million is earmarked for the port terminal itself, designed to accommodate vessels of up to 80,000 tonnes and handle an estimated 20 million tonnes of cargo annually. A similar amount will go toward roads, power networks, utilities and other infrastructure spread across a zone spanning more than 5,000 hectares. The financing is understood to be entirely private, with the terminal being built in three phases under a 25-year sub-concession; the first phase is expected to take about two years,

with the wider project targeted for completion around 2029–30. Angola's government has positioned the free zone as a strategic asset intended to strengthen the country's logistics capacity and boost export competitiveness, with officials projecting the project could generate around 21,000 jobs and contribute meaningfully to regional economic growth in Southern Africa.

The deal fits a much broader pattern. Since 2013, Chinese entities have poured an estimated \$50 billion into

African port infrastructure, financing, building, holding stakes in or operating an estimated 78 ports across 32 countries, as part of Beijing's Belt and Road Initiative and its Maritime Silk Road component. Angola's Barra do Dande deal is only the latest addition to a list that spans the continent's Atlantic, Indian Ocean and Mediterranean coastlines.

There is a resource dimension to the strategy — many of the ports being developed sit close to mineral, energy or agricultural export corridors, giving Chinese industry more direct and controlled access to raw materials — and a political one, as financing dependency and technical reliance often nudge host governments toward Chinese standards, equipment and systems, deepening ties well beyond the port gate.

A more contested layer is dual-use potential. Analysts tracking naval activity note that several China-backed ports, including Kribi in Cameroon, Lekki in Nigeria, Bata in Equatorial Guinea and Bagamoyo in Tanzania, have design features suited to both commercial and military vessels. Djibouti's Doraleh Port, originally marketed as purely commercial, was extended in 2017 to host China's first overseas military base — a reminder of why ownership, financing and

China earns as much as \$13 in trade revenue for every \$1 it puts into port infrastructure, making ports one of the most efficient levers available for expanding market access

operating rights around ports can matter as much as their cargo-handling capacity.

The list of Chinese-backed African ports is already long: the Doraleh Multipurpose Port in Djibouti, financed by China's Exim Bank at roughly \$405 million; Cameroon's Kribi Deep Sea Port, with Chinese firms holding an estimated 66 per cent stake; Nigeria's Lekki Deep Sea Port, at about 52 per cent Chinese ownership; Togo's Lomé Port, at 50 per cent; and Tanzania's long-delayed Bagamoyo project, envisioned at up to \$10 billion and still the largest proposed single scheme. Kenya's Lamu port, Sudan's Haidob livestock terminal, Eritrea's Massawa Port and terminals at Abidjan, Conakry, Pointe Noire and Casablanca round out a growing footprint

Total Investment

US \$900



Port Terminal

US \$450

Investment in the port terminal



Supporting Infrastructure

US \$450

For wider infrastructure across >5,000 hectares

— and Barra do Dande is now the newest entrant. On its own, that is an African infrastructure story. For India, however, the timing is intriguing. Angola is already an important source of crude for Indian refiners, and Chinese-backed investment is now helping build out the infrastructure around one of the country's emerging industrial and logistics hubs. India imported roughly US\$3.6 billion worth of crude from Angola in 2024, out of total Indian imports from the country of around US\$6 billion that year — making energy a major part of the trade relationship between the two nations. That relationship has become more relevant in 2026: concerns over supply security and disruptions around the Strait of Hormuz have pushed Indian refiners to look harder at alternative sources, and African and Latin American producers, Angola among them, have benefited from that shift.

There is, however, an important distinction. The new Barra do Dande terminal should not be described as a dedicated new crude gateway for India — the US\$450 million terminal is being developed primarily in connection with the wider free-trade zone and its industrial and logistics activity, and a separate Ocean Terminal at Barra do Dande, inaugurated in 2025, already handles the storage and shipment of liquid fuels and gas. What the new project adds is capacity and connectivity around an area Angola is trying to turn into a significant industrial hub — and if that hub develops as planned, the effects could eventually be felt well beyond Angola, in shipping, freight, warehousing and export logistics.

India's own approach overseas has been different, but it is not absent. Through India Ports

Global, India has taken an operating role at Iran's Chabahar port and has been involved in developing and operating Sittwe in Myanmar, while projects such as Sabang in Indonesia reflect a similar interest in strategic trade corridors. The difference is scale: China's overseas port and infrastructure network is considerably larger, particularly across Africa.

That gap matters more as India's own trade requirements change. If Indian refiners continue buying more crude from Africa, and Indian companies expand their commercial presence across the continent, the infrastructure supporting those trade routes will matter more too. It is not just about who owns a port — roads, warehouses, power, terminals and logistics services all shape how efficiently goods move. A few things will be worth following from here. First, what cargo mix the Barra do Dande

terminal ultimately develops, given its immediate purpose is tied to the pace of industrial investment in the free-trade zone. Second, whether the terminal takes on a wider role in Angola's export logistics — its location is promising, but any future role in energy cargoes or India-bound trade should be based on actual commercial arrangements, not assumptions. And third, whether Indian companies find a role in Angola's expanding infrastructure network: with Angola becoming more relevant to India's crude basket, and India's EXIM Bank supporting project exports and infrastructure partnerships across Africa, there could be openings for Indian engineering, logistics and infrastructure firms. For now, Barra do Dande is an Angolan infrastructure project backed by US\$900 million in private investment, including significant Chinese participation, and for India its importance

As Indian refiners diversify their crude sources and China continues to deepen its commercial infrastructure presence across Africa, the ports and logistics networks connecting these two trends could become increasingly important to the trade routes of tomorrow.

is more prospective than immediate. But that is precisely why it is worth watching. 





Charting India's Maritime Future

The Rise of a Global Seafaring Power

Maritime Gateway Research Bureau

For centuries, India's relationship with the sea has run deeper than its coastline. Today, that relationship is being rewritten on a global scale. India has officially overtaken China to become the world's second-largest supplier of seafarers, trailing only the Philippines, a milestone that reflects both the scale of the country's maritime talent and the ambition driving its next chapter.

According to the BIMCO-ICS Seafarer Workforce Report 2026, India now contributes 311,936 seafarers to the global fleet, representing 12.16% of the world's maritime workforce. That figure has more than doubled over the past decade, climbing from just 5.2% in 2015 and 6.0% in 2021. Of these mariners, 140,718 are officers, accounting for 13.41% of the world's officer pool, while 171,218 are ratings, or 11.29% of the global total. India's active

seafarer workforce has swelled from roughly 1.03 lakh in 2013 to over 3.23 lakh in 2025, a trajectory that has placed the country firmly at the center of an industry grappling with a persistent shortage of qualified officers. The report estimates a global seafarer supply of 2.57 million against a demand of 2.55 million, with a worldwide shortfall of 39,100 qualified officers even as ratings remain in surplus.

Mission 20%: A National Ambition Takes Shape

Building on this momentum, Union Minister Sarbananda Sonowal has launched what may become the defining maritime policy of the decade: Mission 20%. The initiative sets a bold national target lifting India's share of the global maritime workforce from its current 12.16% to a full 20%, effectively making one in every five merchant mariners worldwide an Indian national. Achieving that goal will

require nothing short of doubling India's current seafaring workforce. The Ministry of Ports, Shipping and Waterways is pursuing this through an expansion of maritime training infrastructure, deeper partnerships with industry, and a concerted push to bring more young mariners and women into the profession. The scale of ambition mirrors India's broader maritime vision. Maritime Amrit Kaal Vision 2047, which frames shipping and seafaring as strategic pillars of the nation's economic future.

This expansion is being backed by a wave of policy and digital reform. The Merchant Shipping Act, 2025 provides the legislative backbone, while a suite of new digital tools is reshaping how seafarers interact with the system. The e-NAVIK platform offers a 24/7 grievance redressal system for mariners at sea. The d-SEA initiative introduces digital

employment agreements, replacing what was once a paperwork-heavy process. A global Seafarer Tracking Dashboard is being developed to monitor Indian crew wherever they sail, and funding for the Seafarers Welfare Fund Society has been increased to support mariners and their families.

That digital transformation reached a new milestone this year with the launch of E-Samudra, a single-window, paperless platform inaugurated by the Ministry of Ports, Shipping and Waterways in Mumbai. E-Samudra is designed to digitize the full spectrum of maritime services — from real-time vessel and crew tracking to online payments and digital certification, consolidating what was once a fragmented, multi-agency process into one integrated ecosystem. The launch event brought together shipping companies, seafarer unions, recruitment agencies, training institutes, and government officials, with Sarbananda Sonowal personally engaging with cadets and young maritime professionals on recruitment practices, regulatory compliance, and career pathways. Two new welfare initiatives were also unveiled alongside the platform: Sagar Mein Yog, focused on seafarer wellness, and Sagar Mein Samman, aimed at promoting greater participation by women in maritime careers.

The Human Cost of Global Chokepoint Warfare

Yet even as India's seafaring ambitions climb, so too does the risk borne by the very workforce driving that growth. Over 99% of Indian mariners serve aboard foreign-flagged vessels, placing them technically beyond the direct jurisdiction of India's Directorate General of Shipping. A legal Gray zone that has become increasingly consequential as geopolitical tensions spill into the world's busiest shipping corridors. A surge in what industry observers now describe as "chokepoint warfare" — drone strikes and missile attacks concentrated around the Black Sea and West Asia has disproportionately endangered Indian crew members. At least 18 Indian seafarers have died in recent conflicts, with several others still reported missing. Around 166 Indian nationals remain among the thousands of mariners trapped aboard vessels navigating high-risk routes such as the Strait of Hormuz, one of the world's most critical and increasingly perilous maritime passages.

Compounding the danger is a structural vulnerability: seafarers rarely exercise their contractual right to decline sailing into conflict

zones, largely out of fear that doing so could jeopardize future employment prospects. Industry experts have urged the government to deploy AI-driven, real-time vessel and crew tracking systems, combining live GPS data with crew manifests to more rapidly locate and assist stranded mariners during crises. It is a call that appears to be gaining traction: the DGMA has already coordinated the safe repatriation of over 4,000 stranded Indian seafarers during recent geopolitical disruptions, and 24/7 monitoring capabilities are being positioned as a core pillar of the seafarer protection strategy going forward.

Reopening the Gateway: Crew Changes Resume at Vizhinjam

Amid this backdrop of expansion and risk, operational reform continues at the port level. The Directorate General of Maritime Administration, working under the Ministry of Ports, Shipping and Waterways, has issued revised guidelines following amendments from the Home Ministry to simplify immigration procedures for shore leave and sign-on/sign-off operations. Crew changes are now permitted within port limits, including outer anchorages, lighterage areas, and single buoy moorings, provided a written request and repatriation undertaking is submitted by the vessel's master or agent. Operations outside these limits remain restricted to genuine emergencies.

The resumption of crew change operations at Vizhinjam Seaport carries particular strategic weight. Positioned just 10 nautical miles from the busiest east-west international shipping corridor, Vizhinjam allows passing container ships to execute crew changes at outer anchorage with minimal deviation from their route — a logistical advantage that translates directly into time and cost savings for shipping lines. The move, which reverses a pause that began during the pandemic era, is also expected to inject fresh revenue into the state and Union exchequer while revitalizing allied local industries: launch operators, ground transport, hospitality, travel agencies, and healthcare providers all stand to benefit from renewed footfall.

On the Ground: Visakhapatnam's Seafarer-Ready Infrastructure

For mariners passing through India's ports, the on-the-ground experience is increasingly shaped by strong urban infrastructure. Visakhapatnam, one of the country's premier ports, illustrates this well. The port offers excellent road connectivity via National Highway 16 (the Golden Quadrilateral) and robust

Amid this backdrop of expansion and risk, operational reform continues at the port level. The Directorate General of Maritime Administration, working under the Ministry of Ports, Shipping and Waterways, has issued revised guidelines following amendments from the Home Ministry.

rail links through the East Coast Railway network, supporting both bulk cargo and mineral evacuation. Visakhapatnam International Airport sits just 12–15 kilometres from the port area, and crew changes typically take between five and seven hours.

Shore leave in the city is rated easy to moderate, supported by excellent 4G/5G mobile coverage, widely available Wi-Fi, and abundant taxi and app-cab services. Seafarers can access medical care through Apollo Hospitals, CARE Hospitals, and King George Hospital, with PCR testing and rapid medical examinations arranged through shipping agents when needed. For downtime, the city offers everything from the Kailasagiri hilltop park and the INS Kurusura Submarine Museum to Ramakrishna and Rushikonda beaches, the Simhachalam Temple, and a coastal cuisine scene built around Andhra fish curry and prawn specialties.

A Workforce at a Crossroads

Taken together, these developments paint a picture of an industry and a nation at an inflection point. India's seafarers are more essential to global trade than ever before, and the government's Mission 20% ambition signals a determination to convert that reliance into strategic advantage. But that ambition arrives alongside sobering reminders that the world's shipping lanes are growing more dangerous, and that policy, technology, and welfare infrastructure must keep pace with the risks Indian mariners face at sea. As digitization accelerates and ports like Vizhinjam and Visakhapatnam modernize their crew-facing operations, the coming years will test whether India can scale its maritime workforce without leaving its seafarers more exposed than protected. 

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