CHENNAI - MONDAY - DECEMBER 29, 2025

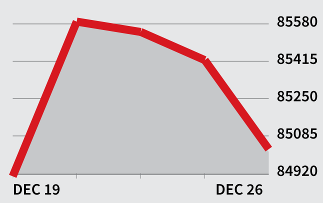
₹10 • Pages 10 • Volume 32 • Number 359

the hindu businessline.

www.businessline.in

businessline · thehindubusinessline

SENSEX 85041.45 (+112.09)



IN FOCUS

	Week's close	Week's change
Nifty 50	26042.30	+75.90
P/E Ratio (Sensex)	23.46	+0.29
US Dollar (in ₹)	89.85	+0.58
Gold Std 10 gm (in ₹)	137404.00	+6153
Silver 1 kg (in ₹)	228107.00	+28040

YEAR IN REVIEW. **With Tuhin Kanta Pandey** as Chairman from March 2025, SEBI balanced investor protection with business ease **p3**

PRICE RETREAT. **Silver slips on** Shanghai bourse as CME Group raises margin, cuts limits **p10**

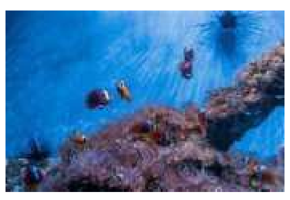
BENGALURU - CHENNAI - COIMBATORE - HUBBALLI - HYDERABAD - KOCHI - KOLKATA - MADURAI - MALAPPURAM - MANGALURU - MUMBAI - NOIDA - THIRUVANANTHAPURAM - TIRUCHIRAPALLI - VIJAYAWADA - VISAKHAPATNAM

Regd. TN/ARD/14/2012-2014, RNI No. 55320/94

MONDAY SPECIALS.

QUANTUM

War on drug resistance goes undersea



Antimicrobial resistance (AMR) is a growing global health crisis, killing millions. Disease-causing microbes are fast learning to defy the drugs they once dreaded. To outpace them, scientists are increasingly turning to the oceans for help. Mining useful genetic material from marine resources is fast emerging as a new scientific and industrial frontier. **p7**

PULSE

Brokering a fragile peace

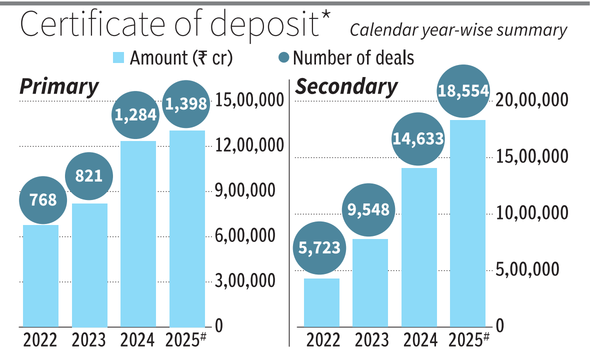
About four months ago, hospitals and health insurance providers were involved in a public spat over cashless insurance, tariffs and common empanelment, among other issues. The Association of Healthcare Providers of India issued advisories, calling on members to suspend supporting cashless claims from providers. On their part, the health insurance providers pushed back, pointing to high hospital treatment charges and called for standardisation of protocols. **p9**

Large banks mobilise record funds via certificates of deposit in 2025

NEW AVENUES. Tepid CASA and term deposit growth drove lenders towards more CD issuances

Piyush Shukla
Mumbai

Certificate of deposit* *Calendar year-wise summary*



Source: primedatabase.com *Jan 1, 2022 onwards #till Dec 23, 2025

Large banks raised record funds via certificate of deposit (CDs) issuances in calendar year 2025 as organic term deposit and low-cost current account and savings account (CASA) growth remained tepid, whereas credit growth saw sustained pickup, experts said.

"There has been good growth in advances, with demand pickup seen in all segments, including retail and MSME loans. The advances are expected to grow at 12-13 per cent, with deposits lagging at 9-10 per cent. With the drop in repo rates, the deposit rates across the banking sector have come off, resulting in investors exploring other avenues to park surpluses," said Harsh Dugar, ED, Federal Bank.

"On account of this factor, there is increased reliance on bulk deposits and CDs by banks, which is at an all-time high. While excessive reliance on high value deposits and CDs is not desirable, given concentration risk and bunching up of maturities, it is presently not a significant percentage of total deposits to cause any significant concern," he added.

RECORD ISSUANCES

According to Prime Database data sourced by *businessline*, banks raised ₹13.04 lakh crore via CDs in the primary market through 1,398 deals in the current calendar year, a record high. CDs have a shorter tenure but offer higher interest rates than fixed deposits.

"From a pricing perspective, CDs are materially costlier than sovereign money-market instruments, with top-rated banks offering yields roughly 70 to 150 basis points above comparable Treasury bills, depending on system liquidity. At the same time, retail fixed deposit rates remain significantly lower," said Venkatakrishnan Srinivasan, Founder and Managing Partner, Rockfort Fincap LLP.

"This divergence highlights the growing gap between institutional and retail funding costs and raises questions around the sustainability of relying on short-term wholesale borrowings," he said.

"For private sector banks, this is often a tactical liquidity management tool but for PSU banks, repeated CD issuance risks structurally pushing up funding costs," he added.

Bank of Baroda, HDFC Bank, Punjab National Bank, Canara Bank and Axis Bank were the largest issuers of CDs in the primary and secondary market.

HDFC Bank has been raising deposits at a faster pace than the banking system in recent years to lower its credit-deposit ratio, which peaked post-merger of erstwhile HDFC with the lender, while other major issuers have posted robust credit growth in 2025.

GROWTH IN ADVANCES

Anil Gupta, Co-group Head, Financial Sector Ratings at ICRA, said banks' credit growth had been outpacing deposit growth since the GST rate cuts, leading to a mismatch in funding requirements and an increase in issuances and outstanding volume of CDs.

Nonetheless, overall CDs outstanding remains at around 2 per cent of banks' total deposits versus the peak level of 8 per cent in 2012. The introduction of liquidity coverage ratio (LCR) norms has limited the reliance of banks on CDs to fund credit growth as they act as a drag on LCR, he added.

Sanjay Agarwal, Senior Director, CareEdge Ratings, said, "Many PSU banks have surplus SLR investments. They prefer to raise funds from TREPS and CDs to fund their advances rather than increasing rates to attract more deposits. This helps them remain competitive as also manage the squeeze on NIMs."

Soumyajit Niyogi, Director, India Ratings & Research, said structural shifts in the deposit market are pushing banks towards market-based instruments to manage ALM more effectively.

"Accordingly, the funding cost is increasingly being determined by market dynamics. Further, households are reallocating savings towards MFs and insurance, which in turn are recycling these flows back to banks through investments in CDs and other bank bonds," he said.

Vi's growth is the job of its management, not the govt's, says Scindia

S Ronendra Singh
Poornima Joshi
New Delhi

Jyotiraditya Scindia

Telecom Minister Jyotiraditya Scindia said consultations on adjusted gross revenue (AGR) dues with regard to Vodafone-Idea were in progress, but it was the Chief Executive Officer (CEO) of the company who should be defining corporate strategy.

"I don't think because you (the government) are an equity holder and a minority at one at that, you can advise them (the company). It is the CEO who should be defining what the corporate strategy is. It is for that company to define," Scindia told *businessline* in an interview.

The government would, of course, like to see the company prosper, service its customers well and grow. "But that responsibility must lie with the management, and not with the Department of Telecom," the Minister added.

The government has a 49 per cent stake in Vodafone-Idea. The company is still struggling to retain customers and is facing major losses. Recently, the Supreme Court allowed the government to reassess Vodafone-Idea's AGR dues, which has come as a lifeline for the company, which is under severe financial stress.

5G ROLLOUT

Meanwhile, the company on Friday said it has commenced the next phase of its fifth-generation (5G) network rollout in additional cities, while bolstering 4G capacity. The company's 5G services are already available in 29 cities.

In a letter to subscribers, Abhijit Kishore, CEO of the company, said it has strengthened its digital services ecosystem through strategic partnerships in travel, the Internet of Things (IoT), fintech, MSME enablement and future-ready connectivity solutions.

Interview p10

Retail loans go premium as ticket sizes rise

K Ram Kumar
Mumbai

IN DEMAND

Banks are seeing strong uptake in high-value retail loans — housing (₹1 crore+), car (₹15 lakh+) and 2-wheelers (₹3 lakh+)

Demand for higher-ticket retail loans seems to be gaining ground, especially in tier-1 and tier-2 cities, with banks seeing good offtake of housing loans of ₹1 crore and above, car loans of ₹15 lakh and above, two-wheeler loans of ₹3 lakh and above, among others, per trends gleaned by a credit information company (CIC).

"A big behavioural change is happening, both from the borrower and lender side. The retail loan market is moving towards premiumisation (higher-ticket loans)," Bhavesh Jain, MD & CEO, TransUnion CIBIL, said.

He said that banks were comfortable with this development, focusing more on existing-to-credit (borrowers having credit history) and existing-to-bank customers (those with existing relationship with a bank).

TransUnion CIBIL, which provides credit information solutions to lenders and insurance firms, was incorporated in 2000 and started its credit bureau operations in 2004.

"There is a certain amount of comfort to go after an existing-to-credit (credit-tested borrower) and an existing-to-bank customer," Jain said.

He emphasised the fact that customers treading towards higher retail loan ticket sizes is also a reflection of their sentiments.

"Housing loan above ₹1 crore is growing faster than the regular home loan... There is good demand for SUVs and MPVs, which cost above ₹15 lakh... Within the two-wheeler category, motorcycles with a price tag of ₹3 lakh and above is the fastest-growing segment," he said.

SMALL-TICKET LOANS

The CIC's latest credit market indicator (CMI) report highlighted that small-ticket housing loans (ticket size between ₹2 lakh and ₹25 lakh) have shown a slight uptick in delinquencies among recent originations.

So, the faster growth in higher-ticket housing loans should be seen in this backdrop.

In the case of home loans, Jain observed that state-owned banks, post-Covid, have been growing their housing loan book via the balance transfer (BT) route, besides organic growth. "For example, if a home loan borrower, with a credit score above say 730 (prime borrower) has a home loan running for three years with a housing finance firm. So, this borrower not only has an established credit history, but also a collateral. Since the credit score is very comforting, a bank will approach the customer for a BT," he said.

The CMI report underscored that GST rationalisation and the festive season boosted retail credit demand, particularly for consumer durables, auto and two-wheeler loans.

HISTORIC SORTIE

NAVAL HONOUR. President Droupadi Murmu, accompanied by Chief of Naval Staff Admiral Dinesh K Tripathi, sailed aboard the Navy's indigenous Kalvari-class submarine *INS Vagsheer* at the Karwar Naval Base in Uttara Kannada, Karnataka, on Sunday, becoming only the second Indian President to sail in a submarine after APJ Abdul Kalam. ANI

Women on the fringes learn cyber survival skills

Cyber Rakshak, an initiative by Kyndryl & DSCI, educates them on digital threats, safety

KV Kurmanath
Hyderabad

SAFETY SESSION. Regonda Vijaya Shresta, a cybersecurity trainer, explaining to women in Shamirpet, near Hyderabad, about cyber frauds and safety

At first look, it appears to be a typical 'kitty party' or chit auction where neighbourhood women gather. A closer look reveals a serious discussion on cybercrime and how to handle cyber threats diligently.

A group of mostly women running petty businesses, housewives and students at Shamirpet village, near Hyderabad, like thousands of peers elsewhere, are exposing themselves to the cyber-threat landscape, highlighting a crucial economic and security shift.

BITTER STORIES

Padmini, a middle-aged woman, shares her brush with a cyber criminal. "I received a call saying I was selected as one of the 'Best Couples' and won ₹ 1 lakh. They told me to come to a star hotel in Hyderabad to collect the prize and asked me to provide my Aadhaar and account details."

Another woman related how the bank account of a self-help group was hacked and ₹30,000 siphoned off. When her son-in-law checked the records, the bank claimed the money was drawn in his name, even though he hadn't done it.

"We filed a report, but the money was never recovered. In such cases, the trainer advised that we should change the SIM card immediately if it has been compromised," she said.

Every woman in the cohort had a bitter story of cyber fraud. Trainer Regonda Vijaya Shresta explained how cyber fraud happens and what they should do to stay safe.

TYPES OF FRAUDS

During the six-hour cohort, they learn about impersonation, WhatsApp-based scams, phishing calls, password issues, how to be safe while doing online payments and other cyber frauds. The cohort is part of 'Cyber Rakshak', an initiative by IT firm Kyndryl that aims to educate women in villages and semi-urban areas about cyber fraud.

Kyndryl is rolling out this programme in association with the Common Service Centres of MeitY and Data Security Council of India (DSCI). It has so far trained about 74,000 women across 18 States and 144 districts over the last three years.

"This is a mass awareness programme. This is a targetted and focused initiative. Cyber Rakshak is a six-hour structured module (three modules of two hours each) of in-person learning, followed by two hours of personal independent learning and a test," Geetanjali Gaur, Social Impact leader, Kyndryl India, told *businessline*.

FY28 GDP data likely to incorporate results of debt and investment survey

Shishir Sinha
New Delhi

Economic growth data based on changes in the value of Gross Domestic Product (GDP) for FY28 is likely to include results of the latest round of the All India Debt and Investment Survey (AIDIS), officials said.

For the first time after Covid, the latest round of AIDIS is scheduled to be conducted from July 2026 to June 2027. It is one of the flagship surveys conducted by the National Statistics Office, under the Statistics and Programme Implementation Ministry. Origins of AIDIS can be tracked back to the All-India Rural Credit Survey (1951-52), later expanded to cover both debt and investment in 1961-62.

Since then, the NSO has conducted AIDIS roughly once every decade, most recently in the 77th Round (2019) at the request of the Reserve Bank of India.

The survey provides critical data on household indebtedness and asset ownership across both rural and urban areas. Its findings are instrumental in shaping national accounts, assessing inequality in asset distribution, understanding credit markets and informing policies of the RBI, MoSPI and other institutions.

KEY INPUT

The survey is critical to understand consumption patterns especially at a time when the share of private final consumption expenditure in the GDP has improved to 62.5 per cent in the July-September quarter of FY26 from 62.2 per cent during the corresponding period of FY25 while its growth in constant price terms has improved from 6.4 per cent to 7.9 per cent during the corresponding period.

The latest round of AIDIS is scheduled to be conducted from July 2026 to June 2027

Finance Minister Nirmala Sitharaman, in a written reply during the just-concluded winter session of the Lok Sabha, highlighted that the government had undertaken a multi-pronged strategy to stimulate consumption growth in the economy through a combination of demand-supporting measures, income-enhancing supply-side strategies and structural reforms.

"Policy measures, such as the new income tax exemption for annual incomes up to ₹12 lakh, recent GST rate rationalisation, skilling, employment generation and infrastructure development, along with expanded access to credit through schemes like MUDRA and PMSVANidhi, are expected to boost consumption growth in the economy," she said.

The findings of AIDIS will help in understanding fixed capital formation, a key input in estimating GDP, reflecting household investments in assets such as property and other durable goods. It is expected to find the investment pattern of various economic groups of society. GDP data for FY28 will have a base year of 2022-23. Its first projection will be made public in the Economic Survey of FY27.

A CH-CHE

CHENNAI
businessline.
MONDAY - DECEMBER 29 - 2025

QUICKLY.

SC to hear *suo motu* case on Aravalli Hills today

New Delhi: Amid a row over the definition of Aravalli Hills approved by it, the Supreme Court has taken ***suo motu*** cognisance of the issue and is slated to hear the matter on Monday. A three-judge bench of Chief Justice of India Surya Kant and Justices JK Maheshwari and Augustine George Masih is likely to hear the matter. PTI

SS Retail files draft papers with SEBI for ₹500 cr IPO

New Delhi: Mobile retail company SS Retail has filed preliminary papers with capital markets regulator SEBI to raise ₹500 crore through its initial public offering (IPO). The company's maiden public offering will be a combination of fresh issue of shares worth ₹300 crore, along with an offer for sale of ₹200 crore. PTI

No grace period for New Zealand to meet $20 b investment commitment

TAKING NOTE. 'Joint panel with reps from both countries, DPIIT panel to keep track of investment flow'

Amiti Sen
New Delhi

New Zealand's commitment to facilitate $20 billion in private sector investment to India over 15 years — a significant gain for India from the newly-concluded bilateral free trade agreement (FTA) — has a strict timeline with no built-in grace period, unlike India's pact with the EFTA bloc, sources have said.

New Delhi can decide to "claw back" some of its concessions to New Zealand at the end of the 15-year period if the investment target is not met.

India's FTA with the EFTA countries, which includes Switzerland, Norway, Iceland and Liechtenstein, implemented earlier this year, has a commitment of $100 billion of private sector investments over 15 years, but it has an in-built grace period of three years.

"It will be up to India to decide if New Zealand has seriously pursued its commitment to promote $20 billion investments at the end of the 15-year period. In case it is observed that most of the investments have been made and the shortfall is very little, it will be Delhi's prerogative to grant some grace time," a source tracking the matter told *businessline*.

If the investments are not satisfactory, then India can take 'remedial action' such as withdrawing tariff benefits on certain items, that could be decided at that point of time, the source added.

WIN-WIN DEAL. The pact can benefit sectors like processed foods, machinery, pharmaceuticals and electronics

"The investment commitment of $20 billion from New Zealand is a big gain for India as right now the total investment flow is less than $1 billion. India will keep a keen eye on it," the source said.

To ensure accountability, a joint committee with representatives from both sides will be set up while the Department for Promotion of Industry and Internal Trade (DPIIT) will set up its own committee to monitor the flows, the source said.

"The Investment Cooperation and Promotion Chapter provides for broad cooperation between New Zealand and India in an effort to deepen the trade and investment relationship. The chapter sets out cooperation activities that may take place, such as trade delegations, workshops and events, to promote two-way investment and build the investment relationship between our two countries," according to a New Zealand government public note.

The chapter also includes a commitment for New Zealand to promote investment in India with the aim to increase private sector investment by $20 billion over 15 years, it said."The chapter is not subject to dispute settlement, including Investor-State Dispute-Settlement, though there is a 'remedial' process available to India," the note added. To facilitate New Zealand investments, India will establish a 'New Zealand Investment Desk' to assist investors with any issues that might arise across the investment life-cycle.

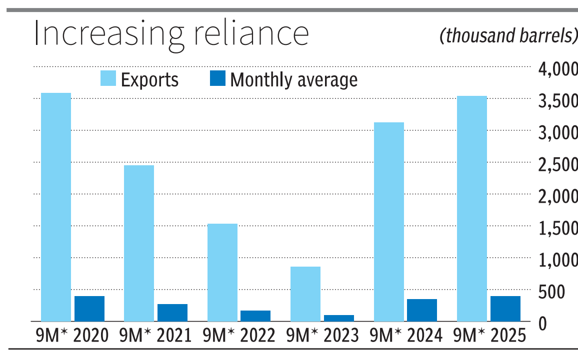
Apart from attracting investments, India holds the potential to increase its exports of goods to New Zealand and substantially, per an analysis by research body Global Trade and Research Initiative.

ZERO-DUTY ACCESS

The pact, which offers zero-duty market access to all goods from India, could benefit sectors, such as processed foods, pharmaceuticals, machinery, electronics, vehicles, aerospace components and furniture, the note said.

In FY25, New Zealand imported goods worth $711 million from India, which was less than 1.5 per cent of its total imports of $50 billion, it said.

US ethanol exports to India may hit a record in 2025



Source: US Energy Information Administration (EIA) 9M*: January-September

Rishi Ranjan Kala
New Delhi

The US' exports of ethanol to India are expected to appreciate for the second calendar year (CY) in a row during 2025, with expectations that the cargoes in terms of volume will rise to their highest level on record.

India imports fuel ethanol (ethanol), largely used in industries, from the US. It is a renewable fuel produced by fermenting sugar from biomass and typically corn in the US. Besides blending it with petrol, ethanol is also used by pharmaceuticals, cosmetics and chemical industries.

According to the US Energy Information Administration (EIA) data, fuel ethanol exports to India stood at 35,39,000 barrels during January-September 2025, averaging more than 3,93,000 barrels a month.

This is a tad lower than the volumes exported to India during the corresponding nine-month period in CY 2020 at about 35, 89,000 barrels, which averaged almost 3,99,000 barrels per month.

Fuel ethanol exports to India during January-September 2025 have already surpassed the volumes shipped in CYs 2022 (17,34,000 barrels) and 2023 (19,97,000 barrels).

Besides, analysts and traders anticipate that ethanol exports in all of 2025 will surpass that of 2020 (41,81,000 barrels), 2021 (35,53,000 barrels) and 2024 (45,15,000 barrels).

The higher ethanol exports also reflect on India topping up its energy purchases, which have averaged $12-13 billion annually, from the US. New Delhi expects to add another $12-13 annually to its energy import bill from Washington to balance bilateral trade.

UTILISATION

During November last year, the US EIA, in a report, noted that India is among the top three export destinations for fuel ethanol.

Following a period of slump in 2022 and 2023 due to increased supply chain costs and elevated US fuel ethanol prices, exports to India not only rebounded to record volumes in 2024 but also exceeded the highs from the 2017-2020 period.

Although India's ethanol blended programme (EBP) prohibits the use of imported ethanol to meet blend targets, the country uses imported ethanol for industrial purposes, freeing up domestic produce for its transportation blend targets, the US EIA said.

"With reduced production of sugarcane and rice recently, India relied more on imports of US fuel ethanol to meet industrial sector demand and free up domestic ethanol production for EBP targets," it added.

'ISRO working on third launch pad at Sriharikota'

Press Trust of India
Chennai

ISRO is in the process of developing a third launch pad at the Sriharikota spaceport and is currently identifying the right vendors for it, a top scientist said.

The Sriharikota complex, which covers an area of 175 sq km, is located about 135 km east of Chennai.

It has been serving the Bengaluru-headquartered space agency for the launch of various satellites using different launch vehicles.

To move ahead with its plan of placing bigger satellites weighing over 12,000-14,000 kg in various orbits, it requires bigger launch vehicles, Padmakumar ES, Director and Distinguished Scientist, Satish Dhawan Space Centre, Sriharikota, said. To serve this purpose, ISRO is planning a third launch pad, he said. "We plan to develop, install and commission a third launch pad in four years. Activities are going on for that," he told *PTI*.

PROCUREMENT PHASE

"We are starting the procurement phase and identifying the right vendors to deliver us the support that is needed for the mega project," he said.

Responding to a query, Padmakumar said once the third launch pad comes into operation, it would be utilised for launching over 14,000 kg satellites that will be carried by Next Generation Launch Vehicles (NGLV).

ISRO on December 24 successfully placed the US-based satellite, Bluebird Block-2, onboard a LVM3-M6 rocket into the low Earth orbit, making the space agency launch such a heavy satellite from Indian soil for the first time.

NEXT SERIES

Padmakumar explained that the third launch pad is required for the next series of launch vehicles.

To a query about the ISRO launch complex currently under construction at Kulasekarapattinam in Tamil Nadu's Tuticorin district, he said the facility would be used to launch Small Satellite Launch Vehicles (SSLVs), which can place satellites in the low Earth orbit.

"These satellites may weigh about 500 kg and can be placed in LEO. For such missions, we will be using that (Kulasekarapattinam) facility," he said.

The ISRO currently uses three launch vehicles — the Polar Satellite Launch Vehicle (PSLV), Geosynchronous Satellite Launch Vehicle (GSLV) and Launch Vehicle Mark 3 (LVM3) or as previously called, Geosynchronous Satellite Launch Vehicle Mk-III.

Centre notifies guidelines for two shipbuilding initiatives with an outlay of ₹44,700 crore

Our Bureau
Chennai

In a further boost to shipbuilding capacity, the Centre on Saturday notified guidelines for two shipbuilding initiatives at an outlay of ₹44,700 crore.

The Ministry of Ports, Shipping & Waterways (MoPSW) notified the operational guidelines for the Shipbuilding Financial Assistance Scheme (SBFAS) and the Shipbuilding Development Scheme (SbDS) to strengthen India's shipbuilding capacity and improve global competitiveness.

The approved guidelines lay down a transparent and accountable framework for implementation. This comes after the Union Cabinet on September 25 approved a comprehensive package of ₹69,725 crore to revitalise India's shipbuilding and maritime ecosystem.

Union Shipping Minister Sarbananda Sonowal said that the new guidelines will create a "stable and transparent framework that will revive domestic shipbuilding, boosting forward and backward linkage amping up the 'Make in India' initiative, enable largescale investment and build world-class capacity, positioning India as a major maritime nation on the path to Viksit Bharat and Aatmanirbhar Bharat."

INCENTIVES

Under SBFAS, which has a total corpus of ₹24,736 crore, the government will provide financial assistance ranging from 15 per cent to 25 per cent per vessel, depending on the vessel category.

The scheme introduces graded support for small normal, large normal and specialised vessels, with stage-wise disbursement linked to defined milestones and backed by security instruments.

Incentives for series orders are also included.

Over the next decade, SBFAS is expected to support shipbuilding projects worth about ₹96,000 crore, stimulate domestic manufacturing and generate employment across the maritime value chain, stated a release.

BUDGETARY OUTLAY

The SbDS, with a budgetary outlay of ₹19,989 crore, focuses on long-term capacity and capability creation.

The scheme provides for the development of greenfield shipbuilding clusters, expansion and modernisation of existing brownfield shipyards, and the establishment of an India Ship Technology Centre under the Indian Maritime University to support research, design, innovation and skills development. Under SbDS, greenfield shipbuilding clusters will receive 100 per cent capital support for common maritime and internal infrastructure through a 50:50 Centre–State special purpose vehicle, while existing shipyards will be eligible for 25 per cent capital assistance for brownfield expansion of critical infrastructure such as dry docks, shiplifts, fabrication facilities and automation systems.

Disbursements will be milestone-based and monitored by independent evaluation agencies.

The scheme also includes a Credit Risk Coverage Framework, offering government-backed insurance for pre-shipment, post-shipment and vendor-default risks to improve project bankability and financial resilience. India's commercial shipbuilding capacity is projected to rise to about 4.5 million gross tonnage per annum by 2047, according to the Ministry.

Port sector reforms and increased shipbuilding activity drive credit surge to shipping industry

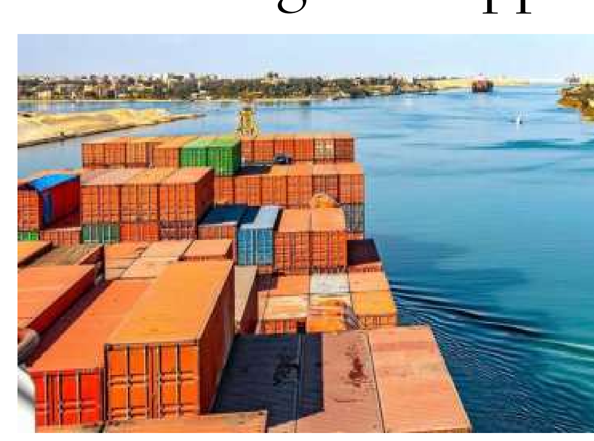
Rohan Das
Chennai

India's shipping sector has seen a surge in bank credit, with data from the RBI reporting that outstanding credit to the sector stood at ₹9,959 crore as of October 2025, up 28 per cent year-on-year from the ₹7,782 crore in the same period last year.

The outstanding credit in the sector has risen nearly 2x compared to the ₹5,364 crore outstanding as of October 2020.

Speaking to *businessline*, analysts suggest that the growth of disbursements to the sector has seen an increase due to the steady volume growth at the major ports and the scaling up of capex-heavy indigenous shipbuilding capabilities.

Bhavik Vora, Partner and Transportation & Logistics Industry Leader, Grant Thornton Bharat, said the creditworthiness has been supported by improvements in port capabilities.



CREDIT SPIKE. The outstanding credit in the sector has risen nearly 2x compared to the ₹5,364 crore outstanding as of October 2020

"Sustained capex by existing ports and capacity addition through new integrated port-led logistics projects have materially strengthened the operating environment for shipping. Major ports have recorded y-o-y growth of around 7-8 per cent in cargo handled through April-November 2025, and core segments such as crude, containerised freight and bulk commodities have translated into more predictable revenues and cash flows, leading to improved credit assessment by lenders," he said.

OUTSTANDING LOANS

Consequently, the ports industry has seen a 30 per cent y-o-y jump in outstanding loans to ₹7,588 crore in October 2025 from ₹5,823 crore in the same month last year, the highest within the infrastructure industries.

Prashant Vashisht, Senior Vice-President & Co-Group Head, ICRA Ltd, argued that the increased thrust on domestic shipbuilding had played a major role in the boost in credit.

"Major international shipbuilders are already operating at near-full capacity, with sizeable order books extending over the next 3-5 years. This limits India's ability to quickly procure new vessels from international shipping companies, making it imperative to scale up indigenous shipbuilding capabilities," he said.

Tasma urges FM to extend duty-free cotton import facility as production slows

Our Bureau
Chennai

The Tamil Nadu Spinning Mills Association (Tasma) has urged Union Finance Minister Nirmala Sitharaman to extend duty-free import of cotton beyond December 31, 2025, as the country could face a shortage in view of lower production.

Tasma President AP Appukutty said extending duty-free imports may ease the availability of cotton and help mills competitively price their products in the global market.

Welcoming the government's move to extend duty-free imports from September 30 to December 31, he said that it helped mills import cotton at a price lower by 11 per cent and offer their products at a competitive price.

CRITICAL SITUATION

The decision proved crucial when the industry faced a critical situation due to the imposition of 50 per cent cent tariffs by the US on all imports.

Pointing to the Committee on Cotton Production and Consumption estimating cotton production for this season (October 2025-September 2026) lower at 292.15 lakh bales (170 kg), Appukutty said domestic availability will be the lowest compared to the past few years.

Extending duty-free imports further will benefit mills, particularly at a time when cotton arrivals are reported to be low.

Mangaluru emerges as Karnataka's coastal technology gateway

Sanjana B
Bengaluru

Once seen largely as a talent supplier to Bengaluru and Hyderabad, Mangaluru is now carving out its own place on Karnataka's technology map, with a fast-expanding GCC ecosystem, growing start-up activity and increasing interest from global IT and SaaS companies.

While Bengaluru remains the State's innovation nucleus and Mysuru has built depth in enterprise IT and ESDM, Mangaluru is evolving as Karnataka's coastal technology gateway, with strengths in fintech, logistics-tech, deeptech, and increasingly data and AI infrastructure. With IT remaining the anchor for GCCs, on the start-up side there is activity in agritech and healthtech.

Mangaluru's technology ecosystem comprises over 250 companies, including about 200 start-ups and 50 mid-sized firms.

WORK-LIFE BALANCE. A view of Mangaluru city MANJUNATH H S

Its technology footprint includes IT giants like Infosys, which has operated in the city since 1995 with about 3,900 employees across a 360-acre campus, alongside Cognizant, with about 1,600 employees in the region, Tech Mahindra, Mphasis, Hexaware, Riskonnect, and Bose Professional.

EG, a Denmark-based SaaS company, entered Mangaluru two years ago with a 20-member team and has since scaled up to around 850 employees, making it the largest GCC operation in the region. All its R&D, product development and innovation work is now done from Mangaluru.

The region has over 25 engineering colleges and over 150 colleges that together generate over 40,000 graduates each year. Major institutions in the region include NITK Surathkal, MAHE Manipal, Nitte, Sahyadri, and MITE.

THE COVID PLUNGE

Rohith Bhat, Founder of the Mangaluru-based wrkwrk and 99Games, explained. "Post-COVID, companies began realising that operations no longer needed to be confined to metros. Since Mangaluru has historically supplied talent to cities like Bengaluru and Hyderabad, organisations started seeing value in setting up centres here, especially as many senior professionals were keen to return and take on leadership roles locally."

Mangaluru is seeing a reverse migration of experienced talent, with KDEM's Homecoming Initiative enabling the return of over 2,000 professionals. The region attracted nearly 40 new company offices across the Mangaluru–Udupi–Manipal belt over the last two years.

In recent years, multiple homegrown technology firms from the region have seen global exits, including Robosoft Technologies of Udupi, acquired by Japan's TechnoPro Holdings for about ₹800 crore, Niveus Solutions, taken over by NTT DATA, and Novigo Solutions, acquired by R Systems in 2025 in a deal valued at up to ₹950 crore, one of the region's largest exits.

LOW COST OF LIVING

Sanjeev Kumar Gupta, the CEO of KDEM, highlighted that Mangaluru contributes over 5 per cent to Karnataka's GDP. With strong port and airport connectivity, reliable power, coastal cooling advantages and a high quality of life, Mangaluru offers metro-grade capabilities without congestion.

Bhat shared that the cost of living is also lower — housing costs are typically 40–50 per cent lower than in Bengaluru, and schooling and daily living expenses are more affordable. Salaries are competitive, and attrition is lower, reducing retaining costs and operational disruption, making the city attractive for R&D-led companies.

"We call Mangaluru the '15-minute city'; the airport, railway station, office and even the beach are all within 15 minutes' travel. This balance between work and life is a major draw," he said.

YEAR IN REVIEW: MARKETS.

Q & A.

2025 was more about execution than new rules, says COO of Kotak Securities

Akshata Gorde
Mumbai

The pace of fresh rule-making slowed in 2025, compared to 2024, as the Securities and Exchange Board of India (SEBI) shifted focus to implementing and enforcing existing regulations.

"Last year was more about bringing out new consultation papers, whereas this year has been more about execution and enforcement of those circulars," said Sandeep Chordia, Chief Operating Officer at Kotak Securities.

> Around 23 per cent of retail investors lose money in derivatives, but it is not the regulator's role to decide who should gain or lose; these markets are zero-sum
>
> **SANDEEP CHORDIA**
> COO, Kotak Securities

Compared with 2024, do you think the pace of regulatory tightening slowed in 2025?

The pace at which new regulatory changes were coming in has definitely slowed down.

Last year was more about bringing out new consultation papers, whereas this year was more about execution and enforcement of those circulars.

The regulator has always taken the consultative route before coming out with any rule. This is a welcome thing. SEBI has given sufficient time for the industry to prepare for any new changes.

It even deferred some of the circulars as recent as the T + 0 settlement after hearing industry challenges and extended the deadline for implementation by QSBs indefinitely.

Do you expect T + 0 to become operational in 2026?

It should. But there are multiple stakeholders, including exchanges, clearing corporations, brokers, bankers and custodians, whose systems need to undergo substantial changes. SEBI will give a right amount of time for the industry to prepare and make sure that it happens properly rather than through rushed implementation.

T + 0 has a lot of operational difficulties, because everything has to happen on a real-time basis, and with the geographical separations, FPIs will also need to make a lot of changes.

Do you believe more tightening is needed in equity derivatives, especially in weekly expiries?

SEBI has much more data than the market. Around 23 per cent of retail investors lose money in derivatives, but it is not the regulator's role to decide who should gain or lose; these markets are zero-sum.

The concern was excessive churn on expiry days. Measures like increasing lot sizes and restricting weekly expiries were meant to curb unnecessary speculation.

And they have worked. Derivative clients have fallen from about 40 lakh a month to 30 lakh, while average daily premium volumes remain largely unchanged.

The regulator is also looking at suitability criteria, but I think India is sometime away from the implementation of a suitability framework.

bl.podcast
Scan the QR to listen to the full interview
https://tinyurl.com/cx3x5862

SEBI paces out biz norms, says peace out to decades-old rules

RELAXED APPROACH. In 2025, the markets regulator gave firms more room to meet public shareholding norms and lowered minimum offer sizes in select cases

Akshata Gorde
Mumbai

In 2025, the Securities and Exchange Board of India (SEBI) swapped a sprint for a marathon.

For much of 2024, the capital markets regulator's approach was considered aggressive, with SEBI rolling out a string of tighter norms for derivatives, corporate governance and compliance across market participants.

With a new Chairman, Tuhin Kanta Pandey, taking charge in March 2025, SEBI adopted a more calibrated approach, seeking to balance investor protection with ease of doing business for intermediaries and issuers.

The shift was visible both in boardroom decisions and market response. SEBI overhauled the three decades old stock brokers' and mutual fund regulations.

It also relaxed minimum public float requirements and extended the compliance timelines for big listings, giving firms more time to meet public shareholding norms and lowering the minimum offer sizes in select cases.

These moves signalled a pause on rules seen as overly burdensome. But the pause did not translate into leniency.

The derivatives market remained a major focus. A surge in retail participation in futures and options prompted SEBI to strengthen margin requirements, refine position limits and push for tighter risk disclosures and surveillance. The objective was to rein in excessive activity around weekly expiries and complex strategies that regulators believe have amplified retail losses and volatility.

Speculation about a possible ban on weekly derivatives contracts gathered pace towards the end of the year, forcing the Chairman to publicly dismiss the idea. Any further measures, he said, would be data-driven and follow detailed consultation.

"There could still be more tightening in derivatives," said a senior broking executive. "The Jane Street episode exposed gaps in the system. Discussions around suitability tests and incentives for longer-dated contracts and participation in the cash market are clearly underway."

JANE STREET FIASCO

SEBI's probe into alleged expiry-day manipulation by global trading firm Jane Street showed the regulator's willingness to act against sophisticated proprietary desks. The firm has deposited significant alleged unlawful gains as part of the ongoing investigation, which will be heard next in January.

The scrutiny also intensified on small and medium enterprise (SME) IPOs. After several crackdowns on speculative listings that often saw sharp post-listing falls and governance lapses, SEBI tightened eligibility criteria, promoter lock-in rules and post-listing obligation for SME issuers to ensure that only firms with basic financial substance and credible governance enter public markets.

SEBI also took action against finfluencers and unregistered advisory platforms like Baap of Charts, Adhvut Sathe and Asmita Patel.

SYSTEM OVERHAUL

At the same time, several transformational proposals were slowed or softened. The common contract note was implemented in June after four delays, combining exchange-wise notes into a single document to ease operational challenges for FPIs. Other reforms, such as the closing auction session to replace VWAP pricing and proposals around the financial autonomy of clearing corporations, remain under discussion. A similar story played out with the T + 0 settlement. While SEBI pushed for faster settlement cycles to reduce systemic risk, the implementation by qualified stock brokers was pushed back indefinitely due to technological and operational constraints.

"2025 saw the most deliberate effort from SEBI to elevate M&A since the 2011 SAST regulations. This overhaul seemingly intends to shift India from a promoter-dominated M&A environment to a market-driven, rules-based system where transparency, price integrity and governance drive value creation," said Anurag Tyagi, Partner, Deal Value Creation Services at BDO India.

Looking ahead, several proposals, including revie-ws of securities lending, takeover norms and short-selling rules, could move forward in 2026. We may also finally see progress on marquee events, such as the long-awaited NSE IPO. The coming year may test whether delayed reforms can finally move from the rule books to reality.

KEY EVENTS 2025.

- Higher margins, refined position limits and stronger surveillance to curb equity derivatives' expiry-day excesses
- High-profile action against global prop trader for alleged expiry-day manipulation
- Introduction of Specialised Investment Fund (SIF)
- Recognition and operationalisation of Past Risk and Return Verification Agency (PaRRVA)
- Single-window route introduced to ease foreign portfolio investor entry
- Several ease of doing business measures across industry participants

THINGS TO WATCH OUT FOR 2026.

- SEBI clearance awaited for long-delayed listing of the National Stock Exchange
- Possible incentives for longer-tenure contracts and cash market participation
- Amendments to take-over and open offer norms under discussion
- REITs to be reclassified as equity in mutual funds from January
- Proposed Securities Markets Code to consolidate laws and expand SEBI's powers
- Ongoing Jane Street case in SAT challenging the SEBI order

TODAY'S PICK.

Choice International (₹822.50): BUY

Gurumurthy K
bl. research bureau

The short-term outlook is bullish for Choice International. The share price has surged about 10 per cent in the last couple of weeks.

This rise is happening after taking support from the 200-Day Moving Average, currently at ₹716.

This rise has taken the stock well above a key resistance level of ₹808. The region between ₹808 and ₹807 will now act as a good support and limit the downside. Choice International share price can rise to ₹860 in the coming weeks.

Traders can buy Choice International shares now at ₹822. Accumulate on dips at ₹812. Keep the stop-loss at ₹796. Trail the stop-loss up to ₹828 as soon as the stock goes up to ₹835. Revise the stop-loss higher to ₹840 and ₹848 when the price touches ₹845 and ₹852, respectively. Exit the long positions at ₹860.

(Note: The recommendations are based on technical analysis. There is risk of loss in trading.)

BIS releases national testing standard for electric agri tractors

Our Bureau
New Delhi

SAFE FARMING. The new standard will ensure the safety, reliability and performance of electric agricultural tractors through uniform and standardised testing protocols

In a first, the Centre has released a national test standard for electric agricultural tractors, developed by the Bureau of Indian Standards (BIS). This will ensure the safety, reliability and performance of electric agricultural tractors through uniform and standardised testing protocols.

Union Minister for Consumer Affairs, Food & Public Distribution Pralhad Joshi released IS 19262: 2025 'Electric Agricultural Tractors — Test Code', which is voluntary for now.

"The implementation of IS 19262: 2025 through authorised testing institutes would facilitate wider adoption of electric agricultural tractors in the country, promote innovation in clean agricultural technologies and contribute to reduced emissions and sustainable agricultural mechanisation," the Consumer Affairs Ministry said in a statement.

It establishes a common understanding among all stakeholders with respect to uniform terminology, general guidelines and tests to be carried out on such tractors on various parameters.

Electric agricultural tractors represent an emerging segment in India's farm mechanisation ecosystem. The tractors offer a sustainable alternative to diesel-powered versions, with benefits including reduced emissions, lower operating costs and improved operational performance.

COLLABORATION

Electric tractors help reduce air pollution and the carbon footprint of agricultural operations. It also significantly lowers noise.

"As the adoption of electric agricultural tractors grows in the country, the absence of dedicated and harmonised testing procedures posed challenges in assessing their performance, safety and reliability," it noted.

BIS developed the test in response to the request of the Mechanization & Technology Division, Ministry of Agriculture & Farmers' Welfare, collaborating with key stakeholders, including electric tractor manufacturers, testing and certification agencies, research and academic institutions, and technical experts.

Representatives from the Ministry of Agriculture and Farmers' Welfare, the ICAR-Central Institute of Agricultural Engineering, the Central Farm Machinery Training and Testing Institute, Budni, the Tractor and Mechanization Association, the Automotive Research Association of India, and the All India Farmers Alliance, contributed to the standard development process.

"The notification of this standard marks an important step towards strengthening India's standardisation framework for emerging technologies in the agriculture sector, while aligning domestic practices with evolving international trends in electric mobility and farm mechanisation," per the statement.

Meanwhile, the Ministry also announced that the National Test House (NTH) has entered into a memorandum of understanding (MoU) with the Defence Materials and Stores Research & Development Establishment (DMSRDE), a laboratory of the DRDO.

The MoU aims to facilitate collaborative research and testing activities, sharing of laboratory and instrumentation facilities, and exchange of scientific and technical expertise, among others.

Open-end spinning mills in TN slash output by 50%

Our Bureau
Chennai

Open-end spinning mills, numbering over 600 in Tamil Nadu, have cut their production by 50 per cent in an effort to improve profitability and market conditions.

The mills are facing losses as prices of cotton waste, which is the main raw material for them, have increased amid a fall in cotton and yarn prices, said G Arulmozhi, President, Open-End Spinning Mills Association (OSMA).

Tamil Nadu's open-end spinning mills produce about 25 lakh kg of cotton grey yarn and 15 lakh kg of coloured yarn daily. "This crisis echoes recent reports of mills halting operations due to similar cost pressures," he said.

Cotton prices have dropped from ₹60,000 per candy (356 kg) in October to ₹53,500 in December. "Yet, cotton waste like comber noil (short-fibre byproduct from the cotton combing process in yarn manufacturing) rose from ₹100/kg to ₹113. Open-end yarn prices also fell, with 20s weft from ₹150/kg to ₹140kg and 20s warp from ₹165/kg to ₹158," said Arulmozhi.

Open-end mills rely on waste cotton for grey yarn, but hikes of ₹15/kg have eroded margins. "Daily output losses could exceed ₹10 crore during full halts, affecting powerloom and handloom suppliers," he said.

OSMA is demanding that the cotton waste price be controlled, and that the State government reduce electricity tariffs. Also, the Centre should curb the export of cotton waste to stabilise the sector. "The scaling back of production to 50 per cent of the capacity is to avoid further losses until cotton waste prices align with falling cotton values," the OSMA President said.

Cotton waste comber noil is exported in huge volumes, and if this is made available in the domestic market, it could be used for "made-up" products that would benefit cities such as Karur in Tamil Nadu and Panipat in Haryana. These cities can ship value-added products.

"Instead of exporting a product at ₹100 a kg, we can do value-add and export at ₹1,000/kg and get more foreign exchange," said Arulmozhi. Also, the exports of these have resulted in a shortage of raw material for open-end mills, he said.

CHENNAI
businessline.
MONDAY - DECEMBER 29 - 2025

thehindubusinessline.
MONDAY - DECEMBER 29, 2025

Visa woes

H-1B squeeze will hurt students, professionals hard

The US government is reshaping the H-1B visa programme by replacing its long-standing lottery system with a wage-based allocation model to attract highly specialised, high-paying talent while reducing dependence on mass recruitment. The change is likely to make it harder for entry-level professionals and volume-driven employers to secure visas.

The Department of Homeland Security has announced amendments to the regulations governing the H-1B selection process so that visas are prioritised for higher-skilled and higher-paid "aliens", ostensibly to protect the wages, working conditions and job opportunities of American workers. In practice, this shifts power decisively towards large employers and senior-level professionals. This regulatory overhaul arrives on the heels of another disruptive change: the expansion of social-media vetting to all H-1B visa applicants. Adding to the squeeze is a steep one-time fee of $100,000 for first-time H-1B applications. Together, these measures signal, if there were any doubts, that the US is no longer rolling out the red carpet for immigrant professionals, particularly engineers and technology workers. The most immediate shock will be felt by Indian students enrolled in American universities. Every year, thousands take on heavy education loans in the expectation of securing a job at a US technology firm after graduation. That journey, via Optional Practical Training and ultimately an H-1B role, has long provided the economic logic for studying in America. Now the pathway is narrower, more expensive and less predictable.

Even for students graduating from Indian engineering colleges, the US stood unrivalled as the dream destination, not merely for higher salaries and a better quality of life, but for access to deep pools of venture capital, world-class research ecosystems and a culture of risk-taking. Working in India, by contrast, has never seemed an equal alternative. Weak infrastructure, a shallow pipeline of frontier-technology roles and relatively modest research ambitions limit opportunities. Even in the R&D centres of MNCs, the work assigned in India is often incremental rather than path-breaking. Yet this new reality must be faced. India's gross expenditure on R&D remains stuck at about 0.64 per cent of GDP, far below most global peers. India's top IT services firms spend only 0.4–1.3 per cent of revenue on research, a ratio that has barely shifted in years. This is unsustainable for a nation that aspires to technological leadership.

However, Indian IT firms will be partly insulated from these policy shifts, having already moved towards greater local hiring in the US. At the same time, big technology firms such as Microsoft, Amazon, Apple and Google, which have relied heavily on Indian talent through the H-1B route over the past decade and a half, are now committing multi-billion-dollar investments to India. This will undoubtedly open more doors for Indian professionals, but the domestic ecosystem must strengthen rapidly to keep pace.

OTHER VOICES.

The Guardian

Adapting to the climate crisis

The record-breaking 252mph winds of Hurricane Melissa that devastated Caribbean islands at the end of October were made five times more likely by the climate crisis. Scorching wildfire weather in Spain and Portugal during the summer was made 40 times more likely, while June's heatwave in England was made 100 times more likely. Attribution science has made one thing clear: global heating is behind today's extreme weather. That greenhouse gas emissions warmed the planet was understood. What can now be shown is that this warming produces record heatwaves and more violent storms with increasing frequency. What we can do to minimise, or at least reduce, the risks to life from such events – as well as more gradual changes – is what climate adaptation experts think about all the time. The alarming consensus is that we are not doing anywhere near enough. LONDON, DECEMBER 26

讀賣新聞
THE YOMIURI SHIMBUN

Electoral Reform: Crucial to Emphasize Political Stability

Excessive emphasis has been placed on the equal value of votes, causing distortions to emerge in the electoral systems for both Diet chambers. Political parties should accelerate discussions on reforming the systems. The electoral system for the House of Representatives, which combines single-seat constituencies and proportional representation blocs, was revised through a legal amendment in 2016 that introduced reviews of zoning for single-seat constituencies every five years in line with the findings of the population census. This was prompted by judicial decisions ordering that vote-value disparities be corrected. Consequently, electoral zoning now must be revised frequently as the population continues to shift from rural to urban areas. This has caused confusion among voters. TOKYO, DECEMBER 28

From populist socialism to populist capitalism

There's been a small flood of reforms in the last nine months. But the bureaucracy may again be the stumbling block

LINE& LENGTH.

TCA SRINIVASA RAGHAVAN

When it comes to economic policy, Indian governments have firmly favoured labour against capital. But 2025 is likely to go down as a sort of 1991 equivalent, the year when for the first time since 1947 a government veered towards capital, away from labour.

In 1991 that was done under extreme duress because India had nearly run out of foreign exchange and needed a massive loan from the IMF to pay for its imports. Thus, the sudden lurch toward capital was not at all voluntary as the Congress would like the country to believe.

This year also we have seen some very big pro-capital or pro-well off reforms in income tax, GST, the new labour codes, the stock market code, the reform of MGNREGA, and reform of nuclear energy policy to name just a few. Some years ago corporate tax rates were cut to an average of about 20 per cent.

It's an impressive list for a government that had gone to sleep, waking up only for intense political activity. It's legitimate, therefore, to ask what's changed, why this new demonstration of love for capital.

After all, the BJP will still need the votes of the poor to win in the next general election. So why favour the well off? The problem is that this time it can't do it with government money alone. It needs the rich, too, to help it out in the matter of jobs and work. It needs much higher levels of private sector fund deployment — investment — to generate employment.

IT'S THE BUREAUCRACY, STUPID

This explicit acknowledgment, of the need for the private sector, is a sea change. The dominant political party, instead of populist socialism, is now opting for populist capitalism. It is recognising the truth of Margaret Thatcher's famous 1976 statement, "the problem with socialism is that eventually you run out of other people's money".

> **Unless Modi reforms the bureaucracy, we will not be Viksit Bharat by 2047. The simple point is that way too much** power is vested in *babudom*. This power is used to obstruct and to extract

But here I must reiterate, for the umpteenth time, an old complaint of mine: the bureaucracy. Unless Modi reforms it, we will not be Viksit Bharat by 2047.

The simple point is that way too much power is vested in *babudom*. This power is used to obstruct and to extract. The well-meaning *babus* obstruct. The knaves extract. A few do both. There are also those who do neither. All of these are randomly distributed in the government which increases both uncertainty and risk for businesses.

I once asked a very well-known, very influential (and now very dead) civil servant what was meant by 'government'. He said us, meaning his tribe. What about the cabinet, I asked. He dismissed them in the most disparaging way.

Dealing with this mindset must become Modi's priority. It is the old colonial one, the core of Macaulayism. The origins of this mindset lie in the influx of Victorian priests after the British government took over the governance of India from the East India Company. These priests found Indians sinful and venal.

Their influence on lawmaking was to require Indians to take permission from the district magistrate for everything. This was the reverse of the traditional British approach that you can do anything as long as "there is no law against it". In India you could do nothing without permission.

That nonsense persists. It's the source of corruption and obstruction. The government states the intention by declaring a policy, Parliament makes that intention possible by making a law, and the bureaucracy sabotages it all by making the rules to implement the two.

THE REAL POWER

So Modi should not be surprised if all his reforms have less than dramatic effect. It's having the driver of your car regarding himself as the owner — and the owner as a nuisance.

As for the owner, it's like trying to reach the airport in quick time with a driver who refuses to drive appropriately. And guess who has the upper hand?

This is because while ministers have a hundred things to worry about, a bureaucrat has a very narrow field to control. He or she has the power to make rules and that's how they obstruct and extract.

I have been saying for a very long time now that the power to make unnecessary, redundant and self-contradictory rules must be abridged. At present these powers are not subject to any supervision.

Every department head can make pretty much whatever rules he or she wants. This is real and raw power, derived directly from requiring permission for everything. Nor do all business people have names to which those rules don't apply.

MF industry: Expense ratios aren't the problem

Short-term outlook of MF investors is the problem. There must be an effort to promote long-term investment behaviour

Subir Jha
Sanjay Fuloria

The comparison between expense ratios of mutual funds in the US (around 0.4 per cent) and India (1.8-2 per cent for equity and hybrid schemes), despite its rhetorical appeal, is fundamentally flawed. It disregards deep structural differences between the two markets and ignores the way total expense ratio (TER) is constructed in India. This comparison also misleads investors and diverts attention from genuine reforms.

The single most important distinction is that India's TER includes distributor commissions, while US expense ratios largely exclude equivalent distribution costs. In India, especially in regular plans — which continue to dominate retail participation — commissions for intermediaries form a significant part of the disclosed TER.

These commissions compensate individuals who facilitate investor onboarding, promote financial literacy, and enhance mutual fund penetration.

In contrast, the US ecosystem relies heavily on direct online channels, employer-sponsored retirement accounts, and institutional platforms where distribution is inexpensive and often automated. The cost structures between the two markets are therefore incomparable.

Moreover, 60-70 per cent of the AUM in US is managed under Advisors, wherein fees can range from 0.25-1.5 per cent. When this fees is taken into account, the intermediaries cost in both markets become far closer than perceived. Beyond distribution, market characteristics diverge sharply. The US mutual fund industry serves more than half of its households and manages asset pools worth tens of trillions of dollars, pushing expense ratios down due to scale.

India, on the other hand, though growing impressively, is still a young market with modest assets under management (AUM) relative to population size.

Additionally, SEBI's compliance requirements, physical KYC processes, and extensive investor servicing obligations — push up the cost of doing business. For these reasons, expecting Indian funds to replicate American pricing is analytically unsound and operationally unrealistic. Moreover, Indian investors do get the benefit of economies of scale, with the TER reducing with increase in AUM of a particular fund.

BEHAVIOURAL ISSUE

Indian investors' short holding periods represent a deeper behavioural issue. Equity mutual funds are meant for long-term, multi-year compounding, yet many investors exit within 18-24 months. Such premature redemptions make annual expense ratios appear

MUTUAL FUNDS. Vexatious expenses

excessive, not because TERs are unfair, but because compounding benefits are never realised. Over longer horizons, even higher TERs become far less onerous than low costs on prematurely exited investments.

Longer holding periods fundamentally change the economics of investing. When investors remain invested, the compounding of returns dwarfs the annual cost component. Volatility smoothens out, portfolio outcomes stabilise, and AMCs themselves can achieve operating efficiencies that eventually justify lowering costs over time.

A more constructive policy debate should move away from fixation on absolute TER levels and instead focus on promoting disciplined, long-term investment behaviour. Encouraging longer holding periods for equity and hybrid funds — similar to the lock-in structures common in pension, retirement, and insurance-linked products globally — would benefit investors far more than aggressively capping AMC expenses. Lower churn reduces distribution stress, aligns investor behaviour with market fundamentals, and strengthens the overall ecosystem, while fostering genuine wealth creation rather than short-term speculation.

This does not suggest that TERs should escape oversight. Transparency, fair pricing, and investor protection remain essential. However, repeatedly benchmarking India against Western markets obscures structural differences. India faces unique cost drivers, behavioural challenges, and a continued need for advisory and distribution support. Blindly imitating US ratios risks harming both investor outcomes and industry sustainability.

Meaningful reform must be context-specific. Encouraging longer holding periods, guiding investors to suitable products, responsibly promoting direct plans, and improving advisory standards will enhance investor welfare far more than narrow numerical comparisons. Ultimately, impatience — not expense ratios— is the greater drag on returns.

Jha is Founder of Buckspeak, a boutique Wealth Management Company; Fuloria is Professor and Director, Center for Distance and Online Education (CDOE), ICFAI Foundation for Higher Education, Hyderabad

BELOW THE LINE

JD(S) chief HD Devegowda (file photo)

Separation on cards?

If the Congress is actually breathing easy in Karnataka, in spite of the non-stop drama over whether Karnataka Chief Minister Siddaramiah will be replaced by his deputy DK Shivakumar, it is thanks to a divided opposition. Recently former PM and JDS supremo Deve Gowda said "it would be difficult" to contest local body polls with their alliance partner BJP.

The saffron party's State President BY Vijayendra, obliquely hit back saying, that his party was confident of coming to power on its own in the next Assembly polls. Local leaders from both alliance parties keep issuing statements against each other, leading to analysts speculating, how long the marriage of convenience will last. For now both parties dismiss such a possibility but a separation may yet be on cards.

India–EU FTA in focus

With European Union (EU) leaders Ursula von der Leyen and Antonio Costa expected to be chief guests for India's Republic Day celebrations, speculations are high on the possible announcement of the long-negotiated India-EU free trade agreement (FTA) during their visit. As the next India-EU Summit, too, may take place simultaneously, there are hopes of a possible conclusion of the trade negotiations by that time. While both sides are making efforts to wrap up the deal by the month-end, negotiators engaged in the last mile give-and-take have their fingers crossed. Contentious issues such as India's demands for flexibilities in the execution of EU's harsh quality standards and programmes such as the Carbon Border Access Mechanism (CBAM) continue to act as hurdles, sources said.

"The last mile is hard enough when negotiations are happening with one country. When one is up against a 27-member bloc, it is a different ball game altogether. There is nothing definite that can be said about meeting deadlines till the last issue is untangled," a source close to the negotiations said.

Up in the air

Aviation experts have reacted to reports suggesting that the Ministry of Civil Aviation's issuance of no-objection certificates (NOCs) to two new airlines will increase competition in the Indian aviation market. The narrative that the existing aviation duopoly of IndiGo and Air India was being challenged gained momentum after a tweet by the Minister of Civil Aviation, Ram Mohan Naidu, announcing the issuance of the NOCs.

Interestingly, some industry observers say neither of the NOC recipients currently has aircraft in its fleet or holds the mandatory licence from the aviation regulator to commence airline operations.

They point out that one of the recipients, Al Hind Air, has recently changed its name. The earlier entity, they note, had received a NOC nearly a year ago but has not inducted any aircraft so far. Besides, the second airline, Shankh Air, had also been granted a NOC around the same time, with limited progress since then. Are the expectations of increased competition then all 'up in the air' for now? One has to wait to find out. **Our Bureaus**

Published by Nirmala Lakshman at Kasturi Buildings, 859-860, Anna Salai, Chennai-600002 on behalf of THG PUBLISHING PVT LTD., and Printed by Ra Babu Vijay at THG PUBLISHING PVT.LTD. Plot B-6 & B-7, CMDA Industrial Complex, Maraimalai Nagar, Chengalpattu Taluk, Chengalpattu Dist., Pin: 603209. Editor: Raghuvir Srinivasan (Editor responsible for selection of news under the PRP Act). ISSN 0971 - 7528

The power of pivoting

Life is all about pivots, which path do you take?

BOOK REVIEW.

Ambi Parameswaran

Title: Pivot – Between Two Options, Pick The Third
Author: Harit Nagpal
Publisher: Westland Business
Price: ₹499

The term 'Pivot' in business parlance was popularised by Eric Reis in his 'Lean Startup' methodology. In conceptual terms a pivot is a structured course correction based on validated learning and market feedback. It involves keeping one leg (core competency or mission) in place while moving the other into a new area of opportunity, without tripping. The goal is to find a better product-market fit when the current approach isn't yielding the desired results.

In India we know how Myntra 'pivoted' away from branded merchandise to fashion. Internationally brands like YouTube, Instagram, Slack and Groupon have pivoted and achieved great success. Before you ask, I know of no ready answer to the question: 'When is it the right time to pivot? When is the right time to redouble your efforts and stay invested in the same path?

What about your personal journey? Your career? Can the same idea of Pivot be applied? When you are at a twin fork, which turn do you take, or do you pick a new path altogether?

NEEL'S JOURNEY

Harit Nagpal in his new book *Pivot* presents the life journey of a fictitious character he calls Neel. The story starts with Neel when he is a school student. And it follows his journey as he becomes the CEO of a large company. The book seems to be largely inspired by Harit's own life journey. I'm not sure how much of the book is autobiographical though.

The book talks about the story of Neel and his many 'pivots', but more importantly it makes the reader stop every few pages to take a self-quiz.

The first one addressed to the student in you: "Would you describe yourself as studious or sporty, a competitor or a participant or a bit of both when you were in early school? What were the things you liked doing? What were you good at, according to others?"

Neel decides to pivot his educational journey, opting for engineering instead of medicine that was picked by his father. He faced several challenges in the engineering college he joined but learnt some valuable life lessons. Here is a question "Was your core group at college made up of 'people like you' or was it a diverse group? Did your friends challenge your thoughts? In hindsight, would you have made friends with a different lot."

Let us now fast forward to Neel's entry into the job market. Here again he pivoted, decided to give up on a campus offer to jump to a company which had initially rejected him. Neel spent some years in sales and was happy with his job when some of his peers were jumping out of hard core sales jobs. Here is one more question: "Do your peers or team members complain about the tasks or the targets assigned to them? Do you see an opportunity to convert these complaints into an opportunity to grow, instead of joining the chorus, just as Neel did?"

Neel changes jobs. Neel changes companies. Neel changes industry sectors. Neel goes aboard. The book takes us through his journey and his challenges. And at every turn Harit wants the reader to stop and answer a question: What challenge did you face in your job? How did you handle it?

The book makes the reader to introspect. Is the decision we took the right one? Or should we have thought some more before taking action?

The book is a very easy read but reading is not an end in itself. The book will be of value if you can read but also stop and answer the questions. And then proceed.

For a young executive who is wondering where he/she is heading, Neel's journey is a good path to emulate. And answering the questions will help them figure out the answers for themselves.

The reviewer is an independent brand coach

What leaders have been reading

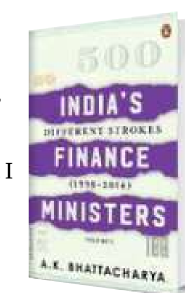
An eclectic range of books including money chronicles, AI, history, contemporary India and mythology

SHINJINI KUMAR
EX-BANKER AND AUTHOR OF BUSY WOMEN: BUILDING COMMERCE AND CULTURE IN MIDDLE INDIA

2025 was my year of writing. I enter 2026 with two books of my own; *Busy Women*, a travelling commentary on contemporary tier two India through the lives of women, and a collection of poems in Hindi. I subscribe to the old school idea that reading is necessary for good writing, so I find my year-end list to be dominated by books about India. I referenced popular books on India by Tharoor, Naipaul, Pankaj Mishra, Nandan Nilekani, Rama Bijapurkar, Pavan Varma, and Gurcharan Das and others. But here, I want to include four books that should also be read, for equally good reasons.

India's Finance Ministers: Different Strokes (1998-2014) by **A.K Bhattacharya**

On the top of this stack for me is Bhattacharya's book. This is the third part of a well-written and researched series on post-Independence finance ministers. As I travelled for my book through 30 cities of India, staring at the infrastructure or inequality, the years covered in this book started to come alive. I really enjoyed the meticulous, almost-gripping recounting of events and conversations that have shaped the lifestyles and choices of generations to come.



India Moving: A History of Migration by **Chinmay Tumbe**

This book engages with the contentious identity question — who is an Indian? What I liked about this book was its unpretentious writing that can seem sweeping at times but gives the book a page turning quality. From ancient explorations to orchestrated population 'export' by colonisers and modern migration, the book traces ideas, geographies and cultural forces that shape the fluid identity of Indians, resisting attempts to box in or affix a nativistic religious, geographic or linguistic stamp. This book makes one realise how simple answers cannot fit complex problems.

Meet the Savarnas: Indian Millennials Whose Mediocrity Broke Everything by **Ravikant Kisana**

In *Busy Women* I explore the fantastic-or-failed experiments of the Indian economy from a gender lens so I was intrigued by Kisana's book. It is a 2025 book, written by a millennial writer, who talks of the glass floor, an inversion of the famous glass ceiling. Using a mix of personal experiences and the academic perch, Kisana boldly scrutinises traditional Savarna institutions and leaders and their role in perpetuating an iniquitous and unfair system that eventually does not quite work for anyone.

Memes of Mummyji — Making Sense of Post Smartphone India by **Santosh Desai**

This book is a late release of the year that promises to be great read, just like his earlier one, *Mother Pious Lady: Making Sense of Everyday India*, which I read in 2025. With characteristic wit, Desai digs into the eccentricities and sociological realities of the modern Indian household and workplace, now exposing the hypocrisies in the modern matrimonial column, now commenting on the quirks of the toothpaste squeezer, always keeping you alert to seeing yourself in that newly affluent'ing middle class culture!

PRABHA NARASIMHAN
MD & CEO, COLGATE-PALMOLIVE INDIA

What you are looking for is in the Library by **Michiko Aoyama**

I have a friend who recommends the most wonderful, offbeat books. This year she recommended this book by Michiko Aoyama. Under the genre of "healing fiction", the book centres around a librarian in a small Japanese town who has the innate ability to understand what someone is going through and gives an added extra along with the book the person is looking to borrow, every time.

It seems each person's story is independent but actually they are all linked. The book explores the idea, that books on their own don't change your life, but they can and do provide the spark to change it yourself. A lovely read, heartwarming and beautiful.

Alchemy: The Magic of Original Thinking by **Rory Sutherland**

Jumping genres, my second favourite book for the year was *Alchemy*. As the long title states this book is about the surprising power of ideas that don't make sense. I had the privilege of hearing Rory speak also about ideas from his book — from the difference between the impact of a speedometer that measures speed versus one that measures time left to travel, to the bees that break off from the 'waggle dance' to go out in different directions to known flower patches, this book argues, like Niels Bohr before, that the opposite of a good idea is perhaps another good idea.

565: The story of Unifying India by **Mallika Ravikumar**

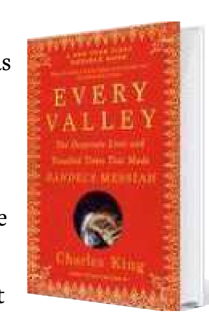
I got this book after hearing the author speak about the brief to Sardar Vallabhai Patel and VP Menon to unite 565 states into India. The book elaborates on many lesser known stories from this epochal time in India's history. At this time, contrary to my understanding, 40 per cent of India was not under the British but a complex set of princely states — 565 of them. Ravikumar masterfully chronicles the various stories. The ones that stood out for me — the Nawab of Junagadh, who fled taking his dogs but not his wife and child. How the state of Travancore went from wanting independence to becoming the first state to join the Union after a machete attack on the Dewan made them realise the extent of anger of the people on the decision of independence.

The author does a masterful job of making history come alive and become a thrilling story than the more dry tomes that are more the norm.

RAM MADHVANI
FILMMAKER AND FOUNDER OF EQUINOX FILMS

Every Valley: The Desperate Lives and Troubled Times That Made Handel's Messiah by **Charles King**

This book reframes Messiah not as a sacred monument but as a work born out of debt, illness, political anxiety, and artistic desperation. What stayed with me is how King shows great art emerging not from comfort but from crisis. Handel isn't a divine genius floating above the world — he's a working artist, gambling everything on one last act of faith.



Once you read this, you never hear Messiah the same way again. It also told me that the word optimism was invented in the early 18th century, by a human need for hope.

Maryada: Searching for Dharma in the Ramayana by **Arshia Sattar**

Dharma is the bedrock of our belief system and the other is Karma. When I tell stories I am always interested in the moral choices the characters make and from there come their arcs and the plot. Maryada reminds me that cinema, like life, is about how we hold our values under pressure. Arshia Sattar's writings on the Ramayana decode and make the epic come alive.

The Director by **Daniel Kehlmann**

Kehlmann's fictional portrait of a filmmaker navigating power, vanity, compromise, and moral collapse is both intimate and chilling. What stayed with me is how quietly the book exposes the small decisions that lead to ethical erosion.

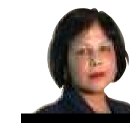
No grand villainy — just ambition and rationalisation. This novel unsettled me in the best way. Working across ads, long-form series, and films, I am a great reader of books about the movies. They make my work better.

Louis B Mayer and Irving Thalberg by **Kenneth Turan**

Reading this felt like looking at an earlier version of dilemmas we still face today. It helped me understand how creative vision survives, or collapses, inside powerful systems. As someone building teams, not just films, this history feels personally instructive. It's a reminder that cinema has always been a battlefield between art, money power and compromise.

Empire of AI by **Karen Hao**

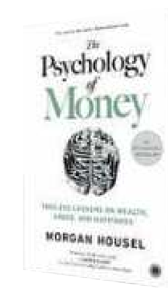
The word technology comes from two Greek roots: techne, meaning "art, craft, or skill", and logos, meaning "word, speech, or discourse". This book forced me to slow down and look past the excitement of new tools. As I experiment with AI in storytelling, it reminds me that technology does liberate art but it always carries human consequences. The future isn't being engineered by machines alone, but by very human choices.



BABITA BARUAH
CEO, VML INDIA

The Psychology of Money by **Morgan Housel**

A book on finance and money that is captivating storytelling is not something we come across every day. This book explores the emotional and psychological factors that drive our financial decisions. What I love most about this book is how it emphasises that managing money is more about mindset than math, making it relatable and accessible to everyone, regardless of their financial background. There are real-life anecdotes and simple yet profound wisdom in every chapter. The author also simplifies complex concepts like compounding and the difference between getting wealthy and staying wealthy, making them easy to understand and apply.



The Complete Maus by **Art Spiegelman**

Winner of the Pulitzer Prize. But that is not why I love this book. This is one of the most powerful graphic novels I've ever read. It tells the story of the Holocaust through the experiences of the author's father, Vladek, who survived it. What makes it so unique is how it uses animals — Jews are mice, Nazis are cats — to tell such a heavy and emotional story in a way that's both symbolic and deeply impactful. The black-and-white illustrations are simple but raw and haunting, perfectly capturing the weight of the story.

What I loved most is how honest it is — Spiegelman doesn't shy away from showing his father's flaws or their complicated relationship, which makes it feel so real and human. It's not just a story about history; it's about family, trauma, and how the past shapes us. It's heartbreaking, but also a story of survival and resilience. This graphic novel reminded me of the importance of remembering the past and the power of storytelling. It's not an easy read, but it's one I think everyone should experience.

Susegad: The Goan Art of Contentment by **Clyde D' Souza**

Susegad is a Konkani word. The book states that it's a word that has no exact translation in English. I picked this book up at one of the airport stalls because of the title and the phrase, "The Goan Art of Contentment". The book beautifully captures the essence of the Goan way of life, centered around the idea of contentment, relaxation, and balance. The author takes readers on a journey through Goa's culture, food, traditions and mindset, offering insights into how the Goan approach to life can inspire us to slow down and savour the little things.

What I loved most about this book is how it feels like a conversation with a friend who's deeply in love with their home. The writing is simple, relatable, and filled with anecdotes that bring Goa to life. From the joy of a slow, hearty meal to the importance of community and living in harmony with nature, the book gently reminds us to find happiness in the present moment. For me, and my current fast paced life, this book is a rediscovery of the beauty of slowing down.

Everything the Light Touches by **Janice Pariat**

This book is a beautiful and deeply personal novel, especially because part of it is set in Meghalaya, part of my home region, North East India. The story weaves together four narratives across different times and places: a young woman exploring the forests of Meghalaya today, a botanist in colonial Bengal, a German naturalist in 18th-century Europe, and a poet-philosopher in 19th-century England. Each story reflects on our connection to nature and how modern life has distanced us from it.

What I loved most is how vividly the author brings Meghalaya to life. Her descriptions of the misty hills, sacred forests, and the unique culture of the North East felt so real and filled me with emotion of both home and my love of Nature. The book beautifully reminds us that we are not separate from nature but deeply connected to it. The young woman's journey through Meghalaya, reconnecting with her roots and the wisdom of the land, was especially moving. This novel is a quiet, reflective read that celebrates the beauty of the natural world and the importance of finding harmony with it. It's a story that stays with us. For me, it felt like a touch of home in faraway Mumbai.

thehindubusinessline.

TWENTY YEARS AGO TODAY.

December 29, 2005

Power tariff hikes on cards

Industrial and domestic consumers will have to brace themselves up to face increased power tariffs across the country next year, with National Thermal Power Corporation (NTPC) and most State electricity boards (SEBs) slated to jack up tariffs to counter increased domestic coal prices and having to use expensive imported coal to tide over shortage in domestic production.

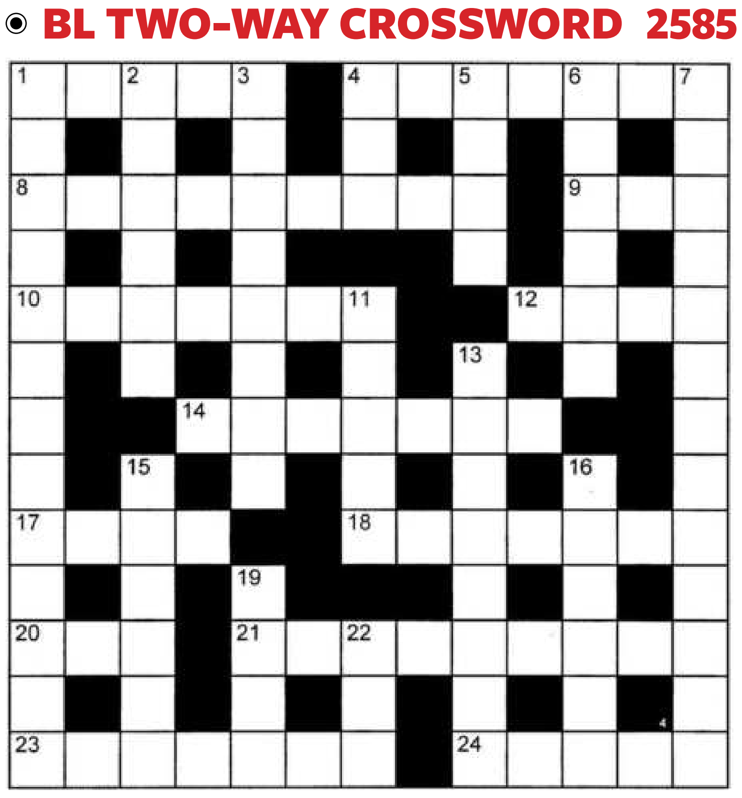
IMD redemption will not hit liquidity: Chidambaram

The Union Finance Minister, Mr P. Chidambaram, has said that the redemption of India Millennium Deposits (IMD) by Non-resident Indian depositors from Thursday is unlikely to impact liquidity situation. "We have enough liquidity. So there is no problem," Mr Chidambaram told newspersons here.

Clause 49: Stock exchanges to stick to Dec 31 deadline

Stock exchanges today said that companies would have to comply with the Clause 49 of the Listing Agreement relating to the appointment of in dependent directors on their boards from January 1. The BSE and the NSE said that all listed companies should strictly comply in letter and spirit with the revised Clause 49 of the listing agreement.

BL TWO-WAY CROSSWORD 2585



EASY

ACROSS
01. Loading, unloading quay (5)
04. Old writers (7)
08. Had name put forward (9)
09. Armed aggression (3)
10. Crosslike; very important (7)
12. Audio system (2-2)
14. Treatment to combat disease (7)
17. Join in marriage, friendship (4)
18. Bishop's jurisdiction (7)
20. Hound (3)
21. List of securities held (9)
23. Stopped working (7)
24. Restriction (5)

DOWN
01. Officer in the RAF (4-9)
02. Defensive dress (6)
03. Window in shape of open fan (8)
04. Arrange hair when wet (3)
05. Lie at anchor (4)
06. Grieve over (6)
07. Disentangle, resolve (10,3)
11. Tempted (5)
13. Kitchen, medicine measure (8)
15. Act of taking to one's heels (6)
16. Fine parchment (6)
19. Rafter, pole (4)
22. Pole, perch (3)

NOT SO EASY

ACROSS
01. Where to unload what is halved and far removed from it (5)
04. They write of crises which could be about to begin (7)
08. Not made, in the confusion, to have had name put up (9)
09. Time for fighting when anarchists remove leaders (3)
10. Testing and decisive way low dog turns to one in state (7)
12. Sound reproduction, if in no end of a hit (2-2)
14. Treatment they are about to knock (7)
17. Range oneself alongside everybody at the end of the day (4)
18. Under a bishop ice does tend to get broken (7)
20. Follow footsteps of one standing in the grate (3)
21. Left folded sheet of paper to represent artist's work (9)
23. Weary after ride I'd dropped out and gone to bed (7)
24. How far one can go beyond fifty-one : almost time to go back (5)

DOWN
01. Has drawn me coming into being as an officer (4-9)
02. Plating protects one, or a rum turn-out it might be (6)
03. Glass over the door may fail, night being upset without one (8)
04. Part of a match may be all that's to be collected (3)
05. Go in carriage and get shot of expedition leader (4)
06. Moan as we are turned over in what bowler wishes to dislodge (6)
07. It may resolve one's problems to unbend when away from home (10,3)
11. Offered enticement with half luck, and looks embarrassed (5)
13. Cook measures it for soup : no fluid, in short (8)
15. Passage by air from top of the stairs to the bottom (6)
16. On which was written part of novel luminary produced (6)
19. Fight with spurs for a bit of wood on board (4)
22. Measuring-stick for a pistol in America (3)

SOLUTION: BL TWO-WAY CROSSWORD 2584

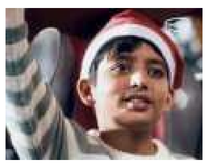
ACROSS 1. Disapproving 8. In favour 9. Ague 11. Apron 12. Given in 13. Tick 15. Tear 19. Renegue 20. Estoc 22. Pied 23. Idolater 24. Cattle market

DOWN 2. Infer 3. Advent 4. Plunge 5. Ingenue 6. Greengrocers 7. Misanthropic 10. Ivy 14. Content 16. Ago 17. Seldom 18. Feeler 21. Tithe

ON THE CAMPAIGN TRAIL.

The Christmas spirit pervaded with brands joining in with their take on the holiday season — but the end of the year left viewers with mixed emotions on the use of AI in ad films

Inclusive journeys



Online bus ticketing platform redBus' Christmas campaign is all about inclusivity. Titled 'Everyone's Christmas', it captures a simple yet emotional bus journey moment: a passenger wants to change places since he is seated next to a transgender person. When the conductor asks if anyone will exchange a seat, hands go up slowly, following a little kid's example. While not subtle, the film drives home its message on personal dignity.

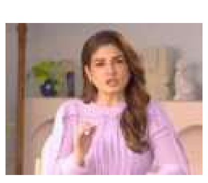
Gift your silence

Christmas is typically associated with celebration, conversation and constant activity. Hettich's festive campaign 'Gift Your Silence' draws from a core brand value — soft-close drawers, seamless hinges and calm, uncluttered spaces. The ad builds on a simple insight — often, people just want to be heard — with a series of AI-led films showing Santa Claus just patiently listening. In a lighthearted touch, a dog woofs away to Santa.

Watch it happen

Titan's two new ads starring double Olympic medallist PV Sindhu and award-winning actor Vikrant Massey, respectively, are heartwarming reflections on their journeys. Sindhu recounts how she showed up on court even when there were distractions (sister's marriage) or injuries or self-doubts. Massey's journey was about simplicity and sincerity. Created by Ogilvy, Bengaluru, both films, titled 'Wear your story', are scripted just right.

Inhale the change



Cipla's #InhaleTheChange campaign, for its new product for diabetics, addresses the common barriers to starting or continuing insulin therapy, including fear of injections. It kicked off with a paparazzi-style 'leaked' video of Raveena Tandon caught in a private moment, telling a diabetic friend about the troubles with insulin injections. A less invasive solution? Voila! the next video shows Raveena endorsing inhaled insulin.

Soap saga

Himalaya Baby Care's new campaign promotes its Himalaya Ghee Baby Bar soap for newborns. The narrative is about two sisters — one a new mom and the other a doctor. Sensing her sister's hesitation over bathing the baby due to concerns of dryness, the doctor-*maasi* reassures her that the soap with pure cow ghee can be trusted. Though it communicates the thought well, it's not an exciting film.

CREATIVE MUSINGS

The zeitgeist... in 2026 words for 2026

GENUINE INTELLIGENCE. The machine-vs-people debate rages. But human creativity will take a shot of Jim Morrison and ride out the AI storm

PRATHAP SUTHAN

December air is thick with endings and beginnings, mostly coffee and panic. Global networks gobbled each other. AI platforms became procurement's favourite toy, hammering agency margins into decimals.

Fees were reduced to peanuts and then beaten down further, until even the monkeys gave up and went back to the trees.

Performance marketing turned every feed into dull carousels. Same font. One horrid lavender colour.

Clients flash Midjourney layouts and Claude scripts, asking why they should pay us when AI does it for free.

Then, in a few heartbreaking weeks, we lost Piyush Pandey and Neil French. Two amazing minds.

As 2026 approaches, we know it will get tougher.

AI will not slow down. But human creativity will take a shot of Jim Morrison and ride out this storm.

This is not despite AI. It is because of what AI cannot be. Just like this piece, written with 2026 words for 2026.

Creativity is why advertising exists.

There is nothing else.

Everything can be automated, commoditised or outsourced to someone for half the price.

Working from Goa. Possibly drunk.

But the mad act of inventing something that surprises, moves and connects remains stubbornly human.

AI cannot surprise me with impossible leaps. As my copy intern can. She linked a new brand of orange juice to a transoceanic protest by thirsty sardines.

Audiences, too, are sidestepping plastic work. They scroll past it with the same unease they felt watching CGI faces.

Barring Kunjumon in Idukki, perhaps, after a bottle of local iron brew.

Trust is as human as breath.

It is relational, not transactional. A client does not trust an idea in isolation. They trust the person behind it.

The one who responds when a midnight thought haunts the CEO.

Trust is built over time through judgment, delivery and shared pressure. Through fights and campaigns that almost died.

When a client invests millions in an idea, they are investing in people who bear the consequences if the work fails.

AI cannot play that role. The poor fellow does not even have legs.

When the CMO wants to get a drink after a brutal launch, they certainly will not call ChatGPT.

Accountability shapes everything.

When work fails, someone has to defend it in rooms full of angry people.

Clients can't shout at Gemini. Meaningless.

But they can, and will shout at me. I become their warm-blooded target.

They need someone to fix things, or at least offer a very sincere apology over a samosa.

AI can't be responsible. How do you drag it into the conference room? When things go sideways, who is the scapegoat?

I am. That makes me invaluable.

Responsibility is a human privilege no machine can ever earn.

SHELTERING, PERSEVERING. Culture is the secret weapon of a human in the war against AI ISTOCK

Reading faces and changing tracks.

I can walk into a room with one idea and leave with another because I read the energy in the room.

I can spot the CFO who's only there for free biscuits, the Brand Manager who's secretly terrified of her boss, and the person who actually matters.

All in under thirty seconds.

I can watch micro expressions and adjust my tone in real time.

AI can't see the wince when the price slide appears, and won't know how to use a joke about the air conditioning to save a dying deck.

I turn objections into opportunities, and a sceptic into an ally. This is an ancient human art, not available in a machine.

Convincing a human requires a human, not an algorithm.

Courage and conviction sell ideas.

I have watched average ideas get approved because someone believed in them. And I have also watched brilliant ideas die because no one had the gumption to defend them.

Bold thinking and big ideas require courage. To be able to stand in front of a client and say, "Trust me".

AI can't do that.

It will just sit inside a rectangular screen. Blinking. It can't stake anything because it has nothing to stake. No reputation.

My conviction, however, becomes contagious. It allows others to be brave.

More ideas have been sold on the strength of gut than on the strength of a spreadsheet.

The best work comes from arguments. Over whether the line should be six words or seven. Whether a comma stays or gets killed.

I know when to time an idea. I know when to shut up. AI will never be tired enough to be truly honest.

One unrepeatable life.

Authenticity is the electric moment when my mind, shaped by one utterly unrepeatable life, collides with a brief.

And produces something the world has never seen.

AI works with patterns. Zero lived experience inside. No scraped knees. No lovers. No heartbreak. No poetry.

On the other hand, my head is a museum, a library and a forever cinema. Childhood spent listening to monsoon frogs. Grandma calling me "*mone*" in that sing-song way that meant love or disappointment.

The smell of *keema paav* in an Irani café when I was broke and happy. The way my father mispronounced a foreign brand name and affectionately made it his own.

These are not just memories. They are entire worlds.

When I draw from that reservoir, my work feels discovered rather than manufactured. Like archaeology, versus an assembly line.

A machine has no scars, so it has no stories to tell. Errors and flaws are human. And that's where the best plots are born.

Originality will trounce AI.

The machine remixes. Recombines data into statistically probable outputs. Brilliant at what it does, but it cannot surprise itself.

Originality needs perspective. A point of view earned through life, not common data.

When I work on a brief, I am not retrieving the answer from a database. I am filtering it through my specific intelligence.

And when you say breakfast, I want *puttu*, *kadala*, *pappadam*, sugar and milk. All mashed together.

It is yuck to most, but it is my love.

No AI will ever suggest something as nutty as that. No sane coder would train AI to write that recipe.

My craziness ensures that my ink is the DNA of my experiences. The market will flood with AI-generated work. Competent, yet mediocre.

I bristle with my originality, and it's advertising's rarest resource.

Biological instincts remain our secret weapon.

That involuntary laugh that escapes before the brain approves. The tear that arrives unbidden.

The hairs on my neck that stand up when my idea lands perfectly in a room full of sceptics.

Even the proud lump in the throat.

These pre-verbal signs are the ultimate test of creative work, triggered only by something genuine.

Machines can never understand if tears are cold or warm. You cannot A/B test for goosebumps or smiles.

These responses come from deep in the limbic system, where one mammal recognises the emotional truth transmitted by another.

Humans can reveal themselves. We can say the quiet part out loud. Even break down and cry.

AI cannot. It has nothing to confess. Nothing to risk. It will stay lifeless.

Developing taste and signature.

Neil French's long copy swagger and Piyush Pandey's warmth wrapped in wit made you smile before you realised you were being sold something.

Taste is built through living, failure and refinement.

AI can imitate taste, but it cannot own a coherent or evolving point of view. It lives through its prompter.

My own voice, honed over years of trial and spectacular failure, carries a texture no prompt can reproduce.

It took me 37 years writing copy and apologies, but I now know I have a signature.

A visual language sprinkled with Mallu words because it sounds like my soul and carries meanings English cannot deliver.

That is my distinction. I guard it like the last *parippuvada* stall in the universe.

Culture is negotiated between humans.

AI absorbs culture like a sponge absorbs water. Passively. Without understanding.

Real culture isn't absorbed. It's lived. Disagreed on. Changed by every person who touches it.

I negotiate my culture every single day. AI cannot negotiate anything.

I understand Trivandrum. As I understand Kerala, South India, India, South Asia, Asia, Global South and Earth.

I am an Earthling. Fire burns me. Ice tickles me. I have the same fear of aliens as an Inuit would.

AI has none of this. No lived presence in any world. Just can't speak for me. Or you.

It can scrape the surface of every culture. It will never understand what it means to belong to one.

AI creates from the outside, looking in. Forever a tourist.

My weirdness is my superpower.

Maybe you know, maybe you do not, but you have madness in you. Many people call it *keeda*. The bug inside you that keeps chirping.

It is in the strategist who grew up in a joint family in Patna and understands group dynamics in ways no MBA ever taught.

And in the art director who restores vintage motorcycles and understands craft in ways that show up in pixel-level decisions.

My own obsessions are not quirks to be ironed out. They make me unique.

I see a grandmother buying tomatoes, and I smell pepper *rasam*. I see a langur, and I think it'd jump me and stab me with my own Swiss Knife.

My brain does not travel in straight lines. It never will.

They are the secret weapons that I deploy at will. AI can never do that in a thousand moons.

If you can feel, observe and argue well, you are not replaceable — you are just under-priced.

Lateral thinking is a human reflex.

I leap from detergent to dignity. Mobile data to immortality. Instant noodles to nostalgia.

I travel sideways because a random conversation on a local train sparked something deep.

I saw a woman laughing, and that became a campaign for sarees. I make connections that seem absurd until they suddenly feel inevitable.

I see metaphors, stories, visuals and epics, where machines see only categories. The edge that you and I have cannot be programmed. It's totally irrational.

Come to think of it, I don't even go sideways.

I zigzag, pirouette, do the *kuthu* dance on the head of a slightly drunk honeybee. The machine cannot.

A messy life is a gold mine.

Body odour, fragile relationships, lottery tickets, juicy lardburgers, jealous bosses, dirty diapers, scammers, AQI, loud neighbours and cats that crap on your door.

This is offline life. This is where messy happens. It remains my richest creative capital.

Theatre performances that show me how to build unbearable tension. Family arguments that reveal the insanity of love.

Watching children invent entire worlds with nothing but sticks and imagination.

My offline life is not a distraction from work. It is the source code of everything interesting I will ever make.

I invest in it deliberately. Across India and some parts of the world.

I am yet to see AI sitting in a second AC compartment and having a bread omelette on the Venad Express.

The workhorse and the heart.

History says we expand, not disappear.

Every major shift, from the printing press to photography to digital media, expanded what we could do.

These shifts gave us new tools, new ways to reach people. Those who mastered the tools did not disappear. They shaped the next era.

They defined what technology could become in human hands. AI is no different. The new *ghoda* — the workhorse. The rider decides where it goes.

Let it handle volume, variants, translation and optimisation. All the mechanical work. The stuff that drains energy minus insight.

Or explore 259 seven-word headlines instead of five.

I will employ it and reserve my time for the wild leaps that create disproportionate value. AI can never have my blood in it. I can always whip it to work for me.

Indeed, 2026 will not be like 2025. But not much else needs to surrender.

I see faster days and freer evenings.

When I was asked to write this piece, I had a choice. To do the typical 500-word piece I always write.

Instead, my heart got yanked by an idea.

One of those time-consuming, beautiful knots that we willingly get ourselves into.

I chose to write this article with 2026 words.

Prathap Suthan is Managing Partner and Chief Creative Officer at Bang in the Middle

---

The best of times, and the worst of times... to come

DIGITAL GADFLY

SHUBHO SENGUPTA

Some years announce themselves loudly. New platforms arrive. New gadgets dominate conversations. The future feels shiny, visible and within touching distance. Like an Apple launch with the spotlight on Steve Jobs in a black crew-neck, telling us we didn't know we needed something until he showed it to us.

2025 was not that kind of year.

Nothing dramatic launched. Nothing obviously collapsed. No single app broke the internet. No gadget promised to "change everything". And yet, by December, a quiet, sneaky discomfort had settled in. Digital life felt heavier. Less playful. The problem was not speed or scale. It was abundance. Too many tools. Too much content, visibility. Everyone everywhere, all the time.

And hanging over it all — the low-key, background anxiety of impending job loss.

The year revealed an uncomfortable truth about the digital economy — when everything becomes frictionless, value does not disappear. It simply migrates to harder, more awkward, more elusive places.

Things fall apart, the centre does not hold, as Yeats said. And nobody really knows where to stand any more.

AI — from PT to PA (party trick to permanent anxiety)

AI did not explode into workplaces in 2025. It seeped in quietly, like that intern who suddenly knows everything. It drafted silly emails. Summarised boring meetings. Created, cleaned and reworked PPTs. Occasionally, it produced outputs that looked uncomfortably similar to what a smart summer trainee from a decent DU college might have delivered after three coffees and one deadline panic.

And this is where things got awkward.

AI did not exactly eliminate jobs. Instead, it blurred the starting line of careers. Entry-level work became fuzzy. Young professionals were expected to be experts on day one — fluent in GenAI tools — while still somehow "learning on the job". Apprenticeship quietly disappeared, replaced by expectations.

What sharpened the anxiety was not AI's brilliance, but its ordinariness. The bar did not rise. It quietly dissolved. When acceptable work becomes instant, effort stops being impressive. And nobody tells you what replaces it.

CHANGING BEATS. In 2025, the influencer machine jammed as algorithms tightened and organic reach shrank ISTOCK

Content is becoming free

In 2025, content decisively lost its economic value. Text, images, videos, scripts — once scarce and monetisable — became abundant, disposable and endlessly reproducible. AI merely sped up what platforms had already started. Publishing friction collapsed. Creation became effortless.

The paradox was obvious. While content became free, attention did not. Neither did trust.

Content stopped being the asset. Distribution, reputation, timing and interpretation became the real currencies. Everyone was talking. Few were listening. And even fewer were convinced.

The influencer economy grows up — and it hurts

Few sectors felt this shift as sharply as the influencer economy. For years, influence was treated like a vending machine. Content in. Money out. Post, promote, repeat.

In 2025, the machine jammed.

Algorithms tightened. Organic reach shrank. Brands demanded virality, authenticity and sales — all at once — and preferably on shrinking budgets. Suddenly, being "relatable" was not enough.

The influencer economy did not disappear. It shed its fantasy layer. Creators understood they were running media businesses, not personal diaries. Influence, it turned out, was not a shortcut to income. It was a slow, disciplined craft. Slightly less glamorous. Much more tiring.

The LinkedIn-isation of stupidity

Nowhere was the tension between visibility and value more apparent than on LinkedIn. By 2025, the platform completed its transformation from professional network to full-time performance arena.

Gratitude posts grew longer than resignation letters. Moral clarity arrived in neat carousels. Every promotion, layoff or mild inconvenience became a lesson for humanity. This was not evil. It was simply algorithmic logic at work.

When platforms reward performance, people perform. The discomfort came from the widening gap between looking competent and being competent. Quiet work rarely trends now. Loud sincerity does. Everyone knows this. Everyone still scrolls.

The tyranny of video

Video became the default language of visibility. Static posts faded quietly. Text became decorative. Nuance struggled to survive 15 seconds. The result was not improved storytelling, but louder storytelling. Reels rewarded immediacy over thought, expression over explanation, and presence over preparation. For creators and professionals alike, the pressure was less about creativity and more about compliance. If you wanted to exist on the platform, you had to move, speak, emote and keep pace. Silence was no longer neutral. It was invisible.

The aftertaste of 2025

To sum up, efficiency improved in 2025. Effectiveness did not. Output went up. Dashboards looked impressive. Decisions moved faster than ever. Understanding, however, did not enjoy the same upgrade. Junior employees delivered quickly but learned slowly. Middle managers managed tools rather than people. Senior leaders signed off on outcomes they barely had time to question. Systems absorbed judgment, and organisations congratulated themselves for it.

It's going to get worse. And it's going to get better. Hold on.

Shubho Sengupta is a digital marketer with an analogue past

NEWS SNIPPETS.

Indo-Lankan leg-up for S&T

The Department of Science and Technology (DST) in India and the government of Sri Lanka had launched two joint calls for 'R&D' and 'workshop' proposals in June and September 2024, respectively.

The areas in focus were food technology, plant-based medicines, robotics and automation, renewable energy, waste management, information and communication technology, sustainable agriculture, aerospace engineering, big data analysis, artificial intelligence and any other science and technology area with national relevance.

In all, 438 R&D proposals and 234 workshop proposals were received by the Indian side, while 442 R&D proposals and 208 workshop proposals were received by the Sri Lankan side in response to the joint call.

The two governments have decided to jointly support 16 R&D proposals and 22 workshop proposals.

Indo-French green R&D

India and France have selected three joint research and innovation projects under the 'Indo-French call for joint research and innovation project proposals in green hydrogen innovations for sustainable energy solutions — 2025 edition', officials said.

The deadline for submission of applications was May 6; 37 joint proposals were received. Following a joint evaluation, the two countries decided to fund three projects.

The first, titled 'Low-cost earth-abundant functional materials for solar fuel production' (LEAFS), is led on the Indian side by Dr Pradip Pachfule of SN Bose Centre for Basic Sciences, Kolkata, along with researchers from the Institute of Nanoscience and Technology, Mohali, and SRM University, Amaravati. The French partner is Dr Jerome Canivet of IRCELYON, Claude Bernard University Lyon 1.

The second project, 'Prospect-H2', focuses on innovative molecular and bio-inspired catalysts for electrolysers and fuel cells. The Indian team includes Dr Arnab Dutta of IIT-Bombay and Prof Abhishek Dey of the Indian Association for the Cultivation of Science, Kolkata, working with Dr Vincent Artero of CEA Grenoble, France.

The third selected proposal, 'HIPHYDUCE', addresses high-pressure hydrogen storage and dual-fuel utilisation in heavy-duty internal combustion engines. It is led by Dr Srikant Sekhar Padhee of IIT-Ropar and Dr Atul Dhar of IIT-Mandi, in collaboration with Dr Pierre Brequigny of the University of Orléans, France.

Safer battery tech from ARCI

The International Advanced Research Centre for Powder Metallurgy and New Materials (ARCI) has developed sodium vanadium phosphate (NVP) cathode powder material and demonstrated its performance through the fabrication of NVP-based sodium-ion pouch cells, under the government's ANRF-MAHA EV project.

The cells have been validated at the standard laboratory scale, with field testing currently in progress.

Now ARCI has entered into an MoU with Voltasun Technologies for the development and supply of 80 5Ah pouch cells, and the evaluation and potential commercialisation of ARCI's sodium-ion battery technology.

The validation can aid the commercialisation of sodium-ion batteries, which promise to be safer and cheaper than the lithium-ion batteries widely used today in portable electronics, electric vehicles and renewable energy storage systems.

◉ **MARINE ARSENAL**

War on drug resistance goes undersea

DEEP DIVE. Scientists are roping in battle-hardened denizens of the deep to counter disease-causing microbes that defy antibiotics

M Ramesh

Antimicrobial resistance (AMR) is a growing global health crisis, killing millions. Disease-causing microbes are fast learning to defy the drugs they once dreaded. To outpace them, the world needs new medicines — and scientists are increasingly turning to the oceans for help. Mining useful genetic material from marine resources — both microbial and non-microbial — is fast emerging as a new scientific and industrial frontier.

Why oceans? Because marine life is battle-hardened. Marine microbes survive in some of the harshest environments on Earth — amid hydrothermal vents, extreme pressure, high salinity and low nutrients. Many non-microbial marine organisms, meanwhile, are soft-bodied and largely sessile or sedentary. Lacking physical defences, they rely on potent chemical weapons to survive predators, infections and competition.

The scientific effort today is to identify these natural defence mechanisms, copy them and mass-produce them as drugs or molecular tools.

The idea itself is not new. Marine bio-resources have been studied for decades, largely for natural products and basic research. What has changed in the past 10–15 years is the feasibility of the idea. Cheap genome sequencing, metagenomics (the study of the genomes of entire microbial communities at once), AI-driven screening and advances in synthetic biology have made it possible to mine marine microbes for the development of new drugs.

Scientists are now diving into oceans — literally and figuratively — in search of solutions for AMR.

NATURAL DEFENCE. Marine microbes survive in some of the harshest environments on Earth ISTOCK

A seminal contribution in this field has come from scientists at BGI Research (formerly Beijing Genomics Institute), China, led by Jianwei Chen. The team recovered 43,191 bacterial and archaeal genomes from publicly available marine metagenomes. (Archaea are microbes distinct from bacteria and plants or animals; their genomes represent the genetic blueprints of ancient life forms, often living in extreme environments.)

In a 2024 paper titled 'Global marine microbial diversity and its potential in bioprospecting', published in *Nature*, the researchers report that computer-based bioprospecting of these genomes led to the discovery of a novel CRISPR–Cas9 system (a programmable DNA cutter and potential new molecular tool), 10 antimicrobial peptides and three enzymes capable of degrading PET plastic.

Calling Chen's work a "breakthrough", Zhi-Feng Zhang of Shenzhen University notes that the team identified 117 antimicrobial peptide candidates using deep-learning tools and synthesised 63 of them. Ten showed strong antimicrobial activity, working against five bacterial strains, including human pathogens.

"The potential of marine microbes as a reservoir of new enzymology and natural products for bioprospecting remains largely underestimated," Zhang writes in *Engineering Microbiology*, pointing to the "unprecedented opportunities" marine genetic resources offer.

RESEARCH IN INDIA

India, too, appears to be catching up. A key development is the establishment of a deep-sea marine microbial repository by the National Institute of Ocean Technology, near its sea-facing campus in Nellore, Andhra Pradesh. The facility is part of the ₹4,000 crore deep-sea mission of the Ministry of Earth Sciences.

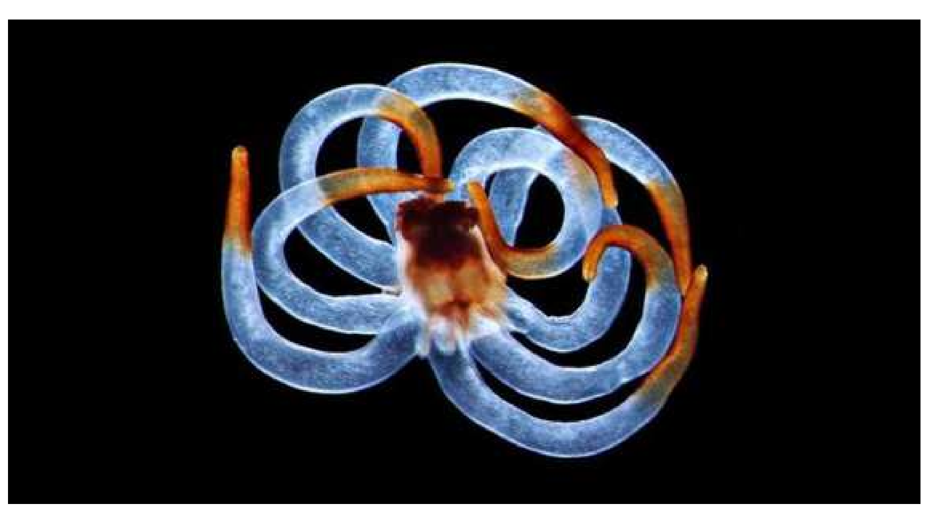
Academic literature, too, reflects these developments. A recently published book, *Marine Microbiome and Microbial Bioprospecting*, containing 39 chapters by multiple scientists, provides a comprehensive overview of the microbial diversity across marine ecosystems and their bioprospecting potential.

Several chapters focus on drug discovery and AMR. In one on anti-tuberculosis research, scientists from CSIR–Central Salt and Marine Chemicals Research Institute (CSIR-CSMCRI), Bhavnagar, note that marine microbes produce structurally diverse metabolites with potent anti-mycobacterial activity. Compounds such as ilamycin, atratumycin, cyclomarin A and diazaquinomycin, they say, show strong promise and are backed by genomic and biosynthetic studies that enable scalable production.

Collectively, marine microorganisms represent a powerful but under-explored arsenal against drug resistance. As microbes on land continue to outsmart existing medicines, the next generation of life-saving drugs may well come from the depths of the sea.

We value your feedback.
Do send your comments to
quantum@thehindu.co.in

◉ **WOW.** Thriving in extremes



M Ramesh

What do you think lies in the depths of the Arctic Ocean? Just a lot of very, very cold water, right?

Wrong? There is thriving life, a vibrant ecosystem.

A multinational research team led by UiT The Arctic University of Norway, working as part of the Ocean Census Arctic Deep — EXTREME24 expedition, investigated the depths of a certain point in the ocean, barely 1,200 km from the North Pole. There, at depths of 3,640 m, are tiny mounds of gas hydrates, or iced methane. (Methane rises from below the earth's crust, meets the cold seawater and crystallises into ice — gas hydrates.) These mounds are called methane seeps.

Below the point in the Arctic (79 degrees North and 3 degrees East) lies a methane hydrate formation called 'Freya Hydrate Mounds'. The temperatures are very close to zero and, as you can imagine, it is very dark at such depths. There — in such an inhospitable environment — exists a world that we can only imagine.

It's a world of chemosynthetic creatures — organisms that depend not on sunlight but methane and hydrogen sulphide for food. At the bottom of the food chain are bacteria that 'eat' methane (methanotropic). They form dense microbial mats — often white, grey or orange — on hydrate surfaces and seep sediments. These microbes are the primary producers, playing the role of plants on land. Other creatures — such as siboglinid tubeworms, maldanid worms, amphipods and snails — form a food chain, and you do find some fish and eel too.

After documenting this strange world, the researchers stress that this ecosystem must be protected from human activities such as deep-sea mining, so that we do not stale Nature's infinite variety.

◉ **CHEAP CALORIES**

Big, bad business of junk food

Team Quantum

The rapid rise of ultra-processed foods (UPFs) in global diets is harming public health, driving a rise in incidence of chronic diseases and widening health inequalities, says a *Lancet* series published recently. UPFs are made to "look good, taste good", and their high consumption is linked to obesity, heart problems and other non-communicable diseases, the publication says in an editorial.

UNHEALTHY PROFITS. The ultra-processed food industry generates enormous revenues and resists regulation ISTOCK

At the core of the UPF industry is the largescale processing of cheap commodities such as maize, wheat, soy and palm oil, into a wide array of food-derived substances and additives, controlled by a small number of transnational corporations, says *Lancet*, observing that UPFs are "aggressively marketed and engineered to be hyperpalatable", driving repeat consumption and often displacing traditional, nutrient-rich foods.

It says that just a "handful of manufacturers, including Nestle, PepsiCo, Unilever and Coca-Cola, dominate the market" and notes that the industry "generates enormous revenues that support continued growth and fund corporate political activities to counter attempts at UPF regulation".

It calls for a comprehensive, government-led approach to reverse the rise in UPF consumption. Priority actions include adding ultra-processed markers, such as colours, flavours and non-sugar sweeteners, to the nutrient profiling models used to identify unhealthy foods; mandatory front-of-pack warning labels; bans on marketing aimed at children; restrictions on these types of food in public institutions; and higher taxes on UPFs.

The *Lancet* article is part of a campaign against UPFs, but its stand is supported by an overwhelming body of scientific literature, many of which have been viewed by *Quantum*. In a paper published in the *Journal of Affective Disorders*, a group of Spanish researchers cite evidence linking high UPF consumption and depression. Another Danish study "provides evidence that consumption of ultra-processed food is detrimental for cardiometabolic and reproductive outcomes, regardless of excessive caloric intake".

◉ **MICRO-ACTIVE**

Rosatom's mini variant of small modular reactor

Russian energy conglomerate may offer 10 MW Shelf-M reactor to Indian industry

M Ramesh

On November 10, a high-level meeting took place between Alexey Likhachev, Director General of Russia's energy conglomerate Rosatom State Corporation, and Ajit Kumar Mohanty, Chairman of the Department of Atomic Energy.

Among the issues discussed was Rosatom's offerings of 'small modular reactors' (SMRs). New areas of co-operation are also under discussion, including the construction of Russian designed SMRs in India, Rosatom said, recalling that in April 2024, the company had presented information on the corporation's floating nuclear power solutions.

Rosatom has several SMR designs on its shelves. It owns and operates eight nuclear-powered ice-breakers — with many more under construction — so it has plenty of experience in operating SMRs. *Quantum* had reported on August 11 that Rosatom is interested in offering India its

COMPACT FISSION. Rosatom's Shelf-M nuclear reactor

RITM-200 series of reactors. The company's India head, Vijay Joshi, described RITM-200 as a new-generation integral pressurised water reactor (PWR) with an electrical capacity of 55 MW and thermal capacity of 190 MW. Further, it has a design life of 60 years and offers long refuelling cycles — six years for land-based installations, and up to 10 years for floating variants.

Now, it is learnt that Rosatom has a much smaller SMR — 10 MW — which could be offered to Indian industry. Rosatom has named it Shelf-M and describes it as "the world's first NPP with a capacity of up to 10 MWe (35 MW thermal)". The size would make it a 'micro' reactor, rather than small.

SILUMIN MATRIX

Shelf-M is a water-cooled, water-moderated reactor fuelled with uranium dioxide dispersed in a silumin (aluminium-silicon alloy) matrix. The refuelling interval will be eight years.

The fully assembled reactor module is 11 m long and 8 m in diameter; it weighs 370 tonnes and will have a service life of 60 years. If necessary, the reactor can be transported from one site to another — for example, on a barge, says Rosatom.

It is building the first Shelf-M for installation and power supply in the remote Chukotka Autonomous Okrug region, in Russia's Far East, where over 30 gold deposits have been identified.

◉ **DISASTER MAPPING**

Using AI to better assess cyclone damage

Team Quantum

In just two months — October and November this year — the Indian Ocean spawned four powerful cyclonic storms, killing hundreds and devastating coastal communities across India, Sri Lanka and parts of East Asia.

Assessment of cyclone damage typically relies on aerial images captured by satellites and drones. Interpreting these images, however, is not a straightforward task — images differ widely across regions and storms due to variations in lighting, terrain, building materials and damage patterns. Artificial intelligence (AI) is now used to speed up assessments, but models trained on one disaster often perform poorly on another. An AI system trained on images from Cyclone Montha, in Andhra Pradesh, for instance, may struggle to assess damage after a cyclone in Sri Lanka.

AFTER A HURRICANE. Picking up the pieces REUTERS

This challenge is known as the 'domain gap'.

Researchers at the Indian Institute of Technology, Bombay, have developed a solution to this problem: A spatially aware domain adaptation network called SpADANet. "The AI model is designed to adapt across different storms and geographies, even when only limited, human-labelled data is available from the new disaster area," says a write-up from IIT-Bombay.

While existing models treat the domain gap as a statistical issue, SpADANet uses spatial context — the arrangement and relationship of buildings and damaged areas within an image. This allows it to recognise damage patterns based not just on visual features like colour or shape, but also location and surroundings.

MOBILE-FRIENDLY TOOL

Published recently in *IEEE Geoscience and Remote Sensing Letters*, the study shows that SpADANet improves damage classification accuracy by over 5 per cent, compared to existing methods. Crucially, the model can run on modest computing hardware, including tablets and smartphones, making it suitable for use in the field — an important advantage in disaster-hit regions with limited resources.

"SpADANet first teaches itself by studying unlabelled images from a domain (hurricane study area) by employing a process called self-supervised learning. This helps the model understand general visual patterns, such as how undamaged and damaged buildings or debris appear in aerial photos. By the time it sees labelled data, it already has a strong sense of what to look for in the data," elaborates Prof Surya Durbha, who led the study.

It then uses a novel spatial module — Bilateral Local Moran's I — to better capture how damage clusters across neighbouring areas.

The model was tested using satellite imagery from hurricanes Harvey (2017), Matthew (2016) and Michael (2018) in the US. Even when only 10 per cent of images from a new disaster were labelled, SpADANet outperformed standard approaches such as DANN, MDD and CORAL-based models, the write-up says.

IIT-Bombay clarifies that its SpADANet is "fundamentally different" from SPADANet, a model developed by a Japanese research team earlier this year.

CHENNAI
businessline.
MONDAY - DECEMBER 29 - 2025

GLOBAL BYTES.

Boeing: Born in the Red Barn

Purchased in 1910, the Red Barn was Boeing's first official headquarters. The company began designing and manufacturing airplanes at the former shipyard in 1916, eventually expanding with additional buildings that became known as Plant I. The plant, including the Red Barn, remained operational until the mid-1960s.

The Red Barn was ultimately saved from demolition and moved to The Museum of Flight in the 1970s, where it currently remains on display.

Not only is the Red Barn iconic to Boeing, but it's also historically significant as the oldest airplane manufacturing facility in the US, says a release.

First A350-1000 for Philippine Airlines

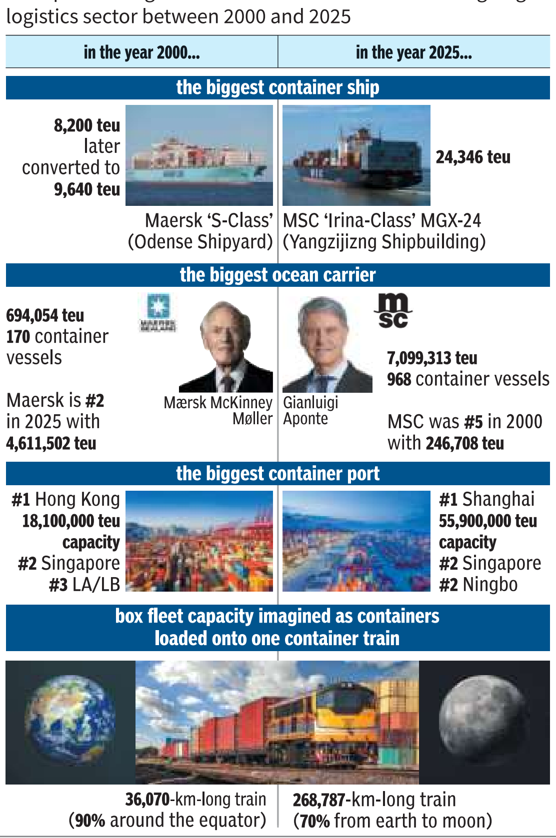
Philippine Airlines just received its first A350-1000, becoming the 10th airline in the world to operate the largest version of the long-range aircraft.

The latest-generation flagship widebody is set to join the airline's existing A350-900s in service and expand its transpacific network, flying passengers non-stop to major destinations in North America.

The A350 combines the latest aerodynamics, new-generation engines and an airframe using 70 per cent lighter advanced materials to deliver exceptional range, efficiency and significantly reduced fuel burn and carbon dioxide emissions, says a release.

A sea change in container trade

A snapshot of significant advancements in the ocean-going logistics sector between 2000 and 2025



Source: alphaliner

RE POSTS.

Union Government approved ₹887 Cr Plan for World-Class Mumbai Marina, aims to Boost Coastal Shipping & Maritime Tourism
'Viksit Bharat Mumbai Marina' to be developed on a 12 hectare area of sea water capacity to berth 424 yachts of up to 30 metres
Mumbai Port Authority to invest ₹470-Crore while ₹417-Crore Private Outlay to Power Mumbai's World-Class #MarinaProject
Mumbai Marina Project Set to Create 2,000+ Jobs
Project Aims to position the City on the Global Maritime Tourism Map, Advancing India's Blue Economy Vision: Union Minister @sarbanandsonwal

PIB India
@PIB_India

Turn Waiting into an Adventure at Bhuj Airport's #Flybrary! Now, travellers can explore stories, pick up a book, and let their imagination soar while waiting for their flight. A unique initiative by #AAI, the Flybrary transforms idle travel time into enriching and inspiring experiences, making every journey memorable and meaningful.

Airports Authority of India
@AAI_Official

Truck rental rates

Rentals for 18-tonne payload

Truck route	Rentals as on Dec 10	Rentals as on Dec 26	% change
Delhi-Mumbai-Delhi	1,66,000	1,68,000	1.19
Delhi-Nagpur-Delhi	1,57,000	1,58,000	0.63
Delhi-Kolkata-Delhi	1,66,000	1,65,000	-0.61
Delhi-Guwahati-Delhi	1,92,000	1,91,000	-0.52
Delhi-Hyderabad-Delhi	1,97,000	1,98,000	0.51
Delhi-Chennai-Delhi	2,12,000	2,13,000	0.47
Delhi-Bengaluru-Delhi	2,18,000	2,20,000	0.91
Delhi-Ranchi-Delhi	1,63,000	1,62,000	-0.62
Delhi–Raipur-Delhi	1,62,000	1,62,000	0.00
Delhi-Kandla-Delhi	1,37,000	1,38,000	0.72
Mumbai-Chennai-Mumbai	1,66,000	1,67,000	0.60
Ludhiana-Hyderabad-Ludhiana	1,99,000	2,00,000	0.50
Mumbai-Kolkata-Mumbai	1,96,000	1,98,000	1.01
Chennai-Ahmedabad-Chennai	2,10,000	2,11,000	0.47
Bengaluru-Kolkata-Bengaluru	2,09,000	2,08,000	-0.48
Bengaluru-Mumbai-Bengaluru	1,38,000	1,37,000	-0.73
Delhi-Thiruvananthapuram-Delhi	2,80,000	2,82,000	0.71
Guwahati-Mumbai-Guwahati	2,80,000	2,78,000	-0.72
Nagpur-Chennai-Nagpur	1,58,000	1,60,000	1.25
Kolkata-Guwahati-Kolkata	1,50,000	1,52,000	1.32
Indore-Delhi-Indore	1,42,000	1,44,000	1.39
Ahmedabad-Indore-Ahmedabad	92,000	93,000	1.08
Vijayawada-Mumbai-Vijayawada	1,57,000	1,58,000	0.63
Vijayawada-Kolkata-Vijayawada	1,51,000	1,50,000	-0.67
Mumbai-Nagpur-Mumbai	1,10,000	1,09,000	-0.92
Mumbai-Pune-Mumbai	56,000	57,000	1.75
Mumbai-Aurangabad-Mumbai	75,000	77,000	2.60
Mumbai-Nashik-Mumbai	55,000	56,000	1.79

Figures in ₹ Source: Subham Freight Carriers India Pvt Ltd

YEAR IN REVIEW

Shipbuilding grabs the limelight

ATMANIRBHAR YARDS. Backed by policy, the number of India-built ships is set to grow on Indian and international waters

T E Raja Simhan

The year 2025 was marked by progress in several segments of the country's shipping sector, including port capacity expansion and improvement of inland waterways. However, it was shipbuilding that grabbed the limelight.

It started off with the Union Cabinet on September 25 approving a ₹69,725 crore comprehensive package to revitalise India's shipbuilding and maritime ecosystem. If implemented well, it promises to materialise a large fleet of built-in-India ships.

Barely two months later, on December 7, the first major break came when South Korea's HD Hyundai, one of the largest ship manufacturers globally, announced plans to set up a shipyard in the coastal district of Thoothukudi in southern Tamil Nadu, with an expected investment of around $2 billion. State-owned Mazagon Shipyard and Cochin Shipyard, too, are putting up their respective shipyards in the coastal town.

On Saturday, the Ministry of Ports, Shipping and Waterways notified the operational guidelines for two major shipbuilding initiatives — a financial assistance scheme and a development scheme — with an outlay of ₹44,700 crore.

These guidelines will revive domestic shipbuilding, boost forward and backward linkages, amp up the 'Make in India' initiative, and enable largescale investment to build world-class capacity, said Union Shipping Minister Sarbananda Sonowal.

So, why is shipbuilding important? Tamil Nadu Industries Minister TRB Rajaa has a simple logic. The shipbuilding employment multiplier is high, often cited at around 6.4X in India — meaning one direct job supports nearly six more (direct, indirect and induced). Shipbuilding is labour-intensive and supports numerous ancillary sectors (60-65 per cent of value addition), making it a key driver for industrial growth and technological innovation, he said.

The global shipbuilding market was valued around $200 billion, with China being the dominant player (nearly 70 per cent market share), followed by South Korea and Japan. Chinese shipyards are fully booked for the next 3-4 years, with no slots available until end 2028. The Centre's package aims to increase India's shipping fleet, as the country plays an increasingly crucial role in global trade.

MORE HANDS ON DECK. The labour-intensive shipbuilding sector's employment multiplier is high — one direct job supports nearly six more CV SUBRAHMANYAM

COST SAVINGS

The current fleet of about 1,600 vessels accounts for gross tonnage (GT) of 14 million tonnes. With this minimal fleet, India annually spends $75 billion on leasing global ships while owning about 2 per cent of the world's tonnage. This points to the urgent need to significantly bolster capacity. An adequate 'desi' fleet can ensure that the trade does not spend too much on sending its goods aboard foreign ships.

Madhu S Nair, Chairman and Managing Director of Cochin Shipyard, emphasised the importance of building a robust shipping ecosystem to meet India's growing maritime needs. The strong policy support and growing global interest have created a positive momentum for the sector, he said.

Several coastal States such as Tamil Nadu, Maharashtra, Andhra Pradesh, Odisha and Gujarat are introducing special policies to foster ancillary support, skilling initiatives and infrastructure improvement (such as roads and rail networks) to meet the growing shipping demand, he added.

"Starting from the Budget announcements, the Prime Minister's declaration at Bhavnagar under 'Sagar Se Samriddhi' and the India Maritime Week 2025, the year has marked a clear turning point," Nair said.

India could become a "steady lighthouse" for global shipping companies, as geopolitical and geo-economic shifts favour diversification towards India. Several international players are committing to investments and partnerships with Indian firms in shipping, logistics and shipbuilding, he said.

However, he cautioned that shipbuilding is a long-gestation industry, requiring sustained alignment between government, industry and institutions.

SPECIAL PURPOSE VEHICLES

The Centre's shipbuilding development scheme and financial assistance programmes cover greenfield and brownfield expansion, technology, design and ancillary industries. Demand aggregation and cluster-based development through Centre–State 'special purpose vehicles' (SPVs) are also underway, with major progress expected in early 2026, Nair said.

Rajesh Menon, a maritime expert, said the early signs of hope in the shipbuilding sector come from the interest shown by global manufacturers, especially from Korea. The policy support through new laws and the extension of the financial incentive scheme also contributed to this.

However, he pointed to key challenges, including the need for technological collaboration, skilled workforce and capital infusion.

With the economy growing, there is a rising demand for ships from Indian export-import players, he said. If global industries are incentivised to charter an India-built ship by according them priority in tenders floated, many large vessel owners may place orders for Indian ships, he reasoned. Secondly, he suggested that IITs and other engineering colleges should launch shipbuilding-focused engineering courses. Similarly, there is a need for specialised MBAs in shipyard management, he said.

According to Vivek Merchant, Director, Swan Defence and Heavy Industries Limited (SDHI), the impact of the strong policy intent can be seen in the unprecedented growth in industry-wide collaborations and the highest-ever investment, pledged at ₹12 lakh crore during IMW 2025, towards shipbuilding, shipping and related maritime infrastructure.

Looking ahead, the sectoral buoyancy is expected to increase in 2026, with growth in maritime demand and investment creating cascading benefits across the value chain, including employment generation and boosting ancillary industries. Significant progress is expected in the expansion of infrastructure at Indian shipyards and the development of maritime clusters, as the government gears up to deploy its war chest to expand national capacity.

Given the maritime sector's dependence on imports for critical components, indigenisation in shipbuilding calls for strengthening R&D, deepening public-private partnerships, and fostering global collaborations in 2026 to achieve *atmanirbhar* goals in the long run, said Merchant.

With inputs from V Sajeev Kumar in Kochi

SIMPLIFIED COMPLIANCE

How GST 2.0 enables faster, cheaper and reliable logistics

BALFOUR MANUEL

India's logistics sector is at a crucial inflection point with the introduction of GST 2.0. As logistics costs remain high and supply chains grow complex, the updated framework focuses on simplification, integration and stronger compliance. This is expected to reduce hidden interstate costs, optimise network planning and support integrated warehousing to boost the sector's global competitiveness.

GST 1.0 (introduced in 2017) transformed the fragmented tax landscape into a single national framework. It eliminated inter-State checkpoints, simplified storage and allowed companies to design supply chains based on efficiency, not taxes. This cut transit time and established a unified national market, upon which GST 2.0 builds.

The broader impact is clear: an upgraded, digitally enabled framework with unified processes and stronger connectivity, which can support a more competitive and future-ready logistics ecosystem.

DRIVING VOLUMES

The revised GST structure directly impacts consumption. Lower logistics costs reduce the cost burden across categories like FMCG, durables and automobiles — availability improves and pricing pressure eases, directly supporting household demand. Higher demand increases shipment volumes, and logistics networks see stronger utilisation across all routes. For operators, this means improved planning and a clearer path to scale.

Lower GST on commercial vehicles and essential capital equipment reduces the cost of fleet expansion, helping operators upgrade networks efficiently. Streamlined GST on freight services, particularly multimodal transport, strengthens this. These crucial savings free up working capital for investment in technology and resilient infrastructure in this margin-sensitive industry.

MORE WHEELS. Lower GST on commercial vehicles reduces the cost of fleet expansion, helping operators upgrade networks efficiently BLOOMBERG

EMPOWERING SMALL BIZ

The core benefit of a streamlined tax framework consists in enabling logistics networks to be optimised for enhanced service quality and velocity.

While GST 1.0 fostered consolidation, GST 2.0 incentivises specialisation. Correcting structural issues, such as inverted duty burdens, directly mitigates operational impediments for micro, small and medium enterprises (MSMEs).

Simplified compliance and enhanced access to working capital, via expedited refunds give MSMEs the confidence and means to achieve national scalability.

A refined regulatory framework stimulates the integration of smaller, unorganised operators into the formalised sector. This promotes larger, technologically superior regional distribution centres (RDCs).

INDIA GROWTH STORY

The long-term impact of GST 2.0 goes beyond cost savings in the logistics sector to strengthen speed and transparency in service. As companies reach deeper into Bharat, entrepreneurial activity rises and supply chains become more reliable.

This progress aligns with India's goal of becoming a $5 trillion economy.

OUTLOOK 2026

By 2026, the sector will achieve structurally lower cost-to-serve levels, leveraging GST 2.0 to reinvest in digital systems and network expansion.

This shift enables advanced network rationalisation, moving planning from tax-dependent warehousing to a focus on velocity, normalising sophisticated RDCs, and hub-and-spoke systems.

Tax harmonisation across modes will accelerate multimodal integration, allowing operators to design agile, efficient route plans.

The writer is Managing Director, Blue Dart

We value your feedback.
Do send your comments to
bl.logistics@thehindu.co.in

RAPID STRIDES.

Vizhinjam's millionth feat in record time

CRUCIAL STOPOVER. Vizhinjam International Seaport is emerging as a premier deep-water transshipment hub

V Sajeev Kumar

Vizhinjam International Seaport, developed and operated by the Adani Ports and Special Economic Zone Ltd, in partnership with the Kerala government, has handled a record one million TEU (twenty-foot equivalent units) cargo within just 10 months of operations.

Located close to major east–west shipping lanes, it is emerging as a premier deep-water transshipment hub capable of handling the world's largest vessels, thereby strengthening India's presence in global logistics and maritime trade.

The exceptional first year not only elevates the port's global standing but also reinforces India's growing influence in international shipping, unlocking new opportunities for economic growth and supply-chain competitiveness.

Kerala Ports Minister VN Vasavan, after reviewing the performance, said the second phase of the port development work is likely to be inaugurated in mid-January. The launch of the second, third and fourth phases of construction would see an investment of ₹9,700 crore by Adani Group. The existing 800 m berth will be increased to 2,000 m and the 2.96 km breakwater will be increased by another 9.2 m, Vasavan said.

The port has handled 650 vessels and 1.4 million TEU cargo in its inaugural year; this includes 43 ultra-large container vessels (ULCV, which are more than 399 m in length) between December 2024 and 2025 — the highest for any Indian port and 154 ships that were more than 300 m in length.

Binu KS, a member of Kerala Steamer Agents Association, pointed out that the launch of operations at Vizhinjam International Seaport had enabled new vessels to sail between Indian ports, providing crucial connections for cargoes originating from India towards overseas destinations and vice versa. This movement has aided Indian exim trade and helped reduce the outflow of foreign currencies that otherwise went towards payment of transshipment fees at ports such as Colombo and Singapore.

This transition is happening at a fast pace and will gain further momentum with the commissioning of the final phase of the Vizhinjam project by 2028. It will then prove to be a real game changer, Vasavan said.

Vizhinjam is setting new operational benchmarks as India's first semi-automated container port, with the promise of high efficiency and reliability. Its other distinctions include being the first Indian port to deploy women as automated crane operators, advancing gender inclusion in maritime operations.

MY FIVE.

TARA SINGH VACHANI
Executive Chairperson, Antara Senior Care, and Vice-Chairperson, Max India Limited

Restorative eating, music for reflection, and treadmill time

1 Movement: My day begins at 6.45 am with my daughters, before school, following which it's non-negotiable time set aside for movement — a session with my personal trainer or time on the treadmill, and then stretching. This keeps me grounded and energised.

2 Restorative: Food is a source of nourishment and balance. My diet follows ayurvedic principles such as eating seasonal, freshly cooked meals prepared with ghee instead of oil, and syncing consumption with my circadian rhythm. Warm, cooked food is easier to digest and deeply grounding. Mindful eating is not restrictive, it is restorative.

3 Music: My taste in music is quite eclectic. I enjoy almost every genre, except perhaps hard rock or heavy metal. Lately, I have been revisiting Sade's old collection. Her music has a grounding, soulful rhythm that slows me down and allows space for reflection.

4 Lights out: Evenings — I consciously slow the pace. Bedtime rituals with my daughters — stories, laughter and shared moments help us all transition from the day's busyness to stillness. It's lights out by 10 pm.

5 Consistency: Balance is found in everyday consistency — a morning workout, mindful meals, good music, quality sleep. When practised regularly, these small rituals nurture body and mind.

CAPSULE.

WHO launches digital library on traditional medicine

The second World Health Organization Global Summit on Traditional Medicine has unveiled the Traditional Medicine Global Library (TMGL), a first-of-its-kind digital platform consolidating 1.6 million resources on traditional medicine, ranging from scientific studies to indigenous knowledge. With advanced features, such as 'evidence and gap maps' and an AI-powered tool TMGL GPT, the library promises to facilitate access to trusted information and accelerate research worldwide, the WHO said.

At the summit, which concluded recently in Delhi, a new advisory body — Strategic and Technical Advisory Group on Traditional, Complementary and Integrative Medicine (STAG-TM) — was announced to guide global strategy. Countries also rallied behind the Delhi Declaration, which looks to integrate traditional medicine into primary healthcare, strengthen regulation and safety standards, invest in research and build interoperable data systems to track outcomes, the WHO added.

COMING UP.

2026: Challenges ahead

The healthcare sector is set for challenges at several levels, globally and in India, across the hospital and pharmaceutical segments. The US administration's tariff talks continue to cast a shadow of uncertainty over the Indian pharmaceutical industry; however, generic drugmakers are optimistic they will be exempted. The year will see a boom in generic versions of semaglutide, the active ingredient in diabetes/ weight-loss drugs Ozempic and Wegovy, as some patents expire in different parts of the world. Meanwhile, escalating healthcare costs are putting governments across the world under pressure.

CASHLESS HEALTH COVER

Brokering a fragile peace

UNEASY TRUCE. Hospitals and health insurers are ironing out creases in implementing cashless care

PT Jyothi Datta

ISTOCK

About four months ago, hospitals and health insurance providers were involved in a public spat over cashless insurance, tariffs and common empanelment, among other issues.

The Association of Healthcare Providers of India (AHPI) issued advisories, calling on members to suspend supporting cashless claims from providers including Bajaj Allianz General Insurance, Care Health Insurance and Star Health. On their part, the health insurance providers pushed back, pointing to high hospital treatment charges and called for standardisation of protocols.

After a flurry of statements from both sides, the issue has since fallen silent, and a fragile peace is in place. Healthcare industry representatives say they are working with health insurance counterparts to iron out the wrinkles; insurance providers, when contacted, said the issue has been resolved.

But the issue continues to simmer beneath the surface, say medical practitioners, pointing to difficulties on the ground in implementing treatment "packages", thereby blunting the effectiveness of cashless insurance for the patient, whose voice is unheard in this imbroglio.

Pointing to a truce, AHPI Director General Dr Girdhar Gyani says there is continuing dialogue with the General Insurance (GI) Council; and two health insurance providers are represented at AHPI's governing council meetings on health insurance.

Hospitals are getting on board the common empanelment system and an "experiment" has been started for new hospitals — tariffs are fixed following discussions between the hospital and a couple of health insurance providers, and this would apply across the 30-plus insurers, he said.

There are problem areas, a "stalemate" in some cases, he admits, where the rate offered by the insurance companies to new hospitals is low. "We talked to the GIC and the formula depends on the infrastructure of the new hospital and location... look at the tariff... offered to the neighbouring hospitals. Based on that, you fix the tariff rather than on ad hoc basis (sic)."

There still is no good formula, says Gyani, adding that they are working on it. "But at least there is a good beginning and some of the hospitals have already got into the common empanelment," he adds.

Health insurance representatives had, during the public spat, called for greater tariff transparency from hospitals. Following a meeting in Delhi in October, expert committees were formed to address the issues, and these would be discussed further at the next GI Council meet in Mumbai, possibly in late-January or February, he said, adding that representatives from the GI Council and AHPI expect to meet every quarter to iron out issues.

KNOWN UNKNOWNS

There are other known unknowns and unknown knowns, when healthcare and insurance cross paths.

The unknown in the pack, for example, is the impact of the recently approved 100 per cent foreign direct investment in insurance, observes Gyani.

But "cashless everywhere" is an issue that is already in the Supreme Court. The aim was to make it easy for a patient to get health insurance cover — irrespective of whether the hospital she or he goes to is covered by the insurance provider.

Dr AK Ravikumar, former Chairman of the Indian Medical Association's (IMA) Hospital Board of India, says the pursuit of tariff "packages" makes it difficult for patients to get treatments of their choice.

The equation is between the health insurer and the policyholder paying the premium, he says, calling for hospitals and "packages" to be kept out of the discussion.

Policyholders should be given a clear information sheet explaining what they are eligible for to help them make an informed choice when going in for a more expensive treatment, he explains. Fixing a treatment package, say, for an appendicitis surgery does not take into account variables, including age, medical complications, underlying illnesses, and so on, he says, and could push a hospital or nursing home to undercut on expenses elsewhere.

FIXED-CUM-VARIABLE COST

The aim of "cashless everywhere" services is for patients to access treatment from a doctor of their choosing but this is affected due to the insistence on "packages", says Ravikumar, President-elect, IMA-Tamil Nadu. An acceptable approach is to have a fixed cost (room/ theatre/investigation charges, and so on) and variable cost (number of hours of surgery/ days in hospital, for example), he says.

Patient advocacy voices, meanwhile, call for greater transparency from both hospitals and health insurance providers to reduce the burden on premium-paying policyholders when it comes to hospitalisation and getting the insurance payment claimed for their treatment.

FROM THE REGULATOR

Mapping how everyday medicines affect gut bacteria

Some everyday medicines — not just antibiotics — could influence gut bacteria in ways that affect how other treatments work, according to a new review by the United Kingdom's Medicines and Healthcare products Regulatory Agency (MHRA) and University of Glasgow. The findings open up opportunities to better tailor treatments to individuals and improve how medicines are used together in real life.

The review, published in *Nature npj Antimicrobials and Resistance*, brings together evidence that a wide range of drugs, including diabetes treatments and antipsychotics, can change the make-up of the trillions of bacteria in our gut that keep us healthy. These subtle changes could impact how medicines work in the body, particularly when treatments are taken together.

Understanding how drugs interact with gut bacteria could help researchers and the MHRA build on the strong existing evidence around medicine safety, better understand why some people respond differently to the same medicine, and support the development of treatments that are increasingly safer and more effective over time.

Dr Chrysi Sergaki, senior author of the study and Head of Microbiome at the MHRA, said: "Antibiotics are well known to affect gut bacteria, but this review shows that some other common medicines can also influence the microbiome. Building this understanding helps us identify where better data could improve drug development and, ultimately, patient care — while also supporting the responsible use of antibiotics. These findings could help researchers understand why some patients respond differently to the same treatment, and why certain side effects occur in some people but not others."

The gut microbiome — the community of trillions of bacteria that live in the digestive system — plays a key role in immunity and metabolism.

While the effects of antibiotics on this balance are well established, the review highlights evidence that several non-antibiotic medicines may have similar, if more subtle, effects.

Source: MHRA

ISTOCK

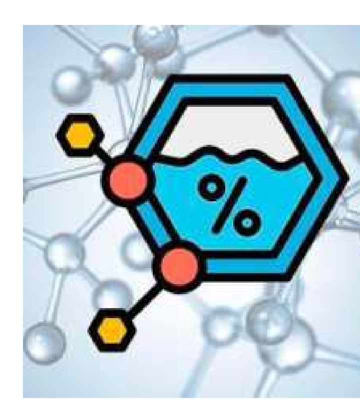
LENS ON HEALTH

JOY GLIDES IN. Abseiling Greek firefighters, one dressed as Santa Claus, hand over Christmas gifts to patients at the Marianna V Vardinoyannis Oncology unit of the Aghia Sofia Children's Hospital in Athens, Greece REUTERS

'Developing world's drug maker' faces testing times

BY INVITATION

S SRIDHAR, T SRIKRISHNA AND S SRINIVASAN



BIOAVAILABILITY. The extent of a drug's therapeutic effect ISTOCK

To the oft-used terms in the debate on medicine quality — good manufacturing practices (GMP) and Revised Schedule M — we must now add bioavailability and bioequivalence.

Bioavailability (BA) refers to the quantum of administered drug that reaches the bloodstream in a form that can produce a therapeutic effect. The formulation of a medicine determines how much of the active ingredient reaches blood circulation and how fast.

When two formulations of the same drug have a similar BA, they are considered bioequivalent (BE). A generic drug has bioequivalence with the innovator product if the BA matches.

BE is assessed through *in vivo* studies, where healthy volunteers receive both the innovator and generic formulations, and blood drug concentrations are compared over time. These studies mainly involve oral solid dosages, where formulation differences between manufacturers can affect bioavailability.

Under the internationally accepted Biopharmaceutics Classification System (BCS), immediate-release oral drugs fall into four classes based on solubility in gut fluids and permeability across gut wall. Many countries waive *in vivo* BE studies for high-solubility drugs, relying instead on laboratory dissolution tests. Low-solubility classes of drugs, however, generally require *in vivo* confirmation of BE in addition to routine quality testing.

READINESS CHECK

Indian exports to well-regulated countries also comply with BE testing requirements. India historically did not mandate BE studies for drugs manufactured for domestic use. But on April 3, 2017, the government amended the law to mandate BE studies for low-solubility oral drugs.

The mandate has not been enforced yet, but in September 2025 the Central Drugs Standard Control Organisation (CDSCO) signalled its intent to do so; this will substantially raise the cost of producing low-solubility oral drugs.

A BE study costs ₹20–80 lakh per product; failed formulations would need to be refined and put through repeat studies until BE is demonstrated. Moreover, given the large number of manufacturers, the testing burden will be massive.

It remains unclear whether BE requirements will apply to all products with existing marketing approval or only "new drugs", as defined under current regulations.

A large share of India's essential oral formulations like amoxicillin and ibuprofen is produced by micro, small and medium enterprises (MSMEs). They form the backbone of India's identity as the 'pharmacy of the developing world'. Apart from price rises, mandatory BE testing could lead to closures and job losses.

BUYING TIME

Limiting mandatory BE studies to new drugs could buy time, as could phased implementation.

However, our goal must be parity in BA/BE compliance of exports and domestic products. The government could support BE studies, incentivising manufacturers who achieve BE in the first attempt. This encourages drug quality without overwhelming MSMEs with compliance costs. Practical, balanced solutions are essential. Quality and affordability must go together.

The writers are affiliated with Low Cost Standard Therapeutics (LOCOST), Vadodara. Views are personal

Medical tourism: Pitching India's cost and care advantage

Beyond affordability, the country must showcase its hard-won credibility, efficiency and clinical outcomes

KARTHIK RAJAGOPAL

CROSS-BORDER CARE. Medical tourism is an $8 billion industry

For years, India's medical tourism narrative has been framed around one variable: affordability. While competitive pricing helped the sector gain global visibility, it no longer explains why it today attracts one of the world's largest and most diverse pools of international patients.

Beyond just cheaper care, the new drivers are clinical outcomes, technological depth and institutional reliability. But if we continue to position the country as the world's "low-cost hospital", we risk undermining one of our most credible healthcare strengths.

The Indian medical tourism industry touched nearly $7.69 billion in 2024, with the arrival of 7.3 million foreign patients. In the first four months of 2025 alone, over 1,31,000 visiting foreign patients accounted for more than four per cent of total tourist arrivals. There is a growing share of high-acuity, life-impacting cases, including complex cardiac surgeries, advanced oncology, neurosurgical interventions, transplant-linked pathways and robotic-assisted procedures. These are choices driven by survival probabilities and confidence in clinical governance, not affordability alone.

This shift is especially evident in India's neighbourhood, with proximity, access and cultural familiarity continuing to influence patient flows from SAARC countries, West Asia and Africa.

In the Maldives, where tertiary care systems are still evolving, patients routinely travel abroad for high-acuity treatment. Referrals under the government-funded Aasandha healthcare scheme increasingly point towards cardiovascular care, oncology and critical care services in India. These decisions are driven not by cost arbitrage but trust in clinical outcomes, multidisciplinary expertise and institutional depth.

SUSTAINABILITY

However, leadership in cross-border care cannot rest on reputation alone. India's regulatory and governance frameworks must keep pace. Uniform outcome reporting, transparent pricing structures and stronger infection-control standards are essential to sustain global credibility. The institutions that will define India's next decade of healthcare leadership are those that embed measurable protocols, multidisciplinary reviews and transparent benchmarks into daily practice.

Equally important is continuity of care. A cardiac procedure in Bengaluru or an oncology cycle in Delhi is only as effective as the support a patient receives months later in Malé, Addis Ababa or Yangon. Strengthening telemedicine follow-ups, interoperable medical records and clinician-to-clinician referral pathways will convert episodic treatment into long-term trust.

India's advantage lies in the convergence of scale, skill and regional trust. The real question is not whether India can lead, but whether it is ready to define a bolder narrative and meet the standards that true healthcare leadership demands.

The writer is Group Chief Operating Officer, Manipal Hospitals

QUICKLY.

Sigachi CEO remanded over fire accident case

Hyderabad: Amit Raj Sinha, Managing Director and Chief Executive Officer of Sigachi Industries, was arrested by the Hyderabad police and remanded in connection with the ongoing investigation into the fire incident that killed several people in June. "We have taken all necessary measures to ensure the continuity of operations and day-to-day activities. In the interim, Lijo Stephen Chacko, Deputy Group CEO, will oversee the operations of the company," the company said. OUR BUREAU

Rolls Royce plans major expansion in India

New Delhi: British aero-engine maker Rolls-Royce on Sunday said it is looking at making India its third "home market" outside of the UK, in line with a plan to unlock the full potential of opportunities across an array of domains including jet engine, naval propulsion, land systems and advanced engineering. Besides the UK, Rolls Royce considers the US and Germany as its "home markets". PTI

'My remit is to provide a level-playing field'

QUALITY STANDARDS. Telecom Minister Scindia defends BSNL's role, praises success of Sanchar Saathi app, clarifies govt won't raise stake in Vodafone-Idea

bl.interview

S Ronendra Singh
Poornima Joshi
New Delhi

Telecom Minister Jyotiraditya Scindia defended BSNL's role, citing its 100-million-strong subscriber base as proof of its necessity in a competitive market.

While acknowledging that "the future may hold a different path," Scindia detailed a recovery strategy focused on "Six Sigma" quality standards. This turnaround relies on a domestic 4G stack — currently rolling out across 98,000 sites — with a planned incremental transition to 5G.

Additionally, he dismissed privacy concerns over the Sanchar Saathi app, praising it as a "*janbhagidari*" (public participation) success in curbing fraud, and clarified that the government will not increase its 49 per cent stake in Vodafone-Idea.

Edited excerpts:

At what stage are the consultations on AGR dues with regard to Vodafone-Idea? What about other telecom players asking for similar relief?

It (consultations on Vodafone-Idea AGR dues) is a work in progress. If and when it is finalised, you guys will be the first to know. No one is asking for the same. We are evaluating the order of the Supreme Court. The court has mentioned in its order that the government must look at this. So we're looking at it.

There's one telecom player getting government assistance, another which is a PSU and then you have two players that are private. How do we compare to the global situation?

There are very few markets in the world where you have four players providing services in a particular geography. India happens to be one of those outliers. So, this is a constant refrain that I keep hearing — are four players enough? Is it a duopoly? Don't forget that Vodafone-Idea still provides services to

> It is our fervent hope that all four would craft their own corporate strategy to be able to acquire customers, service customers, and retain customers
>
> JYOTIRADITYA SCINDIA
> Telecom Minister

200 million people. BSNL today caters to almost 100 million people, 9.6 crore customers. That's a huge number of customers. So, India is in no way a duopoly. We've got four robust players, one which is a 100 per cent government-owned entity, the other in which the government has a 49 per cent equity stake now, and the other two that are private players. And, it is our fervent hope that all four would craft their own corporate strategy to be able to acquire customers, service customers and retain customers. That is not the Ministry of Telecommunication's remit. My remit is to provide a level-playing field.

Since you have a 49 per cent equity in Vodafone-Idea, is there any advice from the government to the company?

I don't think because you are an equity holder, and a minority at that, you can advice them. It is the CEO who should be defining what the corporate strategy is. It is for that company to define. But yes, you would like to see the company prosper, the company services customers and you would like to see that the company grows. But that responsibility must lie with the management, not with the Department of Telecom.

Is the government thinking of increasing the stake in Vodafone-Idea?

No, there's no chance of that. The minute you cross the rubicon of 49 per cent, you become a major equity holder and that's not going to happen.

Is it really necessary for BSNL to be there at all? What is the purpose?

There are a very few telcos across the world that service 100 million customers. The future may hold a different path. What that path is, I cannot tell you today, but at this point in time, I am concentrated on doing one thing — looking at quality of service (QoS). So, we've rolled out the first 4G stack in the world after 30-40 years — five companies and four countries are controlling this technology. We've rolled it out across about 98,000 sites and are now looking at doing another 22,000 sites. So we need to increase our 4G coverage footprint for BSNL.

You have already spent so much on BSNL's relief, more than ₹3 lakh crore until now. What's coming next and how much have you spent last year?

We have spent the largest capex in BSNL's history last year — ₹25,000 crore — and obviously that's going to have an impact on my bottomline, but it is a non-cash impact which is why I'm looking at operating profit as long as I am flowing out cash. That will help us being able to fund BSNL's future expansion from internal approvals. So that's the strategy for now. We also need to grow aggressively and we have a plan in place for that.

What's the update on satellite communication services?

We've given out three licences — to Reliance Jio, OneWeb and Starlink. All three are in the process of complying on their end with the issue of security clearances for which we've allocated them initial amount of spectrum so that they are able to comply with those security clearances.

The second part is on our table, which is the pricing of the administratively assigned spectrum.

The Sanchar Saathi app controversy was quite a bit of flip-flop. It was thrown out in the public domain, and then it was taken back. What happened with that?

No, nothing happened with the Sanchar Saathi app. Sanchar Saathi app has been one of the biggest success stories of a *janbhagidari* movement in the country. A software by itself is not successful unless users engage with it. And, that's what happened with the Sanchar Saathi app.

We have had close to 20 crore hits on the portal to date. Since we put out the app, we've had close to 1.75 crore downloads. Through that process of public engagement, we were able to disconnect close to 2 crore unlawful connections. It's a public initiative, which has succeeded hugely because after this whole thing came into the public domain, I've had another 45 lakh downloads. So, my whole idea was to make it grow inorganically, but now we will continue to grow it in the organic route.

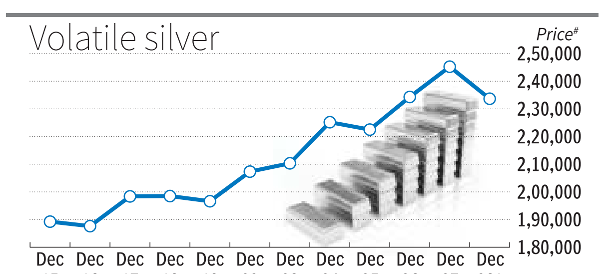
Silver slips on Shanghai Futures Exchange as CME Group raises margin, cuts limits

Subramani Ra Mancombu
Chennai

Amid concerns over the trade witnessing another "Silver Thursday", silver futures on the Shanghai Futures Exchange (SFE) opened lower on Sunday at 18,728 Chinese yuan a kg ($73.72 an ounce).

The fall on Sunday, ahead of the trade keenly awaiting the market movement, comes after the white precious metal topped $79 an ounce during the weekend after surging 18 per cent last week. The drop in silver prices comes after the US-based CME Group came up with new regulations on Friday (December 26). The CME Group, which operates major derivatives exchanges such as CME, COMEX, CBOT and NYMEX, announced it was imposing a $25,000 initial margin for March 2026 silver derivative contracts. Earlier, it was imposing a $20,000 margin.

If investors do not have the required amount in their accounts by Monday, their positions will be liquidated. In addition, CME has lowered position limits or the volume a person could hold. Traders said the CME was trying to protect those who had gone short (selling without stocks on hand) in the futures market.



*Opening price #prices in ₹/kg converted from Chinese yuan per kg
Source: Shanghai Futures Exchange

"The CME is creating a technical vacuum designed to force you out of your positions," said a trader. The impact of the CME move was visible on the SFE on Sunday, when prices dropped from 19,184 yuan a kg ($77.38 an ounce) for March contracts.

The development comes amid fears of market manipulation, but traders said the CME Group had come back with its "Silver Thursday" strategy. During the weekend, silver ended at $79.11, while March futures slipped lower to $77.19 from $79.7. In India, silver ended the week in the Mumbai market at ₹2,32,100 a kg. On MCX, silver closed at ₹2,40,935.

Silver has gained 174 per cent so far this year, more than gold's 73 per cent but a tad lower than platinum's 180 per cent. Traders said silver is reminding the trade of the events that unfolded in the 1970s when it soared to $50 an ounce.

SILVER HUNT

The only change is that its use has expanded to electric vehicles, solar panels, electronics and the medical sector. In the 1970s, then US President Richard Nixon cut off the dollar's link with gold.

The Hunt brothers, Nelson and William, decided to take control of the silver market. They began mopping up silver at $2 an ounce. They garnered a huge share of the market and airlifted silver bars to Swiss vaults several times, which pushed up prices to $50 an ounce.

The white precious metal's price was reined in after Comex stepped in to impose trade limits. It led to prices nosediving by 50 per cent on a single day. It plunged to $10 from $50 in two months. This is recalled as "Silver Thursday".

Similarly, in 2011, when silver hit $49.5 an ounce, the CME raised the margin five times within 10 days. Traders plunged prices by 30 per cent in a couple of weeks.

A market analyst said on X that six global "powerful" financiers, including a CME official, had decided to curb silver's rise beyond $75 an ounce.

Ground-handling firm AISATS to use simulators for staff training

Aneesh Phadnis
Mumbai

In a first-of-its-kind in India, AISATS will introduce simulators to train its staff in ground-handling operations at airports. Ground handling covers functions such as check-in, passenger boarding, cargo loading and unloading, and aircraft cleaning, among others.

AISATS, which is a 50:50 joint venture between Air India and Singapore's SATS Limited, provides services to airlines at eight airports. It is investing in electric ground support equipment, digital tools and training.

> **The firm is investing in new electric** ground support equipment, digital tools and training

"We are strengthening our training framework with a sharper focus on safety, digital learning and consistent skill development across all stations," said Ramanathan Rajamani, CEO, AISATS.

"These simulators will allow staff to practise aircraft turnaround, docking and safety scenarios in a controlled environment, improving accuracy and readiness before they operate on the apron. We will roll this out in phases at key stations, aligned with traffic and training needs," he added.

Last month, AISATS began handling airlines at Kochi, its eighth station.

"As Kochi continues to expand its global routes, especially to the Gulf and South-East Asia, we expect the AISATS portfolio to scale quickly," Ramanathan said.

The company is already present in Bengaluru, Delhi, Hyderabad, Mangaluru, Ranchi, Raipur and Thiruvananthapuram.

CARGO HUB

Additionally, it is developing a multi-modal cargo hub at Noida airport. Phase 1 of the integrated cargo terminal at Noida is in the advanced stages, and AISATS is co-ordinating with the airport on operational readiness and commissioning timelines.

Currently, AISATS has around 16,000 employees across all airports where it provides services. In September, it became the first ground-handling firm in India to receive the Directorate General of Civil Aviation's safety certification.

Centre to up air passenger protection measures

Rohit Vaid
New Delhi

The Centre has decided to put in place a series of measures to safeguard the interests of air passengers in the wake of recent flight disruptions, Union Civil Aviation Secretary Samir Kumar Sinha told *businessline*.

According to Sinha, the Ministry of Civil Aviation (MoCA) is in the process of instituting new systems and strengthening institutional capacity to deal with large-scale operational failures.

"The Centre, while taking cognisance of the recent flight disruptions, has decided to institute a set of measures to safeguard the interests of air passengers," the Secretary, Ministry of Civil Aviation, told *businessline*.

Citing one of the recent initiatives, he said the Ministry has set up a 24x7 passenger complaints redressal centre to handle grievances on a continuous basis.

Elaborating further, the Secretary said the centre uses the latest technology to capture passenger feedback and complaints, including those received through social media platforms.

Besides, Sinha said that, in keeping with evolving requirements, the centre may also incorporate technologies such as artificial intelligence to batch and analyse common complaints, which can then be redressed in a systematic manner.

'BLACK SWAN' EVENTS

Apart from this, the Secretary said that all arms of the Ministry, including the aviation regulator, were being equipped with the necessary expertise to deal with 'black swan' events, such as the recent network disruption at airline major IndiGo.

Civil Aviation Ministry Secretary Samir Kumar Sinha

"We are working to build in redundancies to protect passengers, whether through measures such as air fare caps, minimal cancellation charges through policy framework, on-ground inspections, vigilance on operations or by encouraging capacity addition, without compromising on safety," he told *businessline*.

According to the Ministry of Civil Aviation, the passenger assistance control room (PACR) was operationalised in the first week of December in response to operational disruptions that led to a surge in passenger grievances.

The PACR has been established as a 24x7 mechanism for coordinated grievance redressal, integrating multiple passenger engagement channels with real-time coordination among stakeholders.

As per the Ministry, the PACR enables direct interaction with airline representatives and continuous monitoring of passenger issues, allowing grievances to be addressed in a time-bound manner.

The mechanism is designed to ensure coordinated responses across airlines, airports, regulators and the Ministry.

CONTROL ROOM

Further, the Ministry cited that the need for a centralised control room emerged as air travel expanded beyond metropolitan centres, bringing in first-time and regional flyers, and increasing the number of passenger engagement channels.

During the operational disruptions involving airline major IndiGo in the first week of December, passenger grievances were received across platforms such as social media, call centres and the Air Sewa grievance portal.

REFUND DELAYS

These complaints largely related to baggage handling issues, flight cancellations and delays in refunds.

As per the Ministry, while individual stakeholders responded within their respective mandates, the absence of a unified coordination mechanism for real-time engagement highlighted the need for a centralised passenger assistance control room at the Ministry level.

'Obesity drugs new growth engine for pharma sector'

Press Trust of India
New Delhi

Improving access to new-age medicines for obesity and diabetes over the next few years would be a key enabler for the growth of the domestic pharmaceutical industry, according to Sun Pharma Managing Director Kirti Ganorkar.

Glucagon-like peptide-1 (GLP-1) receptor agonists are drugs that treat type 2 diabetes, high blood sugar and obesity by regulating insulin production. India, known for its generic drug industry, is rapidly transforming into a major hub for the global weight management industry, amid rapid increase in obesity-led disease burden.

"Improving access to GLP-1 treatments in the coming years will be a key driver for the Indian pharmaceutical industry, helping address the growing burden of lifestyle diseases such as obesity and diabetes," Ganorkar said. Combined with AI-enabled digital tools for early disease detection and monitoring and personalised medicine choices, the industry will continue to drive innovation that supports accessibility, affordability and better outcomes for patients, he added.

> Improving access to GLP-1 treatments in the coming years will be a key driver for the Indian pharmaceutical industry
>
> KIRTI GANORKAR
> Managing Director, Sun Pharma

RISK CAPITAL

Dr Reddy's Laboratories Chairman Satish Reddy stated that making risk capital more accessible could enable India to move from being the world's pharmacy to becoming the world's hub for pharma innovation.

Reddy stated that as India steps into 2026, with innovation emerging as the defining force for the next phase of growth, the outlook for the sector looks positive.

The emphasis will continue to be on building scientific excellence, regulatory agility and collaborative innovation, reinforcing India's position as a trusted global partner, he added. "Additionally, the pharmaceutical sector has a key role to play in attaining our vision of 'Viksit Bharat' with its own ambition of becoming a $500 billion industry by 2047," Reddy stated.

Despite external pressures, the sector remained steadfast in advancing healthcare frontiers, delivering life-saving medicines across the globe, he stated.

Reddy noted that key initiatives such as the announcement of the research, development and innovation scheme and the PRIP scheme for robust R&D and novel drug delivery systems are a step in the right direction, deepening and strengthening industry academia partnership.

PHARMA HUB

"Further impetus in terms of making risk capital more accessible can enable India to move from being the world's pharmacy to becoming the world's hub for pharmaceutical innovation," he added.

Rating firm Icra expects revenues of its sample set of Indian pharmaceutical companies to grow by 9 per cent to 11 per cent in FY2026.

This will be supported by growth of 8-10 per cent in the domestic market and 15-17 per cent in the European markets, while pricing pressure on certain key drugs such as Lenalidomide will result in moderation in the growth in the US market to 4-6 per cent, it added.

Aster DM Healthcare Founder & Chairman Azad Moopen said: "As we look to 2026, the opportunity lies in translating scale and capital into outcomes. This will require faster regulatory clearances, sharper focus on tier-2 and tier-3 infrastructure, sustained workforce skilling and stronger public-private collaboration."

Addressing talent shortages while enabling innovation will be critical for ensuring that quality healthcare remains accessible, affordable and sustainable for every Indian family, he added.

India risks ceding data control to foreign AI algorithms, warns Adani

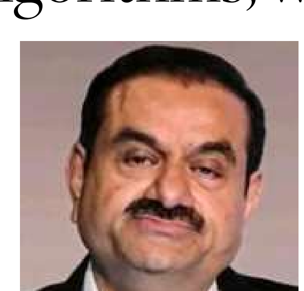
Our Bureau
Ahmedabad

India risks surrendering control over its data, decision-making and economic behaviour to foreign algorithms if it fails to build its own artificial intelligence (AI) stack, Adani Group Chairman Gautam Adani said on Sunday.

Adani said that while AI will create jobs and boost productivity, it also concentrates economic power and informational control at an unprecedented scale, making technological sovereignty a national imperative for a country of 1.4 billion people.

JOB CREATION

"While job creation is vital, a nation of 1.4 billion people cannot afford to place these jobs, data, culture and collective intelligence at the mercy of foreign algorithms and balance sheets. The greatest risk of this AI age is not that machines will think like humans, but that humans will let machines think for them," he said while speaking at the inauguration of the Sharad Pawar Centre for Excellence in Artificial Intelligence at Baramati in Maharashtra.



Adani Group Chairman Gautam Adani

Pointing to intensifying geopolitical rivalries, Adani said AI had moved beyond innovation cycles into the realm of strategic power.

"Strategic competition between the US and China has made one fact clear. AI is no longer a technological race, it is a contest for global domination. Data centres have become critical infrastructure. Foundational AI models have become instruments of influence," he said.

AI CAPABILITIES

Adani said that the absence of domestic AI capabilities would leave India exposed to external economic extraction and influence.

He added that the Adani Group's integrated play across renewable energy, ports, transmission and data centres aims to support India's push for AI sovereignty, with the conglomerate now operating the country's fastest-growing data centre platform and the largest order book in the segment.