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BUSINESS PLAN MEETING 2025 - 2027



***BUSINESS PLAN MEETING 2025 - 2027
HELD ON 17TH & 18TH JANUARY 2026
AT HOTEL PARAAG, BANGALORE***



18th Annual Supply Chain Management Convention

Spectrum 2026

Where Intelligence Meets Execution



Theme

Reimagining Supply Chains with AI



February 27, 2026, Friday

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INDIAN INSTITUTE OF MATERIALS MANAGEMENT

4th Floor, "Chateau D' Ampa", 110 (New No: 37) Nelson Manickam Road

Aminjikarai, Chennai - 600 029 | Tel: 044-2374 2750 / 2374 2195

Email: contact@iimmchennai.org | Web: www.iimmchennai.org

in pursuit of Excellence in Supply Management





From the Desk of National President & Editor in Chief



Greetings from your National President!!!

Dear All Members of IIMM,

As India enters 2026, supply chain management (SCM) has become a strategic pillar of national growth, alongside infrastructure and digital governance. From the lessons of the pandemic to global geopolitical realignments, India's supply chains are being reshaped to be resilient, technology-driven, and globally competitive. The focus is no longer solely on cost efficiency, but also on reliability, security, sustainability, and speed.

Traditionally, India's supply chains were fragmented, informal, and heavily reliant on manual processes. However, recent years have seen a decisive shift. Initiatives such as PM Gati Shakti, the National Logistics Policy, and Make in India are enabling better integration of ports, railways, roads, warehouses, and digital platforms. By 2026, this coordinated approach is reducing logistics costs and improving turnaround times, which is crucial for India's ambition to become a global manufacturing hub. Digital transformation is central to the upgrading of supply chains in India. Companies are increasingly adopting AI-based demand forecasting, IoT-enabled tracking, cloud-based ERP systems, and data analytics. These tools provide real-time visibility from suppliers to consumers, enabling faster decision-making and proactive risk management.

In sectors such as e-commerce, pharmaceuticals, and FMCG, technology-enabled supply chains are now the norm rather than the exception. Start-ups and MSMEs are also adopting digital logistics platforms, reflecting India's broader Digital India momentum. By 2026, resilience is as important as efficiency. Global disruptions, climate events, and geopolitical tensions have highlighted the risks of over-dependence on limited suppliers or regions. India is therefore focusing on supplier diversification, near-shoring, and domestic manufacturing, in line with the vision of Atmanirbhar Bharat.

Supply chain security now encompasses not only the physical movement of goods but also cybersecurity and data protection. As supply chains become more digital, safeguarding critical logistics data and systems is essential, especially in strategic sectors such as defence, electronics, and healthcare. India's investments in multimodal logistics parks, dedicated freight corridors, port modernisation, cold chains, and warehousing are transforming the physical backbone of supply chains. These upgrades are particularly significant for agriculture and food supply chains, reducing post-harvest losses and ensuring price stability – a matter of everyday concern for Indian consumers. Urban logistics, driven by quick commerce and last-mile delivery expectations, is also evolving rapidly, reflecting changing lifestyles in India's growing cities.

By 2026, supply chains are increasingly expected to be green and responsible. The adoption of electric vehicles for last-mile delivery, optimised routes to reduce emissions, and sustainable packaging are gaining ground. India's commitment to climate goals is pushing businesses towards environmentally conscious supply chain practices. Inclusivity is equally important. The formalisation of logistics employment, skill development in supply chain analytics, and increased participation of MSMEs are ensuring that supply chain growth contributes to broad-based economic development.

By 2026, supply chain management in India is transformed from a back-end operational function into a strategic national capability. With technology, policy support, infrastructure investment, and skilled manpower coming together, India is steadily building supply chains that are resilient, secure, and future-ready. As the country moves towards becoming a global economic powerhouse, efficient and robust supply chains will remain the silent force powering Viksit Bharat.

Thanking you and wishing all the best.

A handwritten signature in black ink, appearing to read 'P.M. Biddappa'.

P.M. BIDDAPPA
NATIONAL PRESIDENT

pm.biddappa@yahoo.com, mmmr@iimm.org



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National President :
P.M.Biddappa,
pm.biddappa@yahoo.com

Editors :
Rakesh Kumar Rastogi, Sr.VP -
rkrastogi47@gmail.com
Pankaj Panchbhai, NS&T -
pankajpanchbhai@yahoo.co.uk
Sandeep Singh Bhal, VP Central -
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NVJ@rediffmail.com
Rajender Raj, VP North -
rajenderraj.1238@rediffmail.com
Dr. P. Sengottaiyan, VP South-
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Pradip Kumar, VP East -
kumarpradip1@gmail.com
Lalit Raj Meena-Iimm. Past President
meenalalitraj1@gmail.com
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dr.vkgupta@gmail.com
Prof. (Dr.) K N Subramanya,
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Correspondence :
MATERIALS MANAGEMENT REVIEW

Indian Institute of Materials Management
4598/12 B, 1st Floor, Ansari Road,
Darya Ganj, New Delhi - 110 002.
Phones : 011-43615373
E-mail: mmr@iimm.org
Website : www.iimm.org

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4598/12 B, 1st Floor, Ansari Road, Darya Ganj, New Delhi - 110 002.
Phones : 011-43615373 Fax: 91-11-43575373
E-mail: mmr@iimm.org
Website : www.iimm.org

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THE FOUR PILLARS OF FUTURE-READY SUPPLY CHAINS — LEAN, GREEN, AGILE, AND RESILIENT



SN PANIGRAHI, PMP®, ATP I (PMI - USA), FIE, CHARTERED ENGINEER; CERTIFIED LSS BB, LEAD AUDITOR IMS (QMS, EMS, OH&S), ZED & LEAN CONSULTANT, ADJUNCT FACULTY L&T IPM MEMBER BOARD OF STUDIES & ADJUNCT FACULTY SYMBIOSIS CENTRE FOR DISTANCE LEARNING (SCDL), EX NC & LIFE MEMBER IIMM; LIFE MEMBER ISTD; QCFI CONSULTANT, CORPORATE TRAINER, MENTOR & AUTHOR
snpanigrahi1963@gmail.com

Introduction: The New Era Demands New Excellence :
 The world doesn't wait. Markets shift overnight. Customers expect miracles. Disruptions strike without warning. In this relentless environment, yesterday's supply chains crumble while tomorrow's thrive. The difference? The Four powerful forces working in perfect harmony: Lean, Green, Agile, and Resilient. These aren't just strategies—they're the survival code for modern business.

"Efficiency Wins Today. Speed Wins Tomorrow. Sustainability Secures the Future. Resilience Wins Forever."

In an era of relentless disruption, don't just manage your supply chain—forge it into an instrument of unstoppable excellence, keeping it Lean, Green, Agile, and Resilient. Technology, as an enabler, transforms this vision into reality.

Modern supply chains are no longer judged only by **cost**, or just by **delivery**, or **scale**, or **speed**. They are judged by how efficiently they operate, how responsibly they sustain, how rapidly they respond, and how strongly they withstand disruption.

The Four Pillars of Future-Ready Supply Chains : In today's volatile environment, **Lean, Green, Agile, and Resilient operations are not strategic choices but operational imperatives.** Future-ready supply chains integrate the lean thinking mindset, green responsibility, agile responsiveness, and resilient performance that together create sustainable competitive advantage.

- ✓ **Lean** drives efficiency and operational excellence to Improve Value.
- ✓ **Green** embeds responsibility to sustain the future.
- ✓ **Agile** to Respond to Changes with Flexibility & Speed.
- ✓ **Resilient** to Withstand Disruption, Recover Stronger & ensure continuity.
- ✓ **Technology** Provides End-to-End Visibility, Transparency, Intelligence, and Predictive Power.

When digital technologies are strategically integrated across planning, execution, and decision-making—enabling waste elimination (Lean), sustainability tracking (Green), real-time responsiveness (Agile), and predictive risk mitigation (Resilient)—technology shifts supply chains from reactive cost centers to proactive, value-driven competitive weapons.



let's now deliberate on 1st Pillar - Lean Supply Chain.

Lean Supply Chain - Operational Efficiency

"Eliminate Waste, Elevate Value" : Lean is adopted from the Toyota Production System (TPS), developed by Toyota in Japan to eliminate waste and improve continuous flow. The **3M (Muda is waste, Mura is unevenness, and Muri is overburden)** concept is a core pillar of Lean focusing on eliminating inefficiencies that **reduce cost, improve productivity, quality, delivery, safety, and morale.**

A lean supply chain eliminates Muda (the 7 wastes—Defects, Overproduction, Waiting, Transportation, Excess Processing, Excess Inventory, Unnecessary Motion) by removing non-value-added activities, cutting redundant steps, halting unnecessary movement, streamlining workflows, and tightening inventory control—enabling smooth, uninterrupted flow from procurement to delivery.



Lean is the foundation that brings discipline before

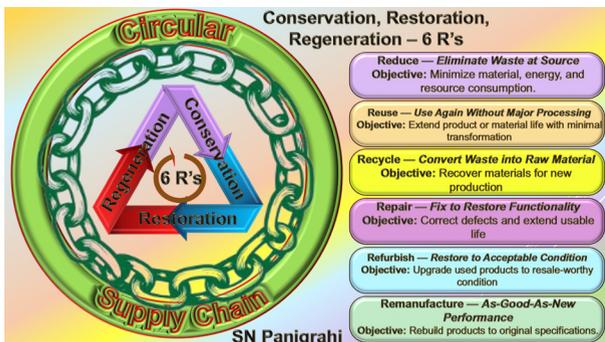
speed; process and flow before automation; stability and standardization before improvement.

Lean is not about cost-cutting alone or working people harder. It is about designing processes that **eliminate waste, reduce variation, improve flow, enhance quality, shorten lead times, enable visibility, and create customer value**. Without Lean, supply chains become bloated, inefficient, and unpredictable. Without Lean, complexity turns into chaos. Lean builds the strength to compete on speed, reliability, efficiency, and quality.

Green Supply Chain - Sustainability & Responsibility

“Don’t just reduce your footprint—regenerate value, restore the planet, and turn responsibility into your most powerful competitive advantage.”

The **Green pillar** embeds environmental responsibility into supply chain decisions by adopting the **6R approach**—**Reduce** resource consumption, **Reuse** materials, **Recycle** waste, **Recover** valuable resources, **Redesign** systems for sustainability, and **Regenerate** ecosystems—enabling organizations to progress from **basic conservation to restoration** and ultimately to **full environmental regeneration**.



Embed sustainability into your DNA, turning ESG and SDGs from compliance obligations into relentless engines for growth. This means reducing carbon emissions, minimizing waste, adopting recyclable and renewable materials, and aligning with sustainability goals that protect ecosystems while maintaining profitability. Eliminate carbon, energy, and resource waste to slash costs while forging a high-integrity, ethical supplier ecosystem.

Harness circularity and regenerative logistics to convert waste into wealth and future-proof your brand against risk. Forge responsible sourcing, ethics, accountability, sustainability, collaboration, and integrity with absolute transparency, ensuring human dignity across every tier of your network.

Lead with ethical stewardship, synchronizing zero-waste operations and radical resource efficiency to uplift communities, protect the climate, and dominate the market.

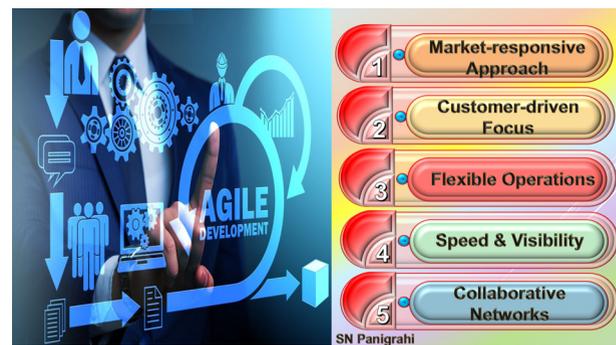
In essence, Green Supply Chain is the strategic integration of sustainability, waste elimination, circularity, responsible sourcing, and ethical stewardship to drive growth, future-proof operations, and create lasting value for both planet and business.

Agile Supply Chain – Flexibility and Speed

“Sense Early. Adapt Faster. Decide Smart. Deliver First.”

The third pillar - Agile Supply Chain, enables supply chains to sense change early, adapt rapidly, and deliver at the speed of the customer. Agile supply chains don’t just respond to change; they anticipate it, embrace it, shape it, leverage it, and turn it into competitive advantage. Agility is the accelerator. It converts efficiency into market responsiveness.

Agility enables a supply chain to **rapidly respond to market changes** — from shifts in demand to disruptions in supply sources. Agile operations use flexible processes, real-time data, and cross-functional teams to pivot quickly when conditions change, maintaining service levels and customer satisfaction.



An **agile supply chain** is **market-responsive and customer-driven**, continuously sensing shifts in demand, competition, and customer behavior—and acting **before disruption becomes loss**. It designs supply, production, and delivery around **real customer needs**, not rigid forecasts.

Agility is powered by **flexible, modular operations**—processes, capacities, and sourcing models that can scale up, scale down, or switch rapidly without excessive cost or delay. **Speed and visibility work together**, enabled by real-time data, analytics, and digital platforms that provide end-to-end transparency and fast, informed decision-making.

Agile SCM thrives on **collaborative networks**, where suppliers, partners, and customers operate as an integrated ecosystem, not silos. It leverages data that flows at the **speed of reality**, relationships built on responsiveness rather than price alone, and systems that recombine instantly—ensuring the supply chain **moves at the speed of the customer**, converting volatility into opportunity and responsiveness into sustained competitive advantage.

Resilient Supply Chain – Strength Against Disruption

“Prepare for the Shock. Absorb the Impact. Recover Faster. Rise Stronger.”

Disruptions aren’t incidental, accidental, or episodic — they are no longer rare events—they are the new normal —become a permanent reality, already embedded in global supply networks. The Fourth Pillar, Resilience means building a supply chain that absorbs shocks and

recovers quickly from disruptions such as pandemics, natural disasters, geopolitical shocks, trade wars, climate events, infrastructure failures, logistics breakdowns and cyber-attacks.

The real question is not if disruption will occur, how severe it will be, or how often it will strike, but how quickly the supply chain detects, adapts, and recovers. Resilience is what decides whether disruption becomes a breaking point—or a defining moment.

Resilience means building a supply chain that absorbs shocks and recovers quickly from disruptions

A resilient supply chain is built to anticipate risks early, absorb shocks without collapse, and recover faster than competitors. It protects continuity under extreme pressure through supplier diversification, strategic buffers (not excess inventory), alternative routes and materials, robust risk management, adaptive governance for rapid decision-making, ready-to-activate contingency plans and digital resilience powered by real-time risk intelligence.



Resilience is not redundancy; it is strategic preparedness. Enabled by adaptive governance and real-time risk intelligence, it turns disruption into advantage. When efficiency and speed are stretched to their limits, resilience keeps the business alive, preserves customer trust, and ensures long-term survival—often allowing resilient organizations to outperform, capture market share, and rise stronger while others scramble.

When efficiency and speed are tested, resilience keeps the business alive, protects customer trust, and ensures long-term survival in an increasingly volatile world.

Connecting the Pillars - Technology as an Enabler in Supply Chain Management

These pillars do not operate in isolation — **technology and data integration** connect them into a unified ecosystem. Digital platforms, real-time analytics, and collaborative systems knit together lean efficiency, sustainable practices, agile responsiveness, and resilience into a future-ready supply chain capable of thriving amid volatility and uncertainty.

“In an era of relentless disruption, don’t just manage your supply chain—forge it into an instrument of unstoppable excellence, keeping it **Lean, Green, Agile, and Resilient.**”

Technology is the force multiplier that transforms this

vision into reality. Digital platforms, advanced analytics, AI, IoT, and automation provide real-time visibility, predictive insights, and intelligent decision-making across the supply chain. They enable organizations to eliminate waste (Lean), track and reduce environmental impact (Green), sense and respond rapidly to change (Agile), and anticipate, absorb, and recover from disruptions (Resilient). When strategically deployed, technology shifts supply chains from reactive cost centers to proactive, value-driven competitive weapons.

The Power of Integration

“Balance Creates Brilliance.”

True supply chain excellence is born not from extremes, but from **intelligent integration**.

- ✓ **Lean without resilience is fragile, optimized for cost yet vulnerable to disruption.**
- ✓ **Agile without lean is costly, fast but inefficient and unsustainable.**
- ✓ **Resilient without agility is slow, stable yet unable to seize market opportunities.**
- ✓ **Green without discipline is symbolic, responsible in intent but weak in impact.**
- ✓ **Technology without integration is noise, powerful yet underutilized.**

Only when Lean, Green, Agile, and Resilient are enabled by intelligent technology do supply chains achieve balance, scale, and lasting competitive advantage.

For more details also go through the YouTube Video @ <https://youtu.be/fsb0aMuWpMQ>

Final Thought : A future-ready supply chain is not just the **cheapest**, the **fastest**, the **largest**, or the **most automated**, but one that is **efficient (Lean)**, **responsible (Green)**, **responsive (Agile)**, and **strong (Resilient)**—supported by **integrated technology**, **data-driven decision-making**, and a **culture of continuous improvement**.

True excellence lies in **balance, not extremes**. The **Four pillars secure the future. Together, they define the future of supply chain leadership.**

- ✓ **Lean to optimize** – do more with less, better and smarter - disciplines costs and performance.
- ✓ **Green to sustain** – grow responsibly while protecting planet and people
- ✓ **Agile to adapt** – move with flexibility & speed - captures markets and customers
- ✓ **Resilient to survive** – withstand disruption and emerge stronger - protects continuity and survival
- ✓ **Technology integrates**, amplifies, and orchestrates all three—turning strategy into scalable, intelligent execution.

The future belongs to supply chains that connect, think, learn, and evolve—transforming uncertainty into competitive advantage through smart technology that empowers human ingenuity to build tomorrow’s **efficient, sustainable, agile, and resilient networks & ecosystems.**





CUSTOMER LOGISTICS IN A LARGE WAREHOUSE- TRANSFORMING WAREHOUSES INTO ENGINES OF CUSTOMER SATISFACTION

ADV. ROBY T A, N C COCHIN AND FORMER V P (SOUTH)
robnya@gmail.com/robnya@koshermanlegal.com

Introduction : I had several occasions to visit Melbourne, Australia. Many aspects of the city fascinated me from the perspective of a Supply chain and Logistics professional. What repeatedly comes to my mind is that, no country is inherently greater than another in terms of resources; rather it is how these resources – small or large are governed and managed by administrative establishments, that makes the real difference. The effectiveness of a nation ultimately depends on the commitment, integrity, and vision of its custodians.

During such visit, I happened to be at a huge warehouse-style retail facility in Chirnside Park, Australia. It is an expansive shopping complex with a well-planned layout and ample parking space.



Pic.1 – Parking area of the shopping complex

The parking area has been thoughtfully designed and continuously adapted to meet customer's growing parking requirements, including dedicated basket-return zones, and on-site service support personnel. There are no parking charges, and no valet services. Despite the high volume of vehicles, I did not hear a single horn being honked. Every individual respects other and follows basic rules of road discipline.

What stood out clearly was the seamless integration of the customer into every operational aspect. Customers are not merely observers but active participants who enjoy the experience; unlike in many traditional supply chain ecosystems where operational areas are rigidly segregated. These facilities can best be described as human-centric, dynamic, technology-enabled customer service hubs, where operational excellence and customer experience intersect.

Store visibility, inventory visibility, order accuracy, fulfillment speed, customer support and returns processing, together shape every warehouse activity,

directly influencing the customer experience. The ultimate objective is to deliver value, reliability, and convenience at every step.

What is Customer Logistics in a Warehouse?

In a warehouse customer logistics refers to the design, allocation, assignment, and execution of various operations aimed at achieving optimal efficiency and high levels of customer satisfaction. It ensures inventory visibility and availability, efficient picking and packing, effective support services, shipping and return processing that exceeds customer expectations, thereby encouraging repeat visits and long-term loyalty. Hence, customer logistics is not merely about storage and fulfillment; it involves strategic responses to customer behavior, particularly the changing purchasing pattern in omnichannel retailing. Therefore, it must integrate the following elements:

- 1- Real-time inventory visibility
- 2- Speed and accuracy in picking and order processing
- 3- Scalability and flexibility in fulfillment capabilities
- 4- Effective reverse logistics and return management
- 5- A strong Service culture, supported by human-machine synergy

Vital elements of Customer logistics : The most important element in my view is **design**. Warehouse layout, inventory placement, and the visual effects and signages, significantly improve operational efficiency. When combined with warehouse management software's, these features enable customers to immerse themselves in, and interact effectively with the warehouse environment resulting in higher productivity by reducing the time spent locating inventory and enabling faster responses. This in turn, enhances speed and accuracy which are critical to successful order fulfillment. A wide range of technologies such as barcodes, RFID, Sensors and Camera's, Smart Glasses, Andon lights; further stimulate and enhance the visibility, accuracy, and operational speed.

Another vital element, in my view is **Reverse Logistics and Return Management**. This process must be seamless and customer friendly, as it directly enhances trust and confidence in customer buying decisions. It requires clearly defined and specialized zones along with well-designed-workflows that are fully integrated into warehouse operations. When executed effectively, reverse logistics provides customers with a sense of

ease and satisfaction, rather than becoming a pain point in the buying experience.

My experience in the store was an excellent one, as we needed to purchase a few items. In one section of the inventory, I was fumbling while trying to locate an item and unexpectedly, a Store Supervisor approached me and asked, "Sir, how can I help you?". She clarified my doubts and guided me in selecting the right product. When I asked how she had noticed my difficulty, she replied, "we monitor and guide sir." At that moment, I realised how effectively they use camera system to observe customer behaviour and proactively assist customers in need.

I carried all the items to the counter and found no billing staff, only an integrated checkout system equipped with cameras and weighing mechanism. Customers can scan their items to generate the invoice, or simply place the items on the weighing pan where the camera automatically detects and identifies the item requiring only the quantity to be selected for billing. Once the bill is generated, payment can be completed using a mobile phone or card, after which the purchase is complete and one can exit effortlessly.



Pic- 2- The Billing and payment

The staff levels are minimal instead of traditional billing roles, staff focus on monitoring customer activity and providing support whenever required. The biggest challenge arose when we took the item to our car for loading. One of the items we had purchased, a foldable ladder would not fit in to our vehicle. We returned to the store to enquire about any transport services. The staff informed us a support delivery service was available but due to the Christmas and new year holidays it was temporarily unavailable; alternately, they could arrange delivery at a cost of AUD 50. The only other option was to return the item to the store.

I was concerned about how the return process would work for an item we had just purchased and whether a refund would be issued. What followed was an excellent experience. Surprise, we went to the return management section where the staff member, humbly and politely asked which item we wished to return. After showing the item, she asked if we had the receipt; we displayed the

invoice on mobile phone. The refund was processed immediately and the item was collected without any hesitation.

I could not help but compare this with a similar situation in my native place, where a purchased item which failed to work after being powered on at home. When it was taken back to the store the shop owner blamed power fluctuation, and alleged improper usage, refusing replacement on the grounds that the packaging had been opened and offering only repair. In contrast, this experience clearly demonstrates how logistics can function seamlessly and at its best.

Customer satisfaction- role of reverse logistics

Customer satisfaction largely depends on how effectively the reverse logistics is managed. For sold inventory, reverse logistics may involve replacement, repair, return, refund, credit issuance, servicing, or proper disposal. These processes must be well structured, thoughtfully designed, and methodical to reduce operational costs and improve efficiency. The ultimate objective should be to build long-term customer trust and loyalty.

What best formula – a winning combination is technology and people.

The best formula for success is a winning combination of technology and people. It is not merely about robots or a collection of assorted software solutions. A strong human service culture remains the foundation of effective operations. What a warehouse truly requires is trained personnel, individuals who understand customer impact, follow safety protocols, and demonstrate empathy and strong personal values.

It is also essential to establish key performance indicators (KPI's) in customer logistics to measure success and support scalable growth. Proper tracking should include of order accuracy, picking accuracy, return processing time, pick to dispatch with SKU-level billing, order to delivery cycle time, and customer feedback. Continuous improvement grounded in data, leads to predictable performance and an enhanced customer experience.

Conclusion

Customer logistics in a large warehouse is not merely about automation; it is about building strategic capability through seamless integration of people and technology. Warehouses that adopt intelligent design, effective technologies, and a service-oriented culture create a sustainable competitive advantage in today's fast paced, highly competitive and experience driven market. Ultimately, customer logistics is not just about moving products; it is delivering confidence and delight at every customer touchpoint within the warehouse.



INTEGRATING SUSTAINABILITY IN PROCUREMENT ISO 20400 2017 IN PRACTICE

PALLIKKARA VISWANATHAN, LIFE MEMBER IIMM HOSUR BRANCH
vid_shy@yahoo.com

Abstract: Procurement strategy, policies, involving environmental, social economic factors focussing on supplier's, collaboration, risk management, with continuous improvement, across the cycle life of procurement, on identifying the needs, monitoring, on creating a structural needs of framework, is responsible for sourcing, on a long-term value is the sustainable practice in ISO 20400 2017 in supply chain.

Unprecedented challenges in climate changes, resource procurement, becomes an instability, shifting consumer expectations under pressure, to perform resilience, as ISO 20400 is defined as the ability to withstand recover, from adapting disruption, that is likely to become critical, which cannot be achieved by focussing on efficiency, cost reduction, as it requires fundamental attention on the strategies in supply chain.

In order to provide practical guidance ISO 20400, is voluntary, not a certified standard, as to how an organisation can transform systematically the procurement on the basis of cost, focussed upon the activity, sustainable on risk management, on a long term basis, with value creation, being accountable, transparent, on the ethical behaviour, into the actual process, among different organisation in supply chain.

Life cycle assessment quantifies the impacts on the value responsible for procurement practices, in ISO 20400, being sustainable at every stage, identifying the needs from the supplier's, using guidance to move from policies to action, linking decisions on outcomes to reduce carbon footprints, labour innovation, to ensure on meeting the sustainability, on collaboration with shared goals in supply chain.

Purpose of Study: Challenges in global business leads to critical compliances, in ISO 20400 2017 on regulations, reporting, as this requires organisation to bring in due-diligence (through investigation, verification, of potential suppliers, on reliability, capability, being transparent) sustainable in practice, encouraging life-cycle approach to procurement, which is likely to lead to identification of waste management,

energy efficiency, resource allocation, optimisation of cost savings through collaboration in supply chain.

Environmental, Social, Governance on factors like carbon footprints, the entire procurement in ISO 20400 2017 lifecycle is from a policy adopted in supplier management, which practically involves power to deliver products, on sustainable goals, thus giving priority to suppliers giving their consent on emission, on priority for low carbon content option on Request for Tender, thus monitoring continuous improvement on procurement, driving to climate impact in supply chain.

Communication to suppliers interpreted clearly on ISO 20400, is the greatest expectation to suppliers, collaboration with suppliers' to improve their sustainability, on the performance, risk management, identify Environmental, Social, Governance, so as to identify risks within the supply chain.

Integrating sustainability in procurement on the ISO 20400, practices of offering a structural framework, principles, practices within the organisation, issues the challenges on the significant long-term benefits, which includes reputation, risk, reduction in price, also innovating the shifts from procurement, as also being driven as a cost activity, to a value driven, on the entire life cycle cost, price, quality, also on the entire Environmental, Social, Governance, economic impact in supply chain.

In the healthcare correlation in sustainable procurement with ISO 20400, is the intention to adopt an integrated value chain, focussing on green logistic, reducing waste, on better packaging, recycling, using renewable energy, leveraging technology, artificial intelligence, Internet of Things, for efficiency, supplier collaboration, ensuring social beneficial practices, so as to analyse sustainable procurement towards efficiency, social, responsibility in supply chain.

Transparency in ISO 20400 is a decision on the activities that affect supply chain, the economy, environment, willingness, so as to communicate the information's,

accurately, in complete, being honest, on the ethical behaviour, that is likely to be in accordance on the accepted principles, with the right connectivity, within the part of the particular situations, as it is to be inconsistent with the norms of the behaviour in supply chain.

Identification of suppliers in ISO 20400 with leadership commitment, good policy, strategic process on comparing current supply performances, delivery time, costs, inventory levels, with a desired future on the weakness, factors on the procurement stages, on the measurable targets, engaging suppliers for continuous improvement, monitoring performances, for the ongoing adoption, of innovation, driving ultimately for a longer value addition, on reducing risk in supply chain.

Safe working conditions, ensure better sourcing, on the greater awareness of improved procurement in ISO 20400 2017, so as to bring sustainability, thus helping in better labour practices, avoiding discrimination, so as to bring consistent improvement within the organisation in supply chain.

Sustainable sourcing, procurement of raw-materials components, in ISO 20400 2017, considering the environmental factors, have operational benefits on inventory, labour, shipping, reduces cost, so as to increase revenue, faster delivery, improved efficiency, achieved through better forecasting, real-time visibility, benefits, helps to build resilience within the organisation, enhancing risk management, saving from regulatory risk management, associated with various related controversies in supply chain.

Conduct sustainable planning, sourcing, procurement on the criteria of risk assessment, which includes Request for Information, Request for Quotations, Request for Proposal, alongside IS 20400 2017 on the traditional factors, price, quality, provide training in procurement to staff, so as to collaborate with supplier's, to build the capacity on purchasing, the right raw-material, component, thus encouraging a sustainable goal in supply chain.

Findings: Supplier selection is considered an important aspect in ISO 20400 2017, as procurement includes performance, monitoring score boards (management tool to monitor, evaluate, communicate key performance indicators, on the measure of efficiency, effectiveness) using life cycle costing (approach to evaluate all cost of product from its creation(design/ procurement) to the use (operation/maintenance) to the disposal) using analysis, on considering long term

cost, energy usage, waste disposal, handling, to support just-up-front purchase price (aims to optimize the entire flow of goods and service) in supply chain.

Establishing a specific measurable, achievable, realistic, timely objective on the key issues, in supply chain, as to be identified towards as a sustainable procurement in ISO 20400 2017, is to be fully supportive on the aligned set of goals in the organisation, as it becomes necessary for procurement to set a clear target, thus measuring the performance on a greater height level of sustainable goals in supply chain.

Policies, procedures, supplier engagement offering benefits in ISO 20400 2017 on long-term cost reduction, enhances the reputation, on the initial findings in supply chain, highlighting the challenges, of upfront cost (initial, one-time expenses, required to establish implement, upgrade supply chain), conflicts, measuring intangible benefits, (improved customer benefit, satisfaction, brand reputation, employee satisfaction, strategic flexibility) on a stronger leadership, commitment, training, to overcome resistance, so as to move beyond activities in supply chain.

Challenges: Continuous monitoring, measuring, improvement in sustainability in procurement evolving regular audits in ISO 20400 2017, on supplier assessment data, thus servers to continue to measure performance, identify, improve on areas, ensure compliances with sustainable procurement with a guidance on a long term Environmental Social Governance in supply chain.

Value creation focuses on cost, on sourcing, disposal, on Environment Social, Governance, criteria on building a transparent supply chain in ISO 20400 2017, reducing risk, brining in innovation, thus creating a long term economic resilience, positive impact, making a strategic tool for achieving organisational goals, contributing to sustainable development in supply chain.

Limitations: Lack of leadership in ISO 20400 2017 cost benefits conflict supplier's capacity, challenges, issues, measuring benefits, as the requirement of strong leadership, clear made-up policies, personnel problems, needs continuous improvement, beyond proper certification, also supplier readiness to supply activities, especially pertaining to Micro Small Medium, Enterprises, is likely to lack resources, also be able to address the new demands, reputational brands, quantify the benefits, enhanced reputation in supply chain.



SUSTAINABLE BUSINESS STRATEGIES IN THE EMERGING DIGITAL TRANSFORMATION ERA OF THE 21ST CENTURY

JAYANTA BISWAS, FIE, MBA, PGDMM EC MEMBER
IIMM, KOLKATA BRANCH

The role of sustainability in business has undergone a fundamental transformation. What was once viewed as a regulatory obligation or a reputational safeguard has today become a **core driver of competitiveness, cost efficiency, and long-term resilience**. In the 21st century, this transformation is inseparable from digitalization. For materials managers, supply chain leaders, and operations heads, sustainability and digital transformation are no longer parallel initiatives—they are **two sides of the same strategic coin**.

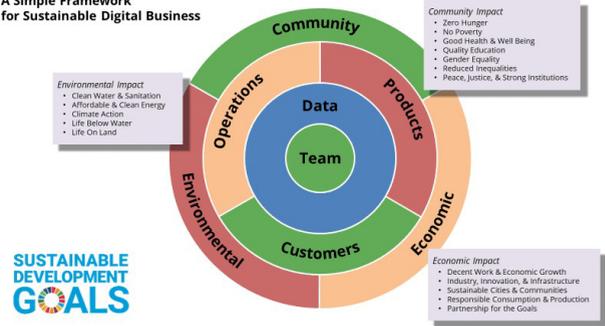
India's industrial ecosystem, spanning steel, automobiles, FMCG, infrastructure, and MSMEs, stands at a unique inflection point. Rapid digitization, policy push for sustainability, and global supply chain pressures are converging. Organizations that respond with integrated strategies are already seeing tangible business benefits.

Sustainability Reframed: From Cost Burden to Strategic Advantage

One of the most persistent misconceptions in industry is that sustainability increases cost. Experience across Indian manufacturing and supply chains suggests the opposite—**digitally enabled sustainability reduces cost volatility, improves asset utilization, and strengthens operational control**.

Energy efficiency, waste minimization, material substitution, and predictive maintenance are sustainability actions, but they are also productivity levers. When supported by real-time data and analytics, these actions translate into measurable financial outcomes. A leading illustration is **Tata Steel**, which has adopted AI-driven energy optimization, IoT-enabled process monitoring, and advanced analytics across its plants. These systems continuously track fuel consumption, emissions, and yield losses, enabling managers to intervene proactively. The result has been reduced energy intensity, lower emissions, improved throughput, and better cost predictability.

A Simple Framework for Sustainable Digital Business



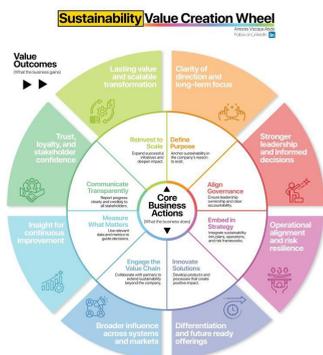
Managerial takeaway: Sustainability delivers value only when it is operationalized through data, ownership, and daily decision-making—not when confined to sustainability reports.

Digital Transformation as the Backbone of Sustainable Operations

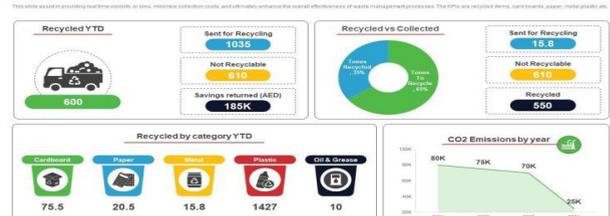
Digital transformation has given industry something it never had before: **visibility with precision**. Sensors, connected machines, digital twins, and analytics platforms allow organizations to measure what truly matters—material flow losses, energy leakage, downtime, emissions, and process variability. In materials-intensive industries, small inefficiencies compound into large financial and environmental costs. Digital tools help identify these inefficiencies early and correct them systematically.

In Indian automotive manufacturing, **Mahindra & Mahindra** has demonstrated how digital systems enable circular economy practices. Its zero-waste-to-landfill initiatives are supported by digital waste tracking, material segregation analytics, and shop-floor dashboards. Waste is treated as data, not discard. This approach has reduced landfill dependency, increased material recovery, and strengthened compliance readiness.

Managerial takeaway: Circular economy is not an ideology—it is an outcome of digitally controlled material systems.



Industrial waste management dashboard using smart technology



“Circular Economy” Model Changing E-Waste Management



Sustainable Supply Chains: Transparency Is the New Currency

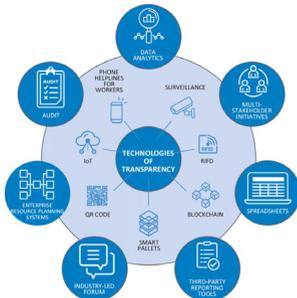
Supply chains have become the most visible—and vulnerable—component of business sustainability. Climate disruptions, geopolitical shocks, regulatory scrutiny, and consumer awareness have exposed the risks of opaque sourcing and logistics networks.

Digital supply chains enable **traceability, predictability, and accountability**, turning sustainability into a strategic asset rather than a risk exposure.

In the FMCG sector, **Hindustan Unilever** uses predictive analytics, digital demand sensing, and supplier performance dashboards to reduce inventory waste, optimize transportation routes, and monitor supplier sustainability performance. These initiatives reduce emissions and cost while improving service levels.

Similarly, **ITC Limited** integrates digital platforms with sustainable agri-sourcing models. Through technology-enabled farmer engagement, material traceability, and resource optimization, ITC has improved raw material quality while supporting rural livelihoods.

Managerial takeaway: A transparent supply chain is not just sustainable—it is more resilient, reliable, and trusted.



Scorecard for Sustainable Supply Chain Management

This slide is 100% editable. Adapt it to your needs and capture your audience's attention.

Scorecard Parameters		2021						
KPI	Jan	Feb	Mar	Apr	May	Jun	Target	
Financial	1. Supply Chain Cost (per unit volume)	\$1.79	\$1.68	\$1.67	\$1.64	\$1.56	\$1.54	\$1.69
	2. Cash – Debtor days	16.1	17.0	18.2	16.4	14.5	16.9	15.9
	3. Distribution Coverage (%)	76%	73%	77%	80%	81%	84%	89%
Customer	4. Customer Service, OTIF (%)	91%	91%	88%	92%	95%	93%	94%
	5. Stock availability at distributor (%)	97.5%	94.2%	96.4%	98.0%	98.6%	98.3%	98.3%
Process	6. Total Stock (Days) – Producer, Distributor	18.5	18.8	16.6	17.4	15.4	14.2	12.9
	7. Sales Forecasting Accuracy (%)	63%	58%	67%	64%	70%	80%	99%
Learning & Growth	8. Performance Appraisal Status (%)	24%	24%	24%	64%	64%	64%	99%
	9. Competency Attainment	49%	49%	49%	59%	59%	59%	59%

Legend: Critical (Red), Needs Attention (Yellow), On Target (Green)

Key Insights: ○ Text Here ○ Text Here ○ Text Here ○ Text Here

Human-Centric Sustainability in the Digital Workplace

Technology alone does not create sustainable businesses—people do. One of the biggest risks in digital transformation is **human disengagement**. Automation, AI, and analytics can generate resistance if employees see them as threats rather than enablers. True sustainability therefore requires a **human-centric digital strategy**—one that builds skills, trust, and purpose alongside technology deployment.

A strong example comes from **Infosys**, which has aligned its digital growth strategy with carbon neutrality commitments and large-scale employee upskilling. By investing in learning platforms, digital competencies, and green infrastructure simultaneously, the organization ensures that sustainability is embedded in culture, not imposed through mandates.

For materials and supply chain leaders, this has a direct implication: **shop-floor adoption determines sustainability success more than boardroom intent**.

Managerial takeaway: Sustainable digital transformation fails without reskilling, communication, and leadership empathy.

THE BENEFITS OF UPSKILLING

For Employees	For Employers
<ul style="list-style-type: none"> Ability to do their jobs better Career growth and enhancement Improved confidence and morale Increased adaptability in a changing workforce 	<ul style="list-style-type: none"> Increased employee retention and engagement A better equipped workforce A culture of learning Cost savings

What Sustainable Digital Strategy Means for Materials Managers

For materials managers, sustainability is not an abstract concept—it is experienced daily through procurement decisions, inventory levels, quality losses, supplier reliability, and compliance demands.

Digitally enabled sustainability directly impacts:

- Material yield and scrap reduction
- Supplier risk and continuity
- Inventory carrying cost
- Energy and logistics expenses
- Regulatory readiness and audit outcomes

Leading organizations treat sustainability metrics as **operational KPIs**, not CSR indicators. Material usage per unit, energy intensity, waste recovery percentage, and supplier ESG scores are tracked alongside cost and service metrics.

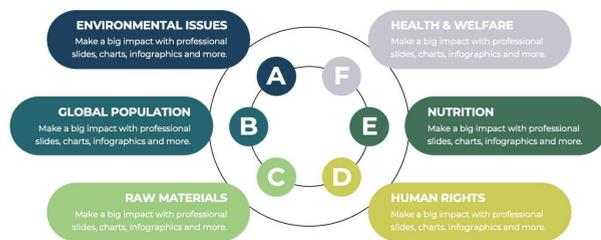
Five Actionable Lessons for Indian Industry Leaders : Drawing from Indian industrial experience, five practical lessons stand out:

1. **Integrate sustainability into ERP, MES, and planning systems**, not standalone dashboards.
2. **Digitize material and energy flows** to enable real-time control.
3. **Link sustainability targets to financial outcomes** to accelerate buy-in.
4. **Collaborate with suppliers** to improve sustainability across the value chain.
5. **Build people capability** to sustain transformation beyond pilot projects.

Organizations that follow these principles consistently report lower volatility, improved compliance confidence, and stronger stakeholder trust.

SUSTAINABILITY MANAGEMENT

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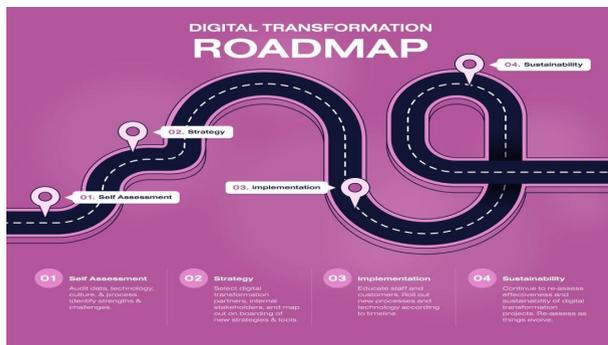


The Strategic Bottom Line for the 21st Century : Sustainability in the digital era is not about doing less harm—it is about doing business better. Indian industry is uniquely positioned to leapfrog legacy models by combining digital innovation with resource efficiency and inclusive growth.

For materials managers and supply chain professionals, the opportunity is significant. Digital tools allow sustainability to move from intent to execution, from reporting to results, and from obligation to opportunity.

The organizations that succeed in the 21st century will be those that understand a simple truth:

technology enables efficiency, but sustainable strategy ensures longevity.



“In the digital era, sustainability is no longer a compliance requirement—it is the smartest operating model for resilient, future-ready enterprises.”



Indian Institute of Materials Management

MISSION

- To promote professional excellence in Materials Management towards National Prosperity through sustainable development.

OBJECTIVE

- To secure a wider recognition of and promote the importance of efficient materials management in commercial and industrial undertakings.
- To safe guard and elevate the professional status of individuals engaged in materials management faculty.
- To constantly impart advanced professional knowledge and thus improve the skill of the person engaged in the materials management function.
- Propagate and promote among the members strict adherence to IIMM code and ethics.

CODE OF ETHICS

- To consider first the total interest of one’s organisation in all transactions without impairing the dignity and responsibility of one’s office :
- To buy without prejudice, seeking to obtain the maximum ultimate value for each rupee of expenditure.
- To subscribe and work for honesty and truth in buying and selling; to denounce all forms and manifestations of commercial bribery and to eschew anti-social practices.
- To accord a prompt and courteous reception so far as conditions will permit, to all who call up on legitimate business mission.
- To respect one’s obligations and those of one’s organisation consistent with good business practices.

THE 3-T COMPASS: TRANSLATING UNIVERSAL EXCELLENCE INTO PROCUREMENT LEADERSHIP

DR. M. A. NARASIMHA MURTHY

SENIOR DIRECTOR – QUALITY MANAGEMENT, INFINEON TECHNOLOGIES
FELLOW, INDIAN INSTITUTION OF INDUSTRIAL ENGINEERING (IIIE)

manmurthy@gmail.com

Are Technique, Timing, and Temperament the True Cornerstones of Professional Excellence?

Abstract : In an increasingly complex and volatile business environment, procurement professionals must go beyond transactional efficiency to deliver sustained strategic value. This article presents the 3-T Compass—Technique, Timing, and Temperament—as a universal framework for professional excellence, and translates it specifically into the context of procurement and materials management. Rooted in timeless principles and enriched by practical insights, the framework highlights how technical mastery builds credibility, timing enables value creation, and temperament fosters trust and leadership under pressure. By integrating these three interdependent dimensions, procurement professionals can navigate uncertainty, manage stakeholders effectively, and elevate their role from operational execution to strategic leadership.

Introduction: The 3-T Compass for a Transformation

In today's fast-paced, hyper-specialized world, success is often measured by titles, degrees, or accolades. Yet across professions—ranging from operating rooms and boardrooms to farms and street corners—certain timeless traits continue to define those who consistently excel. Most professionals grow through what may be called the **4-E Model**: Education, Experience, Exposure, and Environment. While formal education lays the foundation, it is real-world experience, diverse exposure, and a supportive environment that truly shape professional maturity—whether one is a corporate leader, a skilled artisan, or a local entrepreneur.

Irrespective of profession—sportsman, farmer, teacher, or street vendor—everyone works with a **target** in mind: a goal to pursue, a result to deliver, or a challenge to overcome. These targets are not limited to corporate KPIs. They include a farmer's seasonal yield, a daily sales goal, or a teacher's mission to shape lives. Behind each lies a personal commitment to growth.

A clear, time-bound target acts as a **compass**. It sharpens focus, informs decision-making, and sustains motivation. More than an endpoint, a target becomes a **platform for personal transformation**.

To succeed across professions and skill levels, we therefore need a **universal framework**—one that is adaptable, practical, and human-centred. This is where the **3-T Principle—Technique, Timing, and Temperament—becomes essential**.

- In technical fields, **Technique** ensures precision and skill.
- In dynamic settings, **Timing** determines impact.
- In people-centric roles, **Temperament** defines how we lead, adapt, and endure.

Together, the 3-Ts shape not just performance, but **professional identity**. They influence how individuals respond under pressure, make decisions, and earn trust.

Long before modern management frameworks, Technique, Timing, and Temperament were embedded in India's **gurukul system of education**. Epics such as the Mahabharata and Ramayana illustrate how iconic figures were trained holistically.

Arjuna, under Dronacharya, exemplified mastery of archery (**Technique**), decisive battlefield judgment (**Timing**), and unshakable composure (**Temperament**). Similarly, Lord Rama, trained under sages like Vishwamitra, mastered skills while upholding Dharma with grace under adversity.

The gurukul approach was holistic, experiential, and values-driven. Over time, modern education systems became increasingly theory-centric—often at the cost of practical competence, emotional intelligence, and ethical grounding.

Each professional journey is ultimately defined by the **targets we pursue and the inner strengths we cultivate** to reach them. The sections that follow explore how **Technique, Timing, and Temperament** serve as enablers of sustained personal and professional excellence.

The 3-Ts: Interdependent Forces Behind Professional Excellence

Technique, Timing, and Temperament are not standalone traits. They are **interdependent forces**. Strength in one reinforces the others. Excellence does not emerge from dominance of a single "T," but from their **harmonized application**.



T-1: Technique – Mastery of Skill

Technique represents the “**how**” of a profession. It forms the foundation of knowledge, methods, tools, and refined practices that enable consistent, high-quality performance.

Technique goes beyond following procedures. It is about applying knowledge with insight, efficiency, and adaptability. Technique converts theory into execution and effort into excellence.

Technique Is Built, Not Born

Technique develops through:

- Foundational education
- Years of hands-on experience
- Exposure to complexity and failure
- Learning from mentors and caution-keepers

Cricketing legends like Sachin Tendulkar and Muttiah Muralitharan refined their technique through relentless practice. In quality management, pioneers such as J. M. Juran converted decades of learning into globally respected disciplines.

Technique matures through reflection on failure. Learning accelerates by observing the best, practicing with guidance, and improving through feedback.

Core Dimensions of Technique

- Domain and functional expertise
- Problem-solving and analytical thinking
- Planning and execution discipline
- Communication and collaboration
- Attention to detail and quality
- Continuous improvement and innovation

Without technique, effort becomes guesswork. Sustained excellence demands mastery of skill.

Relevance to Procurement & Materials Management

In a procurement function, technique is reflected in the professional’s ability to identify the right suppliers, apply the right negotiation approaches, and build partnerships that lead to sustainable success. It includes the capability to apply pressure where required to drive performance improvement, while also knowing when to collaborate and support suppliers for long-term value creation.

Effective procurement technique also demands the ability to manage multiple stakeholders—understanding, articulating, and aligning diverse stakeholder requirements across engineering, quality, finance, and operations. The procurement professional acts as a **conduit**, translating organizational product and business needs into reliable supplier capability and supply execution.

Equally important is the ability to sense and respond to market dynamics—price movements, capacity shifts,

and risk signals—while maintaining composure and professionalism. The ability to stay calm, confident, and constructive amid market volatility is a critical ingredient of strong procurement technique.

For procurement and materials management professionals, **Technique becomes a source of professional credibility**. It manifests through:

- Strategic sourcing and category management
- Cost analysis, should-costing, and TCO thinking
- Contracting knowledge and compliance discipline
- Inventory planning and logistics coordination
- Supplier evaluation and performance management

Strong technique enables procurement professionals to prevent disruptions, balance cost with risk, and earn trust across engineering, finance, suppliers, and auditors.

T-2: Timing – The Power of When

Timing refers to the “**when**” of action. It is the ability to act at the right moment—neither too early nor too late—based on situational awareness and judgment.

Even perfect technique loses impact if applied at the wrong time. Timing transforms competence into effectiveness.

Timing Across Contexts

- For a cricketer, timing is measured in milliseconds
- For a farmer, in seasons
- For a vendor, in daily crowd patterns
- For organizations, across product and market cycles

Timing is critical in crisis response, strategic pivots, prioritization, and resource planning. It is both a **science** (data, planning) and an **art** (intuition, experience).

Relevance to Procurement & Materials Management

Timing for a procurement professional is a critical enabler of value creation. It is reflected in the ability to remain continuously watchful of **demand–supply dynamics** and to sense market movements early. Based on these changes, initiating timely and appropriate actions becomes the key to success.

This includes the timing of negotiations, the initiation of alternate supplier development, the application of pressure at the right moment to drive performance improvement, and the launch of strategic reviews and improvement initiatives. Actions taken too early may lack impact, while delayed actions can result in cost escalation, supply disruption, or missed opportunities.

When procurement professionals master timing, they convert market awareness and intent into **measurable business outcomes**—protecting continuity, managing risk, and delivering sustained value.

In procurement, **timing often matters more than price**. Timing influences:

- Contract renewals and renegotiations
- Capacity locking and long-term agreements
- Inventory buffering versus cash optimization
- Crisis response during shortages or disruptions

Procurement professionals with strong timing anticipate market movements, act early on supplier risks, and align sourcing actions with demand cycles.

T-3: Temperament – The Strength of Inner Balance

Temperament is the ability to remain **emotionally balanced, resilient, and ethically grounded** under pressure.

The procurement profession is continuously exposed to multiple and often competing situations—demand–supply imbalances, quality issues, cost and efficiency pressures, and high-stakes management discussions. In addition, procurement professionals must effectively manage both internal and external stakeholders, each with differing priorities and expectations.

In such an environment, the ability of a procurement professional to apply **situational leadership**—adapting behaviour, communication, and decision-making to the context—is extremely important. This capability enables procurement to remain composed under pressure, resolve conflicts constructively, and deliver balanced outcomes for the organization and its partners.

Unlike **Technique** or **Timing**, **Temperament** is often invisible—until tested. It shapes trust, credibility, and long-term influence.

Key Dimensions of Temperament

- Emotional intelligence and empathy
- Self-awareness and composure
- Calmness under pressure
- Optimism and adaptability
- Respectful communication

Relevance to Procurement & Materials Management

Procurement is a high-pressure, high-exposure function:

- Tough negotiations
- Conflicting stakeholder expectations
- Supplier escalations and audits
- Ethical dilemmas

Strong temperament enables procurement professionals to:

- Negotiate firmly yet respectfully
- Handle audits and crises calmly
- Build long-term supplier trust
- Remain resilient under repeated pressure

Temperament transforms technical authority into **trusted leadership**.

3-T in Action: Integrated Excellence

Technique, Timing, and Temperament reinforce each other.

Imbalance weakens effectiveness:

- Technique without temperament becomes rigidity
- Timing without technique becomes guesswork
- Temperament without credibility limits influence

Excellence emerges from **integration**.

Relevance in the Digital Era

As AI reshapes industries, the human edge will come from mastering this triad. Surface-level knowledge will not suffice. Deep expertise—grounded in Technique, Timing, and Temperament—will define sustainable professional advantage. Lifelong learning, mentorship, and step-by-step mastery will become the new norms.

Organizations, too, will increasingly value 3-T proficiency—not merely as individual skillsets, but as indicators of maturity, trustworthiness, and leadership potential.

The Organizational Edge

Organizational success is often driven by the synergy of leaders who apply technique with skill, act with timely precision, and maintain composure under pressure. When leaders embrace the 3-Ts effectively, their combined efforts become a **strategic catalyst**—enabling organizations to achieve meaningful and sustained results. Teams that act with skill, speed, and steadiness become change enablers, fostering cultures of trust, performance, and long-term success.

Conclusion: The 3-Ts as a Timeless Compass

In a rapidly changing world, excellence is no longer defined by qualifications alone. It demands a deeper blend of skill, judgment, and emotional maturity.

Across professions—from surgeons to street vendors—the **3-T Compass** shapes how individuals act, decide, and endure. For procurement and materials professionals, it elevates the role from transactional execution to **strategic leadership**.

Reflective Questions

- Am I continuously strengthening my technique?
- Do I act with the right timing—or too late?
- Does my temperament build trust under pressure?

Final Word

Technique builds competence.
Timing creates impact.
Temperament sustains leadership.

Together, they form a **compass for lifelong professional mastery**.



CAN ARTIFICIAL INTELLIGENCE HELP CIRCUMVENT THE NEXT GLOBAL SUPPLY CHAIN CRISIS?

JAYANT BORWANKER, WRITER, SCIENCE COMMUNICATOR, AND KEEN ENTHUSIAST OF CREATIVE PURSUITS.

Feature Story Can Artificial Intelligence Help Circumvent the Next Global Supply Chain Crisis?

Today's globalised world has become irrevocably dependent on interconnected and multistakeholder supply chains for goods and services. Yet, the recent pandemic resulted in logistical disruptions of massive proportions across the world. As per the WTO's World Trade Statistical Review 2021, compared with 2019, the global trade in goods and services declined by 12% in 2020.

Nonetheless, while the COVID-19 pandemic exposed many vulnerabilities in global supply chains, it is just one example of how these suffer disruptions. Events such as extreme weather, lingering infrastructure and structural bottlenecks, and geopolitical instabilities have all been periodically causing supply chain disruptions worldwide, even before the pandemic. And worryingly, a report by the World Bank suggests that such global supply chain disruptions are expected to persist unless we change the way we do things in this arena.

Globally, massive food wastage resulting from inefficient supply chains is partly to blame for lingering hunger problems. The shortage of certain components for key production sectors and high freight costs also contribute as bottlenecks to resilient supply chains. These challenges foretell a future wherein stakeholders will need to navigate a climate of persistent unpredictability. Needless to say, this calls for building resilience and agility in global supply chains.

In this context, artificial intelligence (AI) and blockchain have evinced the potential to revolutionise supply chain management and improve global supply chain efficiency, reduce costs, and enhance overall productivity. "As per a report by the NITI Aayog, AI can add 1 trillion dollars to India's economy by 2035, and in line with this potential, the Government of India has made sustained efforts to boost investments in AI," says Prof Ajit Kembhavi, Principal Investigator of the Office of Principal Scientific Adviser (PSA) to the GoI's Pune Knowledge Cluster, which has Big Data & AI as a focus area under its agenda.

These projections augur well for the Indian economy, especially against the backdrop of the COVID-19 pandemic. One example of using AI in supply chain management is leveraging a distributed ledger blockchain technology to expedite the delivery of COVID-19 vaccines. "The COVID-19 pandemic has highlighted the importance of having a resilient supply chain. AI-

powered solutions can help companies build such resilience by providing visibility into the entire supply chain, enabling faster decision-making, and reducing the risk of supply chain disruptions," says Sid Chakravarthy, Founder of StaTwig—a Hyderabad-based startup focusing on AI-enabled supply chain solutions to further this objective.

By integrating various advanced technologies, AI can plug vulnerabilities in global supply chains. This includes:

- Real-time data analytics to identify bottlenecks and capacity limitations
- Predictive analytics to reduce lead times, improve inventory management, and minimise excess inventory
- Improved visibility and transparency by identifying potential risks and enabling quick response to disruptions
- Supply chain automation to reduce costs, improve efficiency, and minimise human error
- Enhanced collaboration and communication to improve coordination and quick response
- Route optimisation by reducing transportation costs, minimising delivery times, and ensuring timely delivery of supplies
- Quality control and user management

While these include only a few of the capabilities offered by AI, integrating them into crucial and time-sensitive sectors can ensure the timely and efficient delivery of products and services. AI can be particularly helpful for the healthcare sector in India, considering that it is one of the largest and fastest-growing sectors worldwide.

Recognising the important role of AI, the Government of India (GoI) has adopted a proactive approach to promote AI in the supply chain sector. This includes the launch of a National AI Strategy in 2018, the establishment of the Digital India Mission for the development of supportive digital infrastructure, and the AI Task Force for identifying opportunities and challenges for AI adoption in India. The GoI is also striving to promote and support startups for AI and supply chain optimisation. Some initiatives in this direction include the creation of the National AI Portal, AI for Agriculture, Logistics Efficiency Enhancement Programme, Startup India, Atal Innovation Mission, and National Logistics Policy.

Moreover, in the Union Budget 2023–24, the government has reiterated its resolve to 'Make AI in India and Make AI work for India'. As a part of this promise, the GoI will set up three centres of excellence for AI in top educational institutions. These centres will collaborate with academic institutions and industry players to conduct interdisciplinary research and develop cutting-edge applications and scalable solutions for complex problems.

Furthermore, the Office of the PSA is also supporting research and development, innovation, and entrepreneurship in AI through its Science and Technology (S&T) clusters. The initiatives being taken for supply chain improvement are primarily aimed at developing AI-based solutions for optimising supply chain management, promoting collaboration and innovation to facilitate the exchange of ideas and best practices, and supporting policy for the adoption of ethical and responsible AI practices.

With support from the GoI, startups like StaTwig (incubated under the PSA Office's Science and Technology Cluster, Research and Innovation Circle of Hyderabad), SigTuple, and MFine (both funded under the SIDBI Startup Fund of Funds) are working towards the enhancement of visibility, automation, and smart logistics solutions for the supply chain sector. Moreover, the GoI extends funding for AI-based startups via incubators housed in research institutes (such as IITs and Indian Institute of Science), Public Funded Labs, and the Digital India Programme.

AI-enabled drones are very useful in distribution for example, Marut Drones is using AI to develop end-to-end drone medical delivery solutions with support from CIE-IITH, a GoI-backed incubator supporting deep-tech startups. Collectively, these funds and initiatives can help increase efficiency, improve visibility, enhance decision-making, augment customer experiences, and enable better risk management with respect to supply chains.

AI also holds the promise to solve issues related to creating a resource pool of skilled workforce and the safe delivery of goods and services, which are some of the concerns for supply chains after the COVID-19 pandemic. Solutions for automating decisions, tracking and analytics, and integrated safety measures are some ways in which AI can help businesses navigate the rapidly changing supply chain landscape.

Given the recent pandemic-induced circumstances, the possibility of another global supply chain crisis cannot be denied. By investing in AI-powered solutions today, companies can better prepare for such crises and minimise their impact on their business and customers. Overall, AI as a disruptive technology, and in association with other new age technologies such as machine learning, blockchain, drones, etc., it offers great potential for efficient supply chain management.

Source: www.psa.gov.in



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CURRENT TRENDS IN SUPPLY CHAIN MANAGEMENT 2026: HOW TECHNOLOGY IS TRANSFORMING SCM

ANNAPOORNA
ASSISTANT MANAGER - CONTENT

Discover the recent trends in supply chain management and how technology is transforming it. Additionally, understand AI's significance in supply chain management with a sneak peek of what lies ahead.

The efficiency of supply chain operations in today's global economy can make or break businesses. As the demand for transparency, speed, and cost efficiency is increasing, technology has become an important enabler of modern supply chain management for companies. In this article, we will explore how technology is transforming supply chain management. We will also provide insights into the current trends in supply chain management and what the future has in store for it.

Challenges Faced by Traditional Supply Chains : Traditional supply chains are faced with several challenges which can result into their inefficiency and ineffectiveness:

Lack of Transparency : Insufficient information in the supply chain makes it hard for products to be tracked and traced, leads to delays as well as causes misunderstanding.

Reliance on Manual Processes : Manual methods consume time and include mistakes since people are likely to make wrong decisions, thereby bringing about shortages in stock or errors in stocking.

Absence of Synchronisation : The participation of every player namely suppliers, manufactures, intermediaries and retailers within the supply chain is required. Other than that; this might lead to rising costs, inefficiencies and also disappointments among customers.

Demand Patterns with Uncertain Possibilities : Changes that were not anticipated may take place in terms of order quantities meaning that there will be difficulties in predicting and planning for production and inventory levels.

No Adaptability : Supply chains which are rigid cannot respond quickly enough if the market conditions change, preferences of consumers shift or emergencies such as earthquakes or recessions happen.

How Technology is Revolutionising Supply Chain Management in 2026 : In 2025, technology is making supply chains work much better. Automation uses robots and software to handle tasks like managing stock and shipping orders, so things get done faster and with fewer mistakes. Technology also helps managers make quick decisions by giving them up-to-date information, which helps solve problems quickly. Tools like GPS and sensors track shipments in real-time, so businesses know exactly where their goods are and can fix delays right away. Predictive analytics look at past data to predict future trends and potential issues, helping companies plan ahead and avoid problems.

Current Trends in Supply Chain Management (SCM) in 2026 : These are some of the trends that are currently shaping supply chain management:

Generative AI in Operations : The Generative AI (GenAI) is revolutionising SCM by assimilating huge data sets and understanding specific supply chain environments. It helps procurement compliance, manufacturing efficiency and virtual logistic communication.

AI-Enabled Low Touch Planning : This makes planning for the supply chain more effective by using artificial intelligence which reduces manual work, uses advanced analytics to provide real-time insights and predict disruption, scale data analysis and improve planning processes for better decision-making and resource allocation.

Transparency Beyond Tier 1 and 2 : Regulatory compliance and risk management require gaining visibility into deeper tiers of the supply chain. Control towers, digital twins are among the

technologies that enhance transparency and help firms comprehend sub-tier relationships thus improving the resilience of their supply chains.

Low-Code Platforms : Supply chain management is being revolutionised by low-code platforms that allow quick development and integration of applications with minimal technical skills. Their use streamlines processes across planning, manufacturing, logistics, etc making them adaptable in organisations.

Electric Vehicles in Transport and Logistics : The logistics sector is moving towards electrification and automation, with advancements in electric and autonomous vehicles. This shift aims to reduce emissions, improve efficiency, and enhance sustainability in transport and logistics networks.

Future of Supply Chain Management/Emerging Trends in SCM : The future of supply chain management is characterised by several emerging trends;

Artificial Intelligence and Automation : In the context of the supply chain management AI is quite crucial since as much as 85% of the companies now wish to adopt some AI related solutions while 45% expect effects on their supply chains. Areas such as sourcing, inventory management and logistics can be optimised by ai technology.

Increased Focus on Speed of NPI : Accelerated new product introduction has been ranked on top priority by companies as a result of specific economic and geopolitical situations globalizing markets competition. Collaboration between the procurement and supply chain teams in the early stages as well as utilisation of AI-compatible supply chain strategies can shorten NPI processes and increase their actual necessity.

Customisation : Companies are personalising their supply chains and also their production strategies if they are to remain in business. Management of custom orders and order processing can be enhanced by use of order automation as well as bespoke manufacturing services.

The Internet of Things (IoT) : IoT enable connection of various instruments and enhance numerous processes in supply chains, for example, warehouse management, vehicle management, and stock management. The increasing quantity

of IT-based gadgets expands management power, control, and efficiency in the supply chains.

Digitisation : With cloud services, deployment of new applications to the regional nodes and organisations are kept simple. With the use of cloud applications, the target users particularly the managers and regional lessees require little additional training, hence their management is better.

Risk Management and Resiliency : Regardless of the prevailing business environment, risk management and resiliency capabilities should be created and developed. For example, It is possible to reduce technology risks and ensure technology investment effectiveness by such means as increasing the level of modern technologies used in the company and building partnerships with suppliers.

Increased Visibility : Supply chain managers are focused on several improvements within the supply chain, and enhancing supply chain visibility is still leading the priority of most of them. IoT, AI and PLM software possess the improved visibility which helps in faster problem solving and improvement of efficiency levels.

Circular Supply Chain : The purpose of the circular supply chain model is the recycling of materials and products, hence sustainability and reduction of associated costs like storage and transportation. This model's advantage does not end there as it also has some economic gains through waste reduction.

Cloud-Based Solutions : SaaS models are coming up as necessary features in management of the supply chain in terms of certain applicability. Cloud computing capabilities enable companies to streamline supply chains globally, thus improving the operational output.

To sum up, the use of AI, automation and big data analytics should help in making further improvements in supply chain management. These are going to resolve existing problems and take advantage of the improvements to enhance efficiency. The essence of being ahead of these trends is the surety of success in the long- term.

Source: cleartax.in



CUSTOMER-CENTRIC RESILIENCE: A NEW FOCUS FOR THE SEMICONDUCTOR SUPPLY CHAIN INDUSTRY

JOSE DAVIDOV CHIEF CUSTOMER OFFICER,
GLOBAL SERVICE LOGISTICS, DHL SUPPLY CHAIN

Semiconductors are at the centre of modern life. They power everything from smartphones and electric vehicles to renewable energy systems and artificial intelligence. While semiconductor supply chains have always been complex, the demand pressure on them has never been greater.

In the last few years, the industry has had to navigate a series of challenges, from chip shortages to shifting trade policies to rising geopolitical tensions. These events have prompted manufacturers, suppliers and logistics providers to think differently about how they design and manage supply chains.

Responding to changing market demands : Traditionally, the industry focused on scale and cost efficiency. That model is now being replaced by one built on adaptability. Disruptions such as the pandemic and wave of tariffs have exposed the risks of concentrating production in a single region. So, while Taiwan remains the global centre of advanced chipmaking, many companies are now expanding capacity into the United States, Japan, and Europe to reduce dependency and create more balanced networks.

However, resilience in today's semiconductor industry depends on partnership. The complexity of the ecosystem means no company can manage every element alone, and we are seeing a more collaborative approach across the industry. Manufacturers, suppliers, and logistics partners are working together to create supply chains that can adjust quickly to demand swings, regulatory shifts, and unforeseen disruptions.

Looking beyond mass production : The most important thing to recognise is that a customer-centric supply chain looks beyond production capacity. It looks for tailored solutions that reflect the specific needs of each customer, whether they are expanding into new markets or managing regional restrictions.

It focuses on consistency of service, visibility across every stage of delivery, and the ability to react quickly. Companies that achieve this balance gain more than operational stability; they strengthen customer confidence and relationships.

One of our customers – an American-based company with more than 15,000 employees around the world – approached us having acquired a smaller organization. They were faced with the challenge of integrating the inventories and supply chain systems of both companies and needed to have new ways of working embedded in only nine months' time. The company also needed visibility of operations across the newly enlarged inventory and supply chain, with better control over the returns process. This integration needed to be completed with limited impact on revenue and operations during

the transition period. Through our service logistics solution, we were able to develop a global logistics network with 34 distribution centers around the world. Through this network, we established a supply of mission-critical service parts and equipment within two hours to any of the customers' facilities.

As a result of the new processes and supply chain networks, a rate of 100% cycle count stock accuracy was achieved, and in terms of on-time performance for urgent deliveries, a rate of 99.9% has been established. The company has also seen significant annual savings across its supply chain operations.

Technology at the forefront : Advanced technology is transforming how semiconductor supply chains operate and the ways that customers can be served. Predictive analytics and artificial intelligence can identify early signs of disruption, allowing teams to act before problems escalate. Meanwhile, digital twin technology is another key area of development. By creating virtual models of networks and processes, companies can test scenarios and make better investment decisions without interrupting operations. This makes the supply chain more responsive to customer needs and helps maintain stability even when external conditions change.

Real-time tracking through connected sensors has also become a requirement. For high-value semiconductor components, having transparency and control during transport is vital. These technologies give customers confidence that their products are secure and on schedule, while also helping supply chain managers refine routes and improve service reliability.

The next phase of growth

Over the coming years, the most significant transformation in the semiconductor industry will come from how well companies can align their supply chain strategies with customer needs.

Investment in strategically located facilities will be crucial, particularly in regions that can serve both established and emerging technology hubs, and advances in technology will make it easier to respond to market changes and support customers in more dynamic ways.

The last few years have taught us that a strong supply chain is not just about moving goods efficiently. It is about understanding what customers really need to stay competitive, and designing systems that deliver consistency, quality, and agility every time.

Source: www.globaltrademag.com



INSIDE THE PUSH FOR THE SELF-AWARE SUPPLY CHAIN

BRIDGET MCCREA

New intelligence tools help supply chains read signals, assess conditions and respond faster to shifting demands.

Key takeaways

- **Visibility is no longer enough for modern U.S. and global supply chains.** Traditional dashboards describe what's happening, but self-aware supply chains interpret signals, identify root causes and recommend or execute actions in real time.
- **AI and Agentic AI redefine how decisions get made.** Unlike rule-based automation, self-aware systems continuously monitor conditions, simulate tradeoffs and adjust decisions dynamically, a shift highlighted by experts from McKinsey & Co. and Gartner.
- **Data readiness remains the biggest barrier to adoption.** Many U.S. enterprises still struggle with siloed ERP, TMS and WMS platforms, limiting the effectiveness and ROI of self-aware supply chain initiatives until real-time, usable data is unified.
- **Early wins are emerging in forecasting, order management and inventory.** According to Capgemini, companies that focus on practical, fast-impact use cases such as supplier scorecards and demand sensing, are building momentum before scaling fully autonomous decision systems.
- The modern supply chain is a sprawling international network that has to be able to react to sudden swings in demand, new geopolitical pressures and shifting transportation requirements. It's a landscape that never sits still, with each new year bringing different pressures that test the limits of existing systems.
- Modern technology tools have stepped in to help by tying data together, spotting issues earlier and helping operators move before problems widen. Now the work is shifting toward something more advanced, where systems don't just surface information but actually read what it means and guide the next move.
- For now at least, these complex systems fall into the category of "self-aware supply chain" solutions. But as with everything else, that umbrella term will surely branch off into more specific capabilities as the technology matures, specific use cases emerge and companies focus on which aspects deliver the biggest benefits.
- What is a self-aware supply chain?
- The idea of a self-aware supply chain grew out of a simple problem: visibility alone can't keep up with the speed and complexity of modern networks. Companies added dashboards and data feeds, but those tools still left teams reacting after trouble hit. A self-aware approach enabled by modern tools like [artificial intelligence \(AI\)](#), Agentic AI and machine learning effectively close that gap. At a high level, it pulls signals from across the operation, interprets why those signals matter and then identifies shifts before the human eye can catch them.
- Regardless of the tech infrastructure driving the self-aware supply chain, its ultimate goal is straightforward: create an ecosystem that "sees" what's changing and moves on it before minor problems escalate into larger issues. This pushes organizations out of reactive mode and allows them to proactively address both the constraints of the modern supply chain and the opportunities that it presents.
- "This isn't just about better insights. It's about taking action," says Kapil Dev Bansal, associate partner at McKinsey & Co. "These systems can sense a disruption, simulate the tradeoffs and decide the best next step."
- So where [traditional visibility tools](#) only describe what's happening, self-aware systems interpret the data, identify the root cause and test the options before responding. Bansal points to rising cost pressure, tougher customer expectations and advances in computational AI, GenAI and Agentic AI as the forces pushing companies toward this model. He says those capabilities help operations manage volatility, move faster and deliver more consistent performance as supply chains grow more complex.
- "We're shifting away from the 'tell me what's wrong' notification approach and over to one where agentic ecosystems can make the fixes or pivots," says Bansal, who points to visibility as one area where organizations would benefit from more self-awareness. "Most visibility tools are descriptive; they'll tell you where a truck is. Agentic tools, on the other hand, can also make the changes to the cortex systems themselves."
- Breaking it down
- Complex technology topics can be easier to understand when we connect them to something familiar. For example, we can compare a self-aware supply chain to an office copier that tracks its own ink levels and asks for a refill before the print jobs slow down. That's how one Gartner analyst framed the idea, noting that a self-aware operation works in a similar manner by spotting a need early and triggering the fix before activity flow is disrupted.
- Here's how it works: in a traditional setup, office copiers wait for their ink levels to drop below a pre-set threshold, check a short list of approved suppli-

ers and then trigger a purchase order. The steps are digital, but the flow mirrors the same linear sequence companies used long before automation infiltrated the workplace.

- A self-aware system takes a different path. An AI agent reads the ink sensor in real time, pairs that data with a model that predicts future usage and searches broadly for suppliers instead of relying on a fixed list. It processes all of those signals at once and decides when to act based on actual conditions. “At some point, a condition is reached that triggers the agent to say, ‘Now we buy,’” says Leonard Ammerer, director analyst in Gartner’s Supply Chain research organization. He notes that the decision comes from continuous monitoring, not a preset rule.
- Ammerer says that same logic applies across supply chains. The approach that keeps a copier from running dry can help companies manage inventory, adjust safety stock and respond to shifting supply or demand before planners get involved. “The real shift comes from how AI changes who makes the decisions,” Ammerer points out. “For the first time, we can delegate parts of the orchestration to digital actors, and that opens opportunities we couldn’t have imagined just five years ago.”
- The building blocks
- Companies like the idea of a self-aware supply chain, but Siddharth Ram, VP of consumer products, retail and services at Capgemini, says the early work is far more basic. Organizations sit at different points in their maturity, with some running advanced pilots and others still determining their starting points.
- Ram has also noticed a willingness to invest in these tools, with executive teams now seeing the value and the technology finally ready to support it. He sees this as an important development, namely because large projects only move when leaders commit the money and resources needed to get them off the ground.
- Data sits at the center of the shift. A self-aware network can’t predict or adjust without real-time information from trucks, ships, air freight or sensors inside a warehouse. Much of that information sits in old transactional systems or legacy platforms that store data in formats current tools can’t use. Teams first have to pull that data out, clean it and combine it with live operational signals. That work forms the base for any move from reactive to predictive.
- Ram says the next layer focuses on the models behind the system. The technology has to analyze the data, make decisions, learn from mistakes and improve over time. Some decisions can run on full automation once the system proves it can be trusted. Others stay hybrid, with an agent proposing an action and a planner approving it.
- When it comes to self-aware supply chains, Ram says the most relatable examples sit in the quick-win category. For example, companies often see early results in forecasting, order management and other day-to-day decisions that rely on fast, accurate in-

formation. He points to one distributor that used a simple tool to give suppliers real-time visibility into their own performance through a scorecard. Ram says that kind of practical step helps teams record some quick wins before rolling out larger projects.

- “The ambition and intent around self-aware supply chains have existed for some time, but now the tools are becoming available to make it a reality,” says Ram. “Now we’re at a point where sales, customer service, warehousing, transportation, finance, procurement and pretty much every aspect of the enterprise are producing use cases and realizing benefits.”
- What’s coming next?
- As he surveys the supply chain landscape, Ammerer says self-aware supply chains will require companies to rethink how they design decisions, not how they speed up old processes. Instead of copying the same linear steps teams have followed for years, he says organizations will need to build decision flows around what the objective demands and what AI can now support.
- “You need to look at the objective on a blank sheet of paper with the new capabilities that AI offers,” says Ammerer, noting that the shift will also include connecting autonomous systems to a wide mix of perception tools, including structured or unstructured data; machine learning models; other digital agents; or even human inputs (as needed).
- Looking ahead, Bansal says data accessibility will remain one of the biggest roadblocks for companies building self-aware supply chains. When information sits inside siloed systems like TMS, WMS or ERP, the self-aware layer can’t do its job. “Until that problem is corrected,” Bansal says, “improving performance will remain difficult and hitting the ROI goals for a self-aware supply chain will be challenging.”
- The good news is that the technology behind these systems continues to evolve and mature, making the concept more attainable for a wider range of companies. Bansal expects the next wave to bring more sector-specific networks that let certain industries move faster. “Some sectors, especially those that are consumer-focused, are front-runners when it comes to innovation,” he says, “while others are further behind in terms of tech adoption.”
- He says those slower-moving industries will likely take a wait-and-see approach and watch the technology mature before diving in. Others already using Agentic AI in areas like customer service may start experimenting sooner. “Even in sectors like manufacturing, we see data spread across different sites and in varied formats, right down to whiteboards and paper notes,” Bansal says. “Those sectors will take more time to figure out the solution and how to get the greatest benefit from these technologies.”

Source: SCMR



TRANSFORMING INDIA WITH AI

Over 10,300 crore investment & 38,000 Graphics Processing Unit (GPUs) powering inclusive innovation

Key Takeaways

- **10,300+ crore** allocated over five years for IndiaAI Mission with 38,000 GPUs deployed.
- **6 million** people are employed in the tech and AI ecosystem.
- Indian Tech sector is projected to cross **\$280 billion** in revenue this year.
- AI could add **\$1.7 trillion** to India's economy by 2035.

Introduction : India stands at the cusp of a new era powered by Artificial Intelligence (AI), where technology is transforming lives and shaping the nation's progress. AI is no longer limited to research labs or big corporations. It is reaching citizens at every level. From improving healthcare access in remote areas to helping farmers make informed crop decisions, AI is making daily life simpler, smarter, and more connected. It is revolutionising classrooms through personalised learning, making cities cleaner and safer, and enhancing public services through faster, data-driven governance.

Initiatives such as the **IndiaAI Mission** and the **Centres of Excellence for AI** are at the heart of this transformation. They are expanding access to computing power, supporting research, and helping startups and institutions create solutions that directly benefit people. India's approach focuses on making AI open, affordable, and accessible, ensuring that innovation uplifts society as a whole.

What is Artificial Intelligence?

Artificial Intelligence (AI) is the ability of machines to perform tasks that normally require human intelligence. It enables systems to learn from experience, adapt to new situations, and solve complex problems independently. AI uses datasets, algorithms, and large language models to analyse information, recognise patterns, and generate responses. Over time, these systems improve their performance, allowing them to reason, make decisions, and communicate in ways similar to humans.

This inclusive vision is also reflected in **NITI Aayog's report, AI for Inclusive Societal Development (October 2025)**. The report shows how AI can empower India's 490 million informal workers by expanding access to healthcare, education, skilling, and financial inclusion. It highlights how AI-driven tools can boost productivity and resilience for millions who form the backbone of India's economy. The report also stresses that technology can bridge deep social and economic divides, ensuring

that the benefits of AI reach every citizen.

AI Ecosystem in India at Present

- India's technology sector is expanding rapidly, with annual revenues projected to cross **USD 280 billion** this year.
- Over **6 million** people are employed in the tech and AI ecosystem.
- The country hosts **1,800+** Global Capability Centres, including more than **500** focused on AI.
- India has around **1.8 lakh startups**, and nearly **89%** of new startups launched last year used AI in their products or services.
- On the NASSCOM AI Adoption Index, India scores 2.45 out of 4, showing that **87%** of enterprises are actively using AI solutions.
- Leading sectors in AI adoption include industrial and automotive, consumer goods and retail, banking, financial services and insurance, and healthcare. Together they contribute around **60 percent** of AI's total value.

About 26% of Indian companies have achieved AI maturity at scale, according to a recent BCG survey.

As India builds an inclusive AI ecosystem, its growing global recognition reflects this progress. Rankings such as the Stanford AI Index place India among the top four countries in AI skills, capabilities, and policies. The country is also the second-largest contributor to AI projects on GitHub, highlighting the strength of its developer community. With a strong STEM workforce, expanding research ecosystem, and growing digital infrastructure, India is positioning itself to harness AI for economic growth, societal progress, and the long-term vision of **Viksit Bharat by 2047**.

India is the world's third most AI-competitive nation : India has secured the **3rd position globally in Artificial Intelligence competitiveness**, according to a report by Stanford University's 2025 Global AI Vibrancy Tool. The ranking emphasises India's rapid growth in the global AI landscape. **The report measures AI growth and innovation from 2017 to 2024.** This recent achievement underscores India's rapidly growing AI talent, strong research capabilities, vibrant startup ecosystem, investment and economic impact, infrastructure, and policy and governance.

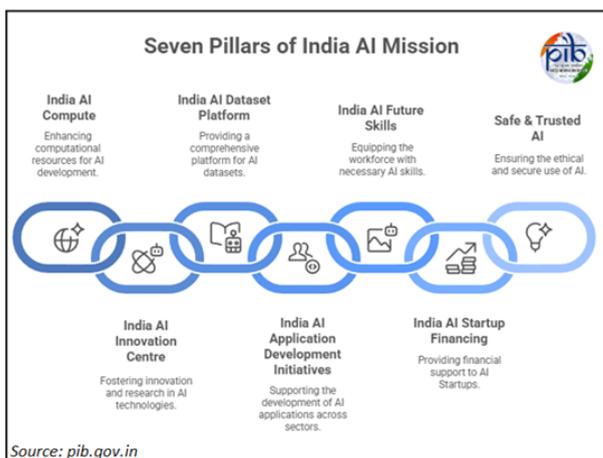
India AI Mission : Guided by the vision of "Making AI in India and Making AI Work for India", the Cabinet approved the **India AI Mission** in March 2024, with a budget outlay of 10,371.92 crore over five years. The mission marks a defining step towards making India a global leader in Artificial Intelligence.

Since its launch, the mission has made strong progress in expanding the country's computing infrastructure. From an initial target of 10,000 GPUs, India has now achieved 38,000 GPUs, providing affordable access to world-class AI resources.

What is a GPU?

A GPU or Graphics Processing Unit is a powerful computer chip that helps machines think faster, process images, run AI programs, and handle complex tasks more efficiently than a regular processor.

Implemented by **IndiaAI**, an independent business division under the Ministry of Electronics and Information Technology (MeitY), the mission is building a comprehensive ecosystem that drives innovation, supports startups, strengthens data access, and ensures the responsible use of AI for public good.



The seven pillars of the IndiaAI Mission are:

- 1. IndiaAI Compute Pillar** : This pillar provides high-end GPUs at affordable costs. As mentioned earlier, over 38,000 GPUs have been onboarded. These GPUs are available at a subsidized rate of just 65 per hour.
- 2. IndiaAI Application Development Initiative** : This pillar develops AI applications for India-specific challenges. Sectors include healthcare, agriculture, climate change, governance, and assistive learning technologies. Thirty applications have been approved by July 2025. Sector-specific hackathons are organized with ministries and institutions. For example, the CyberGuard AI Hackathon helps develop AI solutions for cybersecurity.
- 3. AIKosh (Dataset Platform)** : AIKosh develops large datasets for training AI models. It integrates data from government and non-government sources. The platform has over 5,500 datasets and 251 AI models across 20 sectors. These resources help developers focus on AI solutions instead of building basic modules. The platform has over 385,000 visits, 11,000 registered users, and 26,000 downloads by December 2025.
- 4. IndiaAI Foundation Models** : This pillar develops India's own Large Multimodal Models using Indian data and languages. It ensures sovereign capability and global

competitiveness in generative AI. IndiaAI received over 500 proposals. In the first and second phase, twelve startups were selected: Sarvam AI, Soket AI, Gnani AI, Gan AI, Avaatar AI, IIT Bombay consortium – BharatGen, Zenteiq, Gen Loop, Intellihealth, Shodh AI, Fractal Analytics, Tech Mahindra Maker's Lab.

5. IndiaAI Future Skills : This pillar builds AI-skilled professionals. Support is provided to 500 PhD fellows, 5,000 postgraduates, and 8,000 undergraduates. Over 200 students received fellowships by July 2025. **73 institutes** onboarding PhD students. Data and AI Labs are being set up in Tier 2 and Tier 3 cities. Thirty-One labs have been launched with NIELIT and Industry Partners. States and UTs nominated 174 ITIs and polytechnics for labs.

6. IndiaAI Startup Financing : This pillar provides financial support to AI startups. The IndiaAI Startups Global program launched in March 2025. It helps 10 Indian startups expand into the European market in collaboration with Station F and HEC Paris.

7. Safe and Trusted AI : This pillar ensures responsible AI adoption with strong governance. **13 projects** have been selected and initiated through Expressions of Interest. They focus on machine unlearning, bias mitigation, privacy-preserving ML, explainability, auditing, and governance testing. An additional expression of interest was published on 9 May 2025 for partner institutions to join the IndiaAI Safety Institute.

AI at India Mobile Congress 2025 : Artificial Intelligence took centre stage at the 9th India Mobile Congress, inaugurated by Prime Minister Shri Narendra Modi on 8th October 2025 at Yashobhoomi, New Delhi. Organised by the Department of Telecommunications and COAI, the event ran from 8th to 11th October under the theme "Innovate to Transform."

IMC 2025 features six major global summits, including the International AI Summit, which highlighted AI's transformative role in networks, services, and next-generation digital infrastructure. Over 1,600 new use-cases across AI, 5G, 6G, smart mobility, cybersecurity, quantum computing, and green technology showcased through 100+ sessions and 800+ speakers.

The event hosted over 1.5 lakh visitors from 150 countries, 7,000 global delegates, and 400 companies, bringing together innovators, startups, policymakers, and industry leaders to shape the future of AI and digital technology.

Other Key Government Initiatives and Policy Push : The Government of India is turning its Artificial Intelligence vision into action through a series of transformative initiatives. These efforts are focused on building a robust AI ecosystem, promoting innovation, and ensuring that technology serves every section of society. From creating world-class research hubs to developing homegrown AI models, the government's approach combines policy, infrastructure, and capacity-building in equal measure.

Centres of Excellence for AI : To encourage research-

driven innovation, the government has set up three **Centres of Excellence (CoEs)** in key sectors such as Healthcare, Agriculture, and Sustainable Cities. A fourth CoE for Education was announced in Budget 2025. These centres are designed to serve as collaborative spaces where academia, industry, and government institutions come together to develop scalable AI solutions. Alongside, five **National Centres of Excellence for Skilling** have been established to prepare the youth with industry-relevant AI skills, building a future-ready workforce.

AI Competency Framework : This framework provides structured training for government officials, helping them acquire essential AI skills and apply them in policymaking and governance. Designed in line with global benchmarks, it ensures that India's public sector remains informed, agile, and prepared for the AI-driven future.

Sarvam AI: Smarter Aadhaar Services : Sarvam AI, a Bengaluru-based company, is translating advanced AI research into practical governance solutions. In partnership with the Unique Identification Authority of India (UIDAI), it is using generative AI to make Aadhaar services smarter and more secure. In April 2025, Sarvam AI received approval to build India's **Sovereign LLM Ecosystem**, an open-source model designed to enhance public service delivery and promote digital trust.

Bhashini: Voice for Digital Inclusion : Bhashini is an AI-powered platform that breaks language barriers by offering translation and speech tools in multiple Indian languages. It helps citizens access digital services easily, even if they are not comfortable reading or writing. In June 2025, the Digital India Bhashini Division and the Centre for Railway Information Systems (CRIS) signed an MoU to deploy multilingual AI solutions across public-facing railway platforms.

Since its launch in July 2022, Bhashini has crossed one million downloads, supports 20 Indian languages, and integrates more than 350 AI models. With 450+ active customers, it continues to promote digital inclusion and bridge linguistic divides.

BharatGen AI: India's Multilingual AI Model : Launched on 2 June 2025 at the BharatGen Summit, **BharatGen AI** is the first government-funded, homegrown multimodal large language model. It supports 22 Indian languages and integrates text, speech, and image understanding.

Built using domestic datasets, BharatGen captures India's cultural diversity and provides a common platform for startups and researchers to create AI solutions tailored to Indian needs.

India AI Impact Summit 2026 : India will host the AI Impact Summit in February 2026. The summit will showcase India's AI capabilities and encourage innovation across sectors. On September 18, 2025, India unveiled the event logo and key flagship initiatives.

The key flagship initiatives are:

- **AI Pitch Fest (UDAAN)**: A platform for AI startups from around the world with a focus on women leaders and differently-abled changemakers.
- **Global innovation challenges for youth, women, and other participants**: An initiative to promote AI-driven solutions that address real world public challenges across sectors.
- **Research symposium**: A gathering to showcase latest AI research and bring together leading researchers from India, the Global South, and the wider international community to present their work, exchange methods, and evidence and encourage collaborations.
- **AI Expo**: This Expo will focus on Responsible Intelligence and will feature 300+ exhibitors from India and 30+ countries.

The event that unveiled the Summit logo and key flagship initiatives also saw the launch of eight new foundational model initiatives to build indigenous AI models trained on India-specific data. Another major focus was the AI Data Labs, with thirty labs launched pan-India, forming a 570-lab network. The first 31 labs were set up in partnership with the National Institute of Electronics and Information Technology (NIELIT) and Industry Partners. These labs provide foundational AI and data training under the FutureSkills initiative of the IndiaAI Mission.

The IndiaAI Fellowship Program and Portal were also expanded during the event to support 13,500 scholars. This includes 8,000 undergraduates, 5,000 postgraduates, and 500 PhD researchers across all disciplines. Fellowships are now open to students from fields such as engineering, medicine, law, commerce, business, and liberal arts.

AI in Everyday Life and Work : Artificial Intelligence is driving a new wave of innovation that touches every part of daily life, from healthcare and farming to education, governance, and climate prediction. It helps doctors diagnose diseases faster, assists farmers in making data-driven decisions, improves learning outcomes for students, and makes governance more efficient and transparent.

Transformation is the **Large Language Model (LLM)**, an advanced AI system that learns from vast amounts of data to understand and generate human-like text. LLMs are what make chatbots, translation tools, and virtual assistants possible. They make it easier for people to find information, use government services, and learn new skills in their own language.

India's approach to AI goes beyond technology, focusing on inclusion and empowerment. Through national initiatives and global collaborations, AI is being used to solve real-world challenges, enhance public services, and make opportunities more accessible to every citizen. From improving rural healthcare and predicting weather patterns to translating court judgments into regional languages, AI is emerging as a powerful enabler of

progress in building a digitally empowered and equitable India. Some key areas where AI is improving everyday life are:

Healthcare : AI is transforming healthcare delivery. It helps doctors detect diseases early, analyse medical scans, and recommend personalised treatments. Telemedicine platforms powered by AI connect patients in rural areas with specialists in top hospitals, saving time and cost while improving care quality. India's participation in HealthAI, a global body promoting safe and ethical AI in healthcare, and collaborations between ICMR and IndiaAI with countries like the United Kingdom and Singapore are ensuring responsible innovation and global best practices.

Agriculture : For farmers, AI is a trusted digital companion. It predicts weather, detects pest attacks, and suggests optimal times for irrigation and sowing. The Ministry of Agriculture and Farmers Welfare is using AI through initiatives like Kisan e-Mitra, a virtual assistant that helps farmers access government schemes such as PM Kisan Samman Nidhi.

The National Pest Surveillance System and Crop Health Monitoring combine satellite data, weather inputs, and soil analysis to provide real-time advice that improves yields and income security.

Education and Skilling : AI is being integrated into India's education system to make learning more inclusive, engaging, and future-ready. Under the National Education Policy (NEP) 2020, the Central Board of Secondary Education (CBSE) offers a 15-hour AI skill module from Class VI and an optional AI subject from Class IX to XII. The DIKSHA digital learning platform by NCERT uses AI tools such as keyword search in videos and read-aloud features to enhance accessibility, especially for visually impaired learners.

In addition, the National e-Governance Division (NeGD) under MeitY, in collaboration with its partners, has implemented **YUVAI: Youth for Unnati and Vikas with AI**, a national programme aimed at enabling students from Classes 8 to 12 with AI and social skills in an inclusive manner. The programme provides a platform for students to learn and apply AI skills across eight thematic areas: Krishi, Aarogya, Shiksha, Paryavaran, Parivahan, Grameen Vikas, Smart Cities, and Vidhi aur Nyaay, empowering them to develop AI-driven solutions for real-world challenges.

Governance and Justice Delivery

Will AI Lead to Unemployment?

Artificial Intelligence is often seen as a threat to jobs, but in reality, it is creating new kinds of opportunities. According to NASSCOM's report "Advancing India's AI Skills" (August 2024), India's AI talent base is expected to grow from about 6 to 6.5 lakh professionals to more than 12.5 lakh by 2027, at a compound annual growth rate of 15 percent.

AI is driving demand in areas such as data science, data curation, AI engineering, and analytics. As of August

2025, around 8.65 lakh candidates have enrolled or trained in various emerging technology courses, including 3.20 lakh in AI and Big Data Analytics.

To prepare the workforce for the future, the Ministry of Electronics and Information Technology, MeitY, has launched FutureSkills PRIME, a national programme focused on reskilling and upskilling IT professionals in 10 new and emerging technologies, including AI. As of August 2025, more than 18.56 lakh candidates had signed up on the FutureSkills PRIME portal, and over 3.37 lakh had successfully completed their courses.

AI is reshaping governance and public service delivery. As per the Supreme Court of India, under e-Courts Project Phase III, modern technologies are being integrated to make the justice system more efficient and accessible. Artificial Intelligence and its subsets such as Machine Learning, Optical Character Recognition, and Natural Language Processing are being used in translation, prediction, administrative efficiency, automated filing, intelligent scheduling, and communication through chatbots. AI Translation Committees in High Courts are overseeing the translation of Supreme Court and High Court judgments into vernacular languages. Digital legal platforms such as e-HCR and e-ILR now provide citizens online access to judgments in multiple regional languages, making justice delivery more transparent and inclusive.

Weather Forecasting and Climate Services : AI is strengthening India's ability to predict and respond to natural events. The India Meteorological Department uses AI-based models to forecast rainfall, fog, lightning, and fire. The Advanced Dvorak Technique helps estimate cyclone intensity, while MausamGPT, an upcoming AI chatbot, will offer real-time weather and climate advice to farmers and disaster management agencies.

AI for Inclusive Societal Development : NITI Aayog's report, AI for Inclusive Societal Development (October 2025), sets a roadmap for using technology to empower India's informal workforce. It asks a key question: how can the world's most advanced technologies reach the most overlooked workers so they can overcome constraints and claim their place in India's growth story?

The report draws on real-life experiences of informal workers. It reflects the challenges and aspirations of a home healthcare aide in Rajkot, a carpenter in Delhi, a farmer, and many others. These stories show persistent barriers, but also the immense potential that thoughtfully deployed technology can unlock. For these millions, technology must not replace their skills, it must amplify them.

The roadmap discusses how Artificial Intelligence, Internet of Things, blockchain, robotics, and immersive learning can remove systemic barriers faced by India's 490 million informal workers. It envisions a future where, by 2035, voice-first AI interfaces overcome language and literacy barriers. Smart contracts will ensure timely and transparent payments. Micro-credentials and on-demand learning will allow workers to upskill at the pace of their ambition.

At the heart of this vision is the **Digital ShramSetu Mission**, a national initiative to deploy frontier technologies at scale for India's informal sector. The mission focuses on persona- or sector-led prioritisation, state-driven implementation, regulatory enablement, and strategic partnerships to ensure affordability and wide adoption. It will mobilise government, industry, and civil society, guided by a robust multi-level impact evaluation framework.

The report emphasises that achieving this inclusive digital leap will require more than optimism. It calls for concerted investments in R&D, targeted skilling programmes, and a strong innovation ecosystem. India's past successes with digital public infrastructure such as Aadhaar, UPI, and Jan Dhan show that inclusive, at-scale platforms are possible.

Proposed Implementation Roadmap:

Phase 1 (2025–2026): Mission Orientation : Drafting of the mission charter with clear goals, timelines and measurable outcomes. Stakeholders from government, industry, academia and civil society will be engaged to set priorities and define objectives.

Phase 2 (2026–2027): Institutional Setup and Governance Design : Establishment of cross-sectoral governance structures, leadership roles and an implementation blueprint. This phase will also focus on legal, regulatory and digital infrastructure readiness, while promoting domestic innovation and public–private partnerships.

Phase 3 (2027–2029): Pilots and Select Programme Launch : Pilot projects will be rolled out in high-readiness sectors to test solutions in real-world conditions. Accessibility and last-mile adoption will be prioritised, supported by strong monitoring and evaluation frameworks.

Phase 4 (2029 onwards): Nationwide Rollout and Integration : Proven solutions will be scaled across states and cities. Local adaptation will ensure regional relevance and worker mobility across sectors. The phase will aim to institutionalise the mission and sustain its benefits at scale.

By 2035, the mission envisions India as a global leader in inclusive AI deployment. It seeks to ensure that technology not only drives growth but also strengthens livelihoods, opens access to opportunities, and supports the nation's journey towards an equitable and empowered digital economy.

Conclusion : India's journey in Artificial Intelligence reflects a clear vision and decisive action. From expanding computing infrastructure to fostering homegrown models and supporting startups, the country is creating a robust AI ecosystem that benefits citizens and drives innovation. Initiatives in agriculture, healthcare, education, and governance demonstrate practical applications with real impact. Strategic initiatives like the IndiaAI Mission, Digital ShramSetu, and foundational model development are ensuring that

innovation reaches every citizen while fostering research, skills, and entrepreneurship. These efforts lay a strong foundation for India to emerge as a global AI leader while advancing the vision of Viksit Bharat 2047.

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Source: PIB Research Unit



TRENDS 2026: RISE OF RESILIENT LIFE SCIENCES INNOVATION

AYESHA SIDDIQUI

US President Donald Trump's tariffs, with a fear of global recession and geopolitical tensions affecting industries worldwide, was the memorable aspect of 2025. Despite these challenges, the Indian life sciences sector has remained resilient and steadfast. To avoid the impact of Trump's tariffs, almost all major pharma firms expanded or increased their presence in the US, often through acquisitions. A key highlight was the Indian government introducing several measures to simplify drug approvals and support innovation. Key reforms included updating the New Drug and Clinical Trial Rules (2019) and adopting digital platforms for regulatory submissions to improve transparency, reduce approval timelines, strengthen pharmacovigilance, and maintain quality standards. As we move into 2026, many of the trends and themes from 2025 are expected to carry forward, shaping the industry's trajectory in the year ahead. Let's look at these trends across different sectors.

A major trend in 2025 was the rise of anti-obesity drugs. Mounjaro, in particular, saw rapid uptake and became the second-highest selling weight-loss drug in India within just six months.

Another highlight was the opening of several Centres of Excellence (CoE). Notably, Miltenyi Biotec inaugurated India's first Cell and Gene Therapy (CGT) CoE in Hyderabad, reflecting the growing focus on advanced therapies. Much like everything in life, artificial intelligence (AI) continued to deepen its presence across healthcare, transforming diagnostics, research, and drug development.

Pharma and Biotech

Policy and Innovation Driving Advanced Therapies : The Government of India has launched the 'Promotion of Research and Innovation in Pharma MedTech sector (PRIP)' scheme to promote innovation in India. The scheme has a total financial outlay of Rs 5000 crore, which includes Rs 700 crore to establish Centers of Excellence (CoEs) at seven National Institutes of Pharmaceutical Education & Research (NIPERs), and Rs 4200 crore to accelerate investments in the R&D ecosystem within the sector. The scheme has defined three priority areas for funding: new medicines, Complex generics and biosimilars and novel medical devices.

"It will be interesting to see the impact this scheme will make in 2026 and beyond. Considering the immense potential for increase in innovation within Pharma/Medtech in India, the overall ecosystem will benefit from

this scheme and promote innovation at both the industry and academic level. Considering India's large population and specific healthcare needs, we can expect good innovation momentum in these areas moving forward. Moreover, Indian pharma needs to transform from being a generics producer to an innovation producer for long term growth," said **Prashant Khadayate, Director – Lifesciences Consulting & Research, Global Data.**

This policy-driven push is expected to accelerate biology-led innovation in 2026, with advanced therapeutic modalities driving the next wave of growth. Cell therapies, autologous, allogeneic, and in vivo, are expected to shift from niche applications to scalable platforms across oncology, immunology, and regenerative medicine. While India approved its first CAR-T therapy only last year, experts anticipate a steady rise in CGT approvals in the coming years.

"Upcoming year will be defined by acceleration in high-value generics, complex formulations, and biologics. India's role as the leading global supplier of affordable medicines will deepen, but the next phase of growth clearly lies in complex Injectables, peptides, sustained-release products, specialty therapies, and biosimilars—segments that are seeing stronger regulatory acceptance and higher demand across developed and emerging markets. With global healthcare systems seeking cost-effective alternatives, compliance strength, quality maturity, and digital transparency will become decisive factors in winning international confidence," said **Bhavin Mehta, Vice Chairman of the Pharmaceutical Exports Promotion Council of India (Pharmexcil).**

Expanding to other geographies : A parallel, equally powerful trend is the broad-based diversification of export geographies. To mitigate the impact of US tariffs, pharmaceutical companies are exploring expansion into other geographies. While the US will remain a key driver, momentum is now shifting toward Africa, Latin America, Southeast Asia, the Middle East, and China, supported by rising procurement volumes and deeper commercial linkages.

"Exporters are responding by expanding Active Pharmaceutical Ingredients (APIs) capacity, Contract Development and Manufacturing Organisation (CDMO) partnerships, and resilient supply-chain models, enabling stronger participation in global tenders and reducing vulnerability to single-market fluctuations. The

scale of India's domestic market further enhances this export competitiveness, strengthening the manufacturing base and enabling a wider, more agile product portfolio. Reinforcing these sectoral tailwinds is the strong policy and trade push from the Government which is proactively shaping a future-ready export ecosystem", said Mehta.

"Production-linked incentives (PLI) for APIs and formulations, new bulk drug and medical device parks, enhanced regulatory cooperation with partner countries, trade missions, and an active FTA pipeline are collectively expanding market access for Indian manufacturers. Initiatives around digital quality systems, track-and-trace compliance, logistics modernisation, and sustainability standards are also elevating our positioning as a dependable global supplier. These measures are creating an enabling environment for exporters to scale their global footprint and transition from being primarily volume-driven suppliers to becoming high-trust, innovation-aligned partners in the global pharmaceutical value chain", added Mehta.

AI and Gen AI in Drug Discovery & Diagnostics

Artificial intelligence including generative AI is revolutionising drug discovery by accelerating candidate analysis, predicting drug-body interactions, and enabling faster, cost-effective therapy development.

"AI also advances diagnostics, facilitating early disease detection and precision treatment tailoring. For instance, Qure.ai's AI-driven medical imaging solutions enable early diagnosis of TB, lung cancer, and stroke. Concurrently, decentralised clinical trials leveraging remote monitoring and AI analytics are increasing patient-centricity, accessibility, and efficiency, thereby accelerating therapy approval processes. The healthcare industry is projected to face continued cost pressures driven by new medical technologies, cited as the top driver by 74 per cent of insurers globally, underscoring AI's central role in innovation and cost management," said **Ajay Mahipal - Co-Founder and General Partner, HealthKois.**

Rise of Preventive Interventions

Preventive healthcare is emerging as a key growth driver, reshaping patient care globally. "We are entering a pivotal moment, where innovation and patient expectations are converging to redefine the healthcare industry. The vaccines market, valued at over \$78 billion in 2023 and projected to nearly double by 2032, is a clear indicator that preventive and accessible healthcare will drive global growth in the decade ahead," observed **Sarvesh Mutha, Managing Director, IntegriMedical.**

Shakul Srivastava, Vice President, Indian Immunologicals Limited, echoing similar sentiments, said, "The key

trends are shifting toward preventive interventions, driven by the latest biotech innovations and enhanced through smart use of digital technologies."

MedTech

"India's MedTech sector is poised for remarkable growth, projected to reach \$50 billion by 2026. At Medtronic, we see this momentum transforming healthcare making it more personalised, predictive, and supportive for every patient. Innovations in AI, IoMT, and personalised therapies will enable clinicians to deliver virtual care, proactive interventions, and treatments tailored to individual needs. Rising chronic diseases and an ageing population (200M+ seniors by 2030) will increase demand for remote monitoring systems bringing healthcare closer to home. By combining compassionate care with leading-edge technology, the MedTech innovations will empower patients and clinicians to achieve better health outcomes, together," said **Mandeep Singh Kumar, Managing Director and Vice President, Medtronic India.**

Sharing his views Mutha said "AI-driven diagnostics and decision support systems are transforming healthcare by enabling faster, more accurate clinical decisions through predictive analytics and digital monitoring tools, ultimately improving both care quality and operational efficiency. At the same time, needle-free and innovative drug delivery technologies are rapidly gaining traction across areas such as vaccines, IVF hormones, growth hormones, and pain management, offering greater patient comfort, reducing infection risks, and improving treatment adherence. Complementing these advancements, pharmaceutical companies are increasingly forming collaborative partnerships with MedTech innovators to enhance dosing accuracy, ensure treatment consistency, and deliver more patient-centered solutions, making healthcare safer, more effective, and more accessible."

Clinical Trials

Rise in Early-Phase Trials

The regulatory reforms introduced in 2025 are expected to act as a catalyst in 2026, driving a new wave of innovation-led clinical research in India. Experts note a growing interest in early-phase studies and multi-regional clinical trials, supported by increasing expertise in complex areas such as CGT and tri-specific antibodies, which are set to become a mainstay in the coming year.

Digitisation of Clinical Trials

In 2026, India's life sciences sector is expected to significantly transform, driven by the increasing integration of technologies such as AI, wearables, and data analytics. In clinical trials, this will enhance participant access and accelerate study timelines,

helping to position the country as a prominent global hub for clinical research.

“Foundational to this will be to tap into the country’s rapidly growing digital ecosystem. In particular, mobile-first approaches help bridge infrastructure gaps by allowing patients to engage with trials from their own devices, wherever they are. Tools like electronic clinical outcome assessment (eCOA) and eConsent will facilitate real-time data collection and ensure patients receive comprehensive trial information from their own devices, promoting inclusive participation, including in areas such as central nervous system (CNS) and rare diseases. These tools will also ultimately improve accessibility by making trial participation less disruptive to daily life, which will in turn improve patient retention and data quality,” said **Santhosh A F, Vice President, Asia Pacific South & India, Medidata.**

AI will also continue to be a game changer. Morgan Stanley estimates that AI could help bring 50 new treatments to market within a decade, cutting drug discovery timelines from years to months, and reducing development costs. Beyond discovery, AI-driven study feasibility will be critical in 2026 to help sponsors and CROs identify optimal, high-performing sites across the globe. This precision in planning will significantly support study conduct and reduce overall development costs.

“In India, we expect to see AI playing a pivotal role in decentralised clinical trials (DCTs), improving oversight and treatment adherence through the processing of real-time information from wearables and digital health tools, and enabling remote patient monitoring and the creation of synthetic control arms,” said Santhosh.

He added, “To capitalise on these trends, India must address some existing challenges, including skill gaps and strengthen public trust in clinical research, particularly in tier-2 and tier-3 cities. It must also navigate regulatory and ethical considerations, while providing careful oversight over patient consent and data privacy to build trust. Looking into 2026, the future of clinical trials in India is not just about technology; it is about making trials safer, more inclusive, and more efficient for all stakeholders.”

CDMOs

Digital Transformation of CDMOs

As pharmaceutical operations grow more complex, the integration of technology into quality systems is setting a new benchmark. Paperless workflows, real-time monitoring, predictive analytics, and remote oversight are embedding compliance into daily execution. For Indian CDMOs, this shift is already underway. At Syngene, for example, these efforts are visible in the use of secure remote inspection technologies such as RealWear, digitised checklists, and electronic batch records.

Together, they help sustain a state of continuous audit readiness. These digital initiatives are reinforced by a broader shift toward decentralised accountability, ensuring that quality is embedded across teams and processes rather than being managed in isolation.

This evolution signals both progress and opportunity for Indian CDMOs. By combining a strong quality culture with digital tools, organisations can go beyond meeting today’s compliance requirements to proactively shaping tomorrow’s standards. Those that see quality not just as a safeguard but as a strategic advantage will build stronger partnerships, operate with greater efficiency, and secure a lasting place for India in the global pharmaceutical supply chain, as highlighted by **Alok Mehrotra, Chief Quality Officer, Syngene International**, in an earlier op-ed with BioSpectrum India.

Rise of Gene Therapy specific CDMOs

Following a highly volatile period of investment peaks between 2020 and 2022, the global Cell and Gene Therapy (CGT) sector, and its associated Contract Research, Development, and Manufacturing Organisations (CRDMOs), have entered a phase of turbulence, marked by significant consolidation. Despite recent heightened regulatory scrutiny across the US and European Union (EU) and a year of leadership shifts, a robust pipeline of CGT candidates, coupled with a highly selective yet recovering venture capital (VC) landscape, still indicates substantial potential for emerging Indian CGT CRDMOs. If Indian CRDMOs can swiftly establish specialised manufacturing capacity, maintain rigorous international quality standards, and secure strategic global alliances, 2026 is poised to confirm India’s trajectory towards capturing a significant, high-value portion of the worldwide CGT development and manufacturing market.

“While overall biopharma VC funding remains stable, the competitive CGT space is seeing capital deployed more selectively toward companies with a clear path to commercial scalability. This targeted investment drives predictable manufacturing demand, presenting a significant opportunity for Indian CDMOs to engage early with VC-backed biotech companies and offer essential services like process development, scale-up, and GMP capacity. With US and EU CGT approvals continuing to rise and therapies expanding from rare disorders to more prevalent conditions such as cancers, autoimmune, and neurological diseases, Indian CDMOs are well-positioned to capture upstream demand and support global clinical trials and manufacturing,” said **Dr Raghu Malapaka, Chief Business Officer, Nucelion Therapeutics**, a wholly owned subsidiary of Bharat Biotech International Ltd.

Healthcare

Accelerated Adoption of AI in India’s Public Health System

Building on significant initiatives launched in 2025, India is set to expand the use of AI across its public health system in 2026. With All India Institute Of Medical Sciences (AIIMS) Delhi, Postgraduate Institute of Medical Education and Research (PGIMER) Chandigarh, and AIIMS Rishikesh designated as Centres of Excellence for AI, and solutions like Media Disease Surveillance, Clinical Decision Support Systems in eSanjeevani, and AI tools for TB screening and outcome prediction already deployed, 2026 is expected to see broader integration of AI for disease surveillance, early diagnosis, and improved treatment outcomes.

India's inclusion in the HealthAI Global Regulatory Network positions the country as a global leader in responsible AI deployment, enabling the sharing of best practices and fostering safer, more effective healthcare applications. The year ahead is expected to see AI increasingly driving disease surveillance, early diagnosis, and improved treatment outcomes nationwide.

Digital Health, Telemedicine, and Virtual Hospitals

"The evolution from telemedicine to virtual hospitals is transforming healthcare delivery. Digital platforms incorporating AI-powered chatbots, such as Wysa for mental wellbeing, and remote monitoring tools, like Beato for diabetes management in India, are improving patient access and outcomes, especially in chronic

disease management. Virtual hospitals, such as Saudi Arabia's SEHA Virtual Hospital, which serves 400,000 patients annually across 130 centres, exemplify this shift, meeting the rising demand driven by aging populations and healthcare workforce shortages," said Mahipal.

Expanding on this, **Sagar Sen, Senior Vice President – Global Life Sciences and Strategic Alliances at Qure.AI**, noted that by 2026 the true impact of digital health will emerge from deeper system integration. "In 2026, digital healthcare will create a more connected ecosystem where information flows seamlessly between patients and primary health systems. It will support earlier intervention through predictive technologies that identify risks before illness becomes severe. As adoption grows, digital tools will help India build a stronger and more resilient health system capable of responding quickly to emerging challenges. The transition will simplify clinical workflows, improve data movement across EMRs and lead to a more coordinated care experience. As outcome-driven digital tools gain wider acceptance, AI will become a central part of everyday care delivery, enabling earlier diagnosis, ultimately improving health outcomes at scale."

Source: www.biospectrumindia.com



NAVIGATING TARIFF UNCERTAINTY WITH MARKET INTELLIGENCE AND AI

RICHARD BARNETT
SCB CONTRIBUTOR AND CMO OF SUPPLYFRAME

While tariffs have long been a tool of trade policy, 2025 was a year that highlighted their sheer impact on global supply chains. Every shift, every adjustment; all of it creates a ripple effect on everything from inventory to pricing, to lead times and beyond.

Given the ever-changing nature of tariffs, today's teams need greater awareness and visibility so they can account for these shifts in their design, sourcing and procurement decisions. Both market intelligence and AI-enabled capabilities offer potential paths forward in this regard.

Tariffs are just one more consideration in a long line of things that today's supply chain professionals need to consider in the course of their daily work. The problem is that the Harmonized Tariff Schedule is roughly a 4,400-

page document.

No single person (or team, for that matter) can keep up with something of this scale, especially in real time. Even if time and resources could be dedicated to this, monitoring the ripple effect each tariff has across the supply chain creates even more uncertainty.

As Eric Loeb, executive vice president of government affairs at Salesforce said recently, "The sheer pace and complexity of global tariff changes make it nearly impossible for most businesses to keep up manually."

As a result of this new layer, organizations around the globe are quickly learning the value of market intelligence and AI-enabled capabilities. According to Zack Kass, futurist and former head of OpenAI's go-to-

market strategy, “Tariffs actually present AI’s moment to shine.”

The most significant opportunity presented by tariff challenges is the chance for teams to achieve better agility and awareness. However, it can be difficult to know where to start. Intelligence is everywhere, and AI isn’t hard to find, but how can these things be integrated into existing processes?

In an industry where firefighting is the norm, and strategic changes are slow, tariffs are forcing organizations to find new ways to accelerate their digital transformation.

While every organization is different in terms of the best approach, there are certain capabilities that can be achieved quickly, with even faster results in terms of navigating tariff uncertainty.

Here are three examples:

Monitoring Market Changes in Real Time

As 2025 showed, the tariff situation can change drastically from one day to the next. Teams need the ability to track news announcements and industry news, and how they will affect everything from demand to inventory, to pricing, lead times and more.

Custom news alerts can assist with this, but purpose-built solutions are needed to filter through the noise. A perfect example is the recent ban of Nexperia chip exports from China. While the ban was recently lifted, the initial news sent a shockwave through global supply chains. Businesses scrambled to find suitable alternatives to Nexperia chips, which had become non-viable overnight.

Such a shift creates widespread panic, which can drive up demand, pricing and lead times in equal measure. Not only that, but these new alternatives must also be assessed for tariff-related risk.

Country-of-origin has become a key metric in this regard, leading to the creation of tariff calculators that can help teams harness market intelligence to better understand the cost implications of each part on their bill of materials (BOM).

By connecting teams to external, real-time market intelligence, professionals across design, engineering, sourcing, procurement and supply chain can all make more informed decisions.

Deeper Visibility into Future Cost and Risk

Many organizations have some level of visibility into tariff-related cost and risk for their current suppliers

and portfolio, but more granularity is needed at the BOM and component level to assess future impact.

Tier-2 and -3 visibility is important as well. Teams should also focus on their product innovation portfolio. Each time a new product is introduced, it creates a new supply chain as well, with its own current and future considerations.

These new products will most likely be more impacted by tariffs but, ultimately, a full view of cost and risk is needed as early as possible in the product lifecycle.

This is known as a “shift left” approach, in which market intelligence and AI-enabled insights are introduced during the design phase of the product lifecycle.

Access to external, real-time data, filtered and organized by an AI platform allows teams to choose parts that balance price, lead times and tariff-specific factors like country of origin.

Collaboration Within a Single Source of Truth

Market intelligence and AI-enabled solutions function most effectively when they are combined with cross-functional collaboration that breaks down silos and creates a digital thread between engineering, sourcing, procurement and supply chain.

By connecting people and processes to external data, teams no longer make decisions in a vacuum. Engineering can understand how part selections affect procurement, and vice versa.

Instead of teams working within static, spreadsheet-based BOMs, a single source of truth also offers the opportunity to work within a “living BOM” that always reflects the latest market intelligence.

Stay Ahead of Tariffs in 2026

The most effective approach to tariff-related risk in supply chains is a proactive one. By utilizing market intelligence at the part-level, combined with AI-assisted organization and targeted insights, teams can circumvent issues before they become significant issues.

As with any technology, however, it’s crucial that teams also adjust their organizational structure to become more collaborative. By connecting people and processes with these technologies into a cohesive digital thread, it becomes possible to make more informed, more profitable decisions from the beginning of the product lifecycle.

Source: www.supplychainbrain.com



TOP SUPPLY CHAIN MANAGEMENT TRENDS SET TO RESHAPE THE SUPPLY CHAIN INDUSTRY IN 2026

TEAM 3SC

Key Takeaways

- Supply chains in 2026 evolve from reactive functions to strategic growth engines.
- Continuous intelligence replaces static planning as the new operating norm.
- End-to-end orchestration outperforms siloed optimisation.
- Technology, talent, and sustainability drive measurable outcomes together.
- Supply chains become central to board-level strategy and enterprise value.

The period between 2025 and 2026 marks a decisive shift in how supply chains are designed, governed, and valued within enterprises. What began as a race to recover from unexpected shocks has evolved into a far more consequential transformation: supply chains are no longer reactive engines built to absorb shocks, but strategic systems expected to anticipate volatility, orchestrate complexity, and enable growth.

In fact, 71% of global companies accelerated their AI adoption in response to tariffs, inflation, and geopolitical volatility, underscoring how technology investment is moving beyond mere visibility toward decision intelligence and strategic readiness.

Over the past few years, organisations faced a convergence of pressures, geopolitical realignments, trade policy uncertainty, climate-driven disruptions, labour constraints, and accelerating cost volatility.

These forces did more than test operational resilience; they exposed structural limitations in planning cycles, risk models, and decision-making speed. In 2025, it became clear that incremental optimisation was no longer enough. Traditional supply chain playbooks, static forecasts, siloed execution, and episodic risk reviews, could not keep pace with the velocity of change.

As we move into 2026, supply chains are being repositioned at the centre of enterprise strategy. Leadership expectations are rising. Technology investments are becoming more intentional, with a sharper focus on decision intelligence rather than visibility alone. Organisational models are also evolving, placing greater emphasis on cross-functional orchestration, ecosystem collaboration, and continuous scenario readiness.

In 2026, the best supply chains will spot problems early, think ahead, and fix them before they become bigger. The following ten trends reflect this transition, from recovery to readiness, and from operational necessity

to strategic advantage.

What Are Key Factors Influencing Recent Supply Chain Management Trends in 2026?



1. Inflation and Economic Pressure : Global inflation remains stubborn, and cost volatility continues to dominate boardroom discussions. From raw material prices to logistics costs and labour wages, unpredictable fluctuations are placing pressure on profit margins. Supply chain leaders are being tasked with finding efficiencies not just at the operational level, but across the entire value chain—from procurement strategies to fulfilment models. Lean operations are no longer enough; organizations are now expected to build cost agility into their core.

2. Geopolitical Shifts and Trade Realignments : As far as supply chain management trends are concerned, geopolitical fragmentation is redrawing the global supply map. From ongoing conflicts and sanctions to the reconfiguration of trade agreements and tariffs, supply chain continuity is under constant threat. Organizations can no longer rely on single-source, globally dispersed networks. The focus is shifting toward diversification, nearshoring, and regional self-sufficiency.

3. Sustainability and Regulatory Mandates : As climate urgency escalates, governments, investors, and consumers are demanding real action—not just pledges—on sustainability. Regulatory frameworks like the EU’s Corporate Sustainability Reporting Directive (CSRD) and carbon border taxes are raising the stakes. Enterprises are expected to measure, manage, and report emissions across Scope 1, 2, and increasingly, Scope 3. ESG is now a performance metric.

4. Supply Chain Cybersecurity : Digital transformation has expanded the attack surface for cyber threats. From IoT sensors and cloud platforms to supplier systems and transactional APIs, every node is a potential

vulnerability. A single breach can halt operations, damage reputation, and incur regulatory fines. Cybersecurity has moved from IT to the supply chain C-suite agenda.

5. Accelerated AI and Digital Twin Adoption : Emerging technologies like generative AI, autonomous agents, and digital twins are no longer pilots—they're becoming integral. These tools are enabling continuous planning, automated exception resolution, and real-time simulation of complex scenarios. Organizations that invest in these technologies are seeing significant gains in speed, accuracy, and strategic foresight.

6. Real-Time Data Connectivity and Visibility : Disconnected legacy systems are a growing liability. Leading enterprises are moving toward cloud-native, interoperable platforms that bring together data from internal systems, suppliers, customers, and external signals like weather or social media. This real-time visibility enables faster reactions and more coordinated decision-making across functions.

To stay ahead in 2025, businesses must turn awareness of supply chain trends into action, leveraging technology, resilience, and collaboration to thrive in an increasingly complex landscape. Here are the top 7 trends in supply chain management you should look forward to.

Key Supply Chain Trends for 2026



Let's have a look at the most prominent supply chain management trends that are ruling the industry:

1. Resilience Becomes a Continuous Operating Capability

In 2026, resilience will no longer be treated as an emergency response mechanism that is activated after disruption occurs. Instead, it will become a continuous capability embedded into everyday supply chain operations. Organisations will shift from periodic risk assessments to always-on risk sensing that will monitor supplier health, geopolitical exposure, logistics congestion, and climate threats in near real time.

Inventory buffers, capacity strategies, and sourcing options will be dynamically adjusted based on evolving risk signals. The emphasis will not be on building excess everywhere, but on building flexibility where it will matter most.

2. Decision Intelligence Overtakes Traditional Planning :

Traditional planning tools that focus primarily on forecast accuracy will prove insufficient in high-volatility environments. In 2026, decision intelligence will take centre stage, combining AI, advanced analytics, and optimisation to evaluate trade-offs across cost, service, risk, and sustainability simultaneously.

These systems will not just predict outcomes; they will recommend actions and, in some cases, automate decisions. Planners will move from manual intervention to exception-based oversight, enabling faster, more confident decision-making at scale.

3. Scenario Planning Moves from Annual to Always-On :

Annual or quarterly planning cycles will no longer be aligned with the pace of disruption. In 2026, scenario planning will become continuous. Organisations will always have to maintain multiple future scenarios, covering demand swings, supplier failures, tariff changes, and transportation disruptions.

These scenarios will be actively linked to operational plans, allowing companies to switch strategies quickly as conditions change. The ability to rapidly simulate "what if" situations will become a core competitive advantage.

4. Supply Chain Control Towers Mature into Orchestration Hubs :

Control towers will evolve beyond visibility dashboards into full-scale orchestration hubs. In 2026, businesses will have to integrate data across planning, execution, and external ecosystems to enable coordinated action. Rather than simply highlighting issues, modern control towers will be recommending corrective actions, align stakeholders, and trigger responses across procurement, manufacturing, and logistics.

This orchestration capability will reduce reaction time and prevent localised disruptions from escalating into enterprise-wide failures.

5. Network Design Becomes Dynamic, Not Periodic :

Network design will no longer be a once-every-few-years strategic exercise. Ongoing trade realignments, regionalisation, and geopolitical uncertainty will require continuous network evaluation. In 2026, companies will need to dynamically reassess sourcing strategies, manufacturing footprints, and distribution networks based on changing cost structures, risk exposure, and service requirements.

Digital twins and advanced modelling tools will enable leaders to test network changes before committing capital, improving agility while protecting margins.

6. Sustainability Shifts from Reporting to Decision-Making:

Sustainability in 2026 will move decisively from compliance-driven reporting to operational decision-making. Carbon impact, ethical sourcing, and resource efficiency will be embedded directly into planning and execution processes.

Supply chain leaders will evaluate trade-offs between cost, service, and environmental impact in real time.

Regulatory pressure, investor expectations, and customer scrutiny will accelerate this shift, making sustainable decisions a core part of daily operations rather than an afterthought.

7. Ecosystem Collaboration Deepens Across Partners : No single organisation can manage complexity alone. In 2026, supply chain performance will increasingly depend on ecosystem collaboration. Companies will deepen partnerships with suppliers, logistics providers, and technology partners through shared data, joint planning, and aligned incentives.

Visibility and coordination will extend beyond enterprise boundaries, enabling faster responses to disruptions and better demand–supply alignment across the network.

8. Talent and Capability Gaps Drive New Operating Models : As supply chains become more digital and analytics-driven, talent gaps will widen. In response, organisations will redesign operating models, combining human expertise with AI-driven tools. Planners will evolve into decision managers, focusing on strategic oversight rather than manual execution.

Continuous learning, cross-functional skills, and digital fluency will become essential. Companies that invest in capability building will gain a significant edge in execution speed and decision quality.

9. Technology Investments Become Outcome-Driven : Technology adoption in 2026 will be more deliberate,

shaped by lessons learned from past volatility and a clear focus on measurable business impact. Organisations will move away from fragmented pilots toward platforms that deliver measurable business outcomes. Investments will be evaluated based on their ability to improve resilience, reduce volatility exposure, optimise working capital, and enhance service levels.

How Organizations Must Evolve to Compete in 2026 : To keep up with the supply chain realities of 2026, businesses must move beyond awareness of trends and focus on execution readiness. This requires embedding risk sensing, scenario evaluation, and decision-making directly into everyday operations rather than treating them as periodic exercises. Organisations need to simplify and integrate data across planning and execution, invest in platforms that translate insight into action, and establish faster decision cadences with clear accountability.

At the same time, leaders must redesign operating models to combine human judgment with AI-driven support, strengthen collaboration across partners, and elevate supply chain discussions to the executive level. Companies that institutionalise these capabilities will be able to adapt continuously, act decisively under uncertainty, and turn volatility into a competitive advantage.

Source: 3scsolution.com



FLEXIBILITY, QUALITY, AND SUSTAINABILITY TO SHAPE INDIA'S WORKPLACE REVOLUTION IN 2026: COLLIERS

- Technology, employee experience and leadership engagement to remain key workplace priorities across APAC
- Flex spaces gain stronger foothold in India, balancing return-to-office mandates with flexibility and agility
- India office market momentum to continue, with rising emphasis on flight to quality and sustainability
- Almost two-thirds of surveyed Indian occupiers actively partner with landlords on sustainability
- India leads APAC in terms of inclusivity, with 44% respondents already considering generational needs in their workspaces

workplaces across Asia Pacific, investing in quality, embracing hybrid models and exploring inclusive strategies to meet the needs of a diverse workforce, according to Colliers' latest report '2026 Asia Pacific Workplace Insights'.

The report draws perspectives from more than 800 corporate occupiers surveyed across the region. According to the report, hybrid work, inclusive strategies, employee need fulfillment, sustainability adoption and technological adeptness are likely to remain at the forefront of workspace revolution across major office markets of the APAC region. Interestingly, the Indian office market already prioritizes inclusivity and sustainability to a greater degree as compared to others.

In fact, India's office market, is not just scaling up, but is also evolving rapidly in terms of real estate quality and employee experience. In response to occupiers' changing needs,

BENGALURU, India, Nov. 12, 2025 / PRNewswire/ — Corporate occupiers are taking bold steps to reshape their

developers are increasingly focusing on creating world-class workplaces, incorporating wellness-driven design, sustainability features, collaborative zones, and technology-adept infrastructure. Despite global trade frictions, India's Grade A office space demand across the top seven cities continue to remain robust and is poised to touch 70 million square feet in 2025. New supply is also likely to follow closely at around 60 million square feet. The interplay of strong demand and availability of premium commercial developments continue to push rentals, reinforcing India's position as one of the most dynamic office markets in the APAC region.

"Indian occupiers are clearly shifting towards sustainability and there is an evident flight-to-quality, driving the next phase of workplace evolution in 2026 & beyond. With over 80% of upcoming Grade A supply expected to be green-certified, the industry's commitment to environmental goals is commendable. However, while green certifications are becoming a norm, the fulfillment of broader ESG goals remain a key monitorable. Meanwhile, as flexible workspaces rise — reflecting occupiers' desire to balance agility and cost efficiency — along with strengthening return-to-office mandates, flexibility remains central to workplace strategy," said Arpit Mehrotra, Managing Director, Office Services, India, Colliers.

"Flex spaces have established themselves as a vital component of India's office landscape, supporting hybrid work models and return-to-office mandates while achieving cost efficiency and agility. These spaces offer scalable solutions that enable companies to manage growth and uncertainty seamlessly. With their rising adoption across diverse sectors, flex spaces are expected to drive nearly 20% of the Grade A office demand and redefine the future of Indian workplaces over the next few years," said Vimal Nadar, National Director and Head of Research, Colliers India.

Other key insights from the report include:

1. Top workplace priorities: Nearly half of surveyed organizations (48%) in the APAC region are actively investing in workplace quality and employee experience, with 26% of them having made significant investments in the past 12 months and another 22% planning to do so in the year ahead.

2. The hybrid paradox: The survey found organizations are aspiring for flexibility, with

47% of companies having hybrid work models. However, traditional work-policies, structures and office set-up are still in place, with most respondents having attendance mandates and assigned seating.

3. Leading with inclusive strategies: Five generations will occupy the workplace by 2030. 15% of organizations surveyed are already considering this and 40% are starting to explore this in their workplace. When it comes to adapting for generational diversity, India (44%) and the Philippines (43%) had the highest proportion of respondents.

"The workplaces of today, and tomorrow, are not just about where people sit; they are about how space drives performance and experience. Organizations that align strategy, design, and technology will accelerate success — creating workplaces that empower people and deliver long-term value. Moreover, while investment and intent are likely to be strong across major markets, the winners will be those who turn ambition into action — bridging gaps in flexibility, sustainability, and inclusivity," said Mike Davis, Colliers' Managing Director, Occupier Services, Asia Pacific.

4. Employee needs vs workplace strategy: The number one driver that pulls employees to the office is social interaction and team connection (27%), followed by the quality of the workspace (18%) and access to wellbeing features. 48% indicate a reliance on senior leadership to shape workplace strategy, while 19% engage all employees.

5. Sustainability ambition-action gap: Sustainability is a bold ambition, with 52% of businesses collaborating with their landlord to achieve sustainability outcomes. Australia leads the charge, with 79% of organizations surveyed actively partnering with landlords on sustainability. India (67%) and Singapore (65%) also show strong intent.

6. Design and technology will be game changers: 20% of organizations use AI tools to enhance employee experience, with 6% using desk booking data and 3% having occupancy sensors. Overall, commercial real estate functions such as lease abstraction, tenant screening, energy optimization, facilities management planning etc. are already at the cusp of automation across most major APAC markets including India.

Source: PTI



DESPITE TRUMP'S TARIFFS, TESLA DOUBLES AUTO COMPONENT SOURCING FROM INDIA TO \$4–4.5 BILLION

AVISHEK BANERJEE

Supply chain diversification and a push for affordable EVs drive Tesla's deepening engagement with Indian auto component makers, even as trade tensions rise

Tesla Inc. significantly expanded its engagement with Indian auto component manufacturers in calendar year 2025, sourcing parts worth an estimated \$4–4.5 billion from the country—nearly double the value procured a year earlier—according to people familiar with the matter. The sharp scale-up came even as US President Donald Trump imposed steep tariffs on a range of Indian exports, creating fresh trade friction between the two countries.

The sourcing push underscores Tesla's effort to diversify and strengthen its global supply chain at a time when geopolitical risks, tariff barriers and overdependence on traditional manufacturing hubs such as China and Taiwan have become key concerns for global automakers.

Tesla's procurement from India has risen rapidly over the past three years—from about \$1 billion in 2023 to nearly \$2 billion in 2024—before accelerating sharply in 2025. Industry executives said India has emerged as one of Tesla's "fastest-growing" sourcing bases outside North America.

Deepening ties with Indian tier-1 suppliers : The Elon Musk-led electric vehicle maker has worked closely with several Indian tier-1 component suppliers, including Sona BLW Precision Forgings, Hindalco Industries, Sundram Fasteners, Tata AutoComp Systems, Suprajit Engineering, Sandhar Technologies, Samvardhana Motherson International, Bosch India, Bharat Forge, Varroc Engineering and Tata Technologies, among others.

Spokespersons of the aforementioned companies could not be reached for comment owing to non-disclosure agreements with Tesla. However, people aware of the development said Tesla steadily expanded both the scale and complexity of components sourced from India during the year.

The procurement basket spans wiring harnesses, forged and cast parts, gearboxes, electric motors, suspension systems, sheet metal assemblies, powertrain modules, bearings and advanced electronic components, as per well-informed sources.

"Tesla significantly deepened its supplier relationships in India in 2025. From sourcing parts worth roughly \$2

billion the previous year, the company effectively more than doubled its procurement during the year," said one person with direct knowledge of the matter.

An emailed query sent to Tesla's global spokesperson remained unanswered at the time of publication.

Linked to affordable EV programme : Industry executives linked the surge in sourcing to Tesla's development of a more affordable electric vehicle, internally codenamed "Redwood." The compact crossover—widely expected to be positioned below the Model 3 and Model Y and priced at around €35,000 in Europe—is understood to be in advanced stages of preparation for a global rollout.

The anticipated production volumes for the entry-level model have driven component orders running into several billion euros, with Indian suppliers accounting for a meaningful share of those requirements, executives said.

Tariffs fail to derail sourcing strategy : Tesla's increased engagement with Indian suppliers comes against the backdrop of renewed trade tensions after President Trump raised tariffs on Indian goods, citing trade imbalances and domestic manufacturing priorities. While the higher duties have weighed on several export-oriented sectors, auto component makers supplying global OEMs through long-term contracts have remained relatively insulated.

Analysts said Tesla's sourcing decisions appear to be guided more by cost competitiveness, engineering capabilities and supply-chain resilience than by short-term tariff headwinds.

"Partnering with Indian suppliers is strategically important for Tesla," said Puneet Gupta, Director at S&P Global Mobility. "It helps the company reduce costs, localise faster and lower dependence on China. For Indian suppliers, working with Tesla enhances credibility and accelerates their integration into the global EV value chain."

Manufacturing plans remain uncertain : Despite the sharp rise in sourcing, Tesla has not committed to setting up a manufacturing facility in India so far. Analysts, however, see the expanding procurement footprint as a signal of the company's longer-term interest in the country's automotive ecosystem, even as policy and tariff uncertainties continue to shape investment decisions.

Source: www.fortuneindia.com

HOW INDIA'S NEW LABOR CODES WILL RESHAPE M&A TRANSACTIONS IN 2026

YANYAN SHANG

India's new labor codes are reshaping the M&A landscape in India by altering valuation models, workforce liabilities, and integration costs, requiring buyers to treat labor diligence as a core financial and deal-structuring exercise.

Historically, India's mergers and acquisitions (M&A) transactions have taken place within a fragmented labor law framework comprising 29 central statutes, with varying definitions, registration requirements, and enforcement practices. As a result, labor-related liabilities, particularly around payroll structures and contractor arrangements, often surfaced late in transactions, limiting labor diligence to a reactive, compliance-focused role.

India's consolidation of legacy laws into a unified labor code framework in 2025 establishes standardized definitions and mandates digital compliance. The policy direction points toward centralized registrations, digital-first filings, and clearer employer obligations, which should reduce procedural friction over time. At the same time, implementation introduces execution complexity. Businesses must continue tracking state-level rules and operational practices as the framework stabilizes.

This legal shift reshapes the **mergers and acquisitions (M&A) landscape** by positioning labor as a measurable financial variable rather than a purely compliance consideration. By reducing scope for interpretational arbitrage, the new framework ensures that changes in wage definitions, broader workforce coverage, and **tighter penalty regimes** have a direct impact on earnings

before interest, taxes, depreciation, and amortization (EBITDA) and post-transaction cash flows.

Overview of India's four new labor codes and implementation status India's long anticipated four labor codes came into effect on November 21, 2025. The legal law overhaul is no longer a prospective reform but a live regulatory reality. While the central codes have repealed legacy statutes nationwide, the 'Dual Regulatory Environment' persists as states finalize specific subordinate rules.

The four labor codes now in force are:

- **Code on Wages, 2019**, which merges multiple wage-related statutes and standardizes definitions of wages and minimum pay structures.
- **Industrial Relations Code, 2020**, which subsumes laws on trade unions, employment standing orders, and industrial disputes, and recalibrates procedural requirements for layoffs and dispute resolution.
- **Code on Social Security, 2020**, which integrates several benefits frameworks (such as provident fund and employee insurance) and expands coverage to include gig and platform workers.
- **Occupational Safety, Health and Working Conditions Code, 2020**, which consolidates multiple safety and working condition statutes into a unified compliance regime covering a wide range of establishments.

Labor Code	Key reform	M&A lifecycle impact
Code on Wages	50 percent wage ceiling: Exclusions capped; excess is "wages".	Valuation: Increases social security outflows (EPF, gratuity), potentially lowering EBITDA.
Code on Social Security	Expanded coverage: Includes gig, platform, and fixed-term workers.	Due diligence: Requires granular audit of "hidden headcount" and 1-2 percent turnover contribution for gig workers.
Industrial Relations Code	Approval threshold: Increased from 100 to 300 workers for layoffs.	Integration: Enhances agility for workforce rationalization in mid-sized targets.
OSHC Code	Compounded penalties: Higher fines and director liability.	Deal structuring: Drives demand for specific indemnities, escrows, and CPs.

Navigating the central-state implementation overlap

The effectiveness of new labor codes is a two-tier process requiring both central notification and state-level rule-making. This creates a dual regulatory environment where legacy practices and nascent code rules coexist.

For M&A deal teams, this “overlap phase” is not merely a legal technicality; it introduces significant regulatory uncertainty regarding deal timing and enforcement horizons. Consequently, buyers must account for differentiated state-level rollouts when scoping diligence and calculating statutory benefit liabilities, as assumptions remain more variable than under a fully harmonized regime.

Valuation and EBITDA implications of the new wage definition

The now-active uniform wage definition has effectively ended ‘interpretation arbitrage.’ By capping allowance exclusions at 50 percent of total remuneration, the code forces an immediate recalibration of statutory contributions, directly impacting EBITDA and enterprise value.

For acquirers, the financial implications are immediate. A broader wage base increases employer contribution to provident fund, gratuity, bonus, and other social security obligations, raising recurring employee costs even where historical compliance appeared technically sound. As outlined in the reference material, these higher statutory outflows translate into a structural EBITDA impact, particularly in labor-intensive sectors where payroll costs form a significant share of operating expenses.

This shift forces deal teams to revisit valuation assumptions. Higher ongoing labor costs can compress margins, prompt downward adjustments to valuation multiples, and require recalibration of purchase consideration. In competitive processes, buyers may seek price adjustments, deferred consideration, or earn-out mechanisms to bridge valuation gaps driven by post-closing cost increases rather than legacy non-compliance.

As a result, diligence must evaluate forward-looking cost behavior under the new wage definition rather than relying on historical compliance outcomes. Acquirers must model how revised compensation structures reshape cash flows, valuation multiples, and integration economics. **Acquirers must model how compensation structures** under the new wage definition will reshape cash flows, valuation multiples, and integration economics.

Workforce classification risks under expanded statutory coverage

The new labor codes materially expand the scope of who qualifies for statutory protection, increasing workforce-related risk in M&A transactions. Under the SS Code, coverage now extends beyond traditional employees to include fixed-term employees, gig workers, and platform workers, significantly broadening the universe of individuals entitled to social security benefits. For digital platforms and aggregators, this shift introduces a direct financial obligation to contribute 1-2 percent of annual turnover toward a dedicated social

security fund for gig and platform workers, creating a new, transaction-relevant cost line.

Fixed-term employment also carries heightened implications. The codes grant gratuity eligibility after one year of continuous service, aligning fixed-term workers more closely with permanent employees for benefit purposes. Businesses that rely heavily on project-based or contract hiring may therefore face higher accrued liabilities than reflected in historical accounts.

These changes elevate the importance of worker classification diligence. Long-standing practices of engaging consultants, contractors, or commission-based sales staff outside the statutory framework now present clear deal risks. If authorities recharacterize such arrangements as employment relationships, buyers may inherit unprovided liabilities for provident fund, gratuity, bonus, and social security contributions.

In M&A contexts, reclassification risk can translate into retrospective liabilities post-closing, affecting cash flows and integration plans. As a result, acquirers must reassess workforce structures at a granular level and factor classification exposure directly into valuation, indemnity design, and transaction pricing.

Restructuring, retrenchment, and post-merger integration under the new regime

The new labor codes preserve the core principle governing business transfers and continuity of employment. As carried forward from the earlier Industrial Disputes Act into the Industrial Relations Code, employees transferred as part of a merger or acquisition do not qualify for retrenchment compensation where continuity of service remains intact, employment terms are not less favorable, and the transferee assumes future retrenchment liability. From a deal-structuring perspective, this continuity framework remains familiar and provides legal certainty for asset and business transfers.

Where the new regime materially alters post-merger integration is in workforce restructuring flexibility and cost. The threshold for seeking prior government approval for layoffs has increased from 100 to 300 workers, significantly reducing regulatory friction for mid-sized acquisitions. This change shortens integration timelines and allows buyers greater agility in executing synergy-driven workforce rationalization, particularly in manufacturing and services businesses that previously fell within the approval regime.

That flexibility comes at a price. The cost of exits has increased through mandatory retrenchment compensation, employer contributions to the re-skilling fund equivalent to 15 days’ wages per retrenched worker, and the requirement to settle all dues within two days of termination. These provisions intensify short-term cash-flow pressure during integration.

The net effect is clear: the new regime lowers execution risk but raises integration liquidity requirements, forcing acquirers to plan workforce restructuring earlier, fund exits upfront, and reflect higher integration costs directly in deal economics.

Compliance, penalties, and director exposure in M&A transactions

The OSHWC Code consolidates multiple safety and workplace statutes into a single compliance framework, raising both the visibility and materiality of labor risk in transactions. Under the earlier regime, fragmented enforcement and low monetary penalties often relegated safety compliance to a secondary diligence item. The new framework alters that calculus.

The OSHWC Code introduces a clear shift from nominal fines to materially higher penalties, with certain violations attracting substantial financial sanctions and, in serious cases, criminal liability including imprisonment. While the number of offences carrying imprisonment has narrowed, repeat and aggravated violations now carry a higher probability of enforcement. This change elevates labor compliance from a routine regulatory issue to a potential transaction-stopping risk.

Director and senior management exposure has also increased. The codes place greater responsibility on directors and key managerial personnel for compliance failures, which has direct implications for deal negotiations, board appointments, and post-closing governance structures.

As a result, safety audits and labor compliance reviews are moving decisively into the pre-signing phase. Deal documentation increasingly reflects this shift through expanded conditions precedent, higher or ring-fenced indemnity caps, and escrow arrangements designed to cover legacy violations. Labor compliance now directly influences risk allocation, deal certainty, and closing mechanics in Indian M&A transactions.

Navigating M&A under India's new labor codes

India's new labor codes require deal teams to recalibrate how they approach workforce risk across the transaction lifecycle. The starting point is early remodelling of labor costs during valuation and financial diligence. Buyers should stress-test EBITDA assumptions against revised wage definitions, expanded social security coverage, and higher exit costs, rather than deferring these issues to post-closing integration.

Equally critical is granular workforce mapping and classification audits. Under SS Code, digital aggregators must now contribute 1 to 2 percent of annual turnover to a gig-worker fund, making 'hidden headcount' a primary due diligence item. This analysis helps quantify reclassification exposure and identify liabilities that may not appear in historical compliance reviews.

From a structuring perspective, buyers increasingly rely on labor-specific indemnities, escrows, and price adjustment mechanisms to allocate risk. Generic indemnity language often proves insufficient where liabilities stem from forward-looking cost increases rather than past violations. Deal documentation must reflect this distinction.

These integration mechanics require buyers to plan liquidity well before closing, particularly where workforce rationalization forms part of the post-merger strategy.

Source: www.india-briefing.com



HOW TECHNOLOGY IS TRANSFORMING FESTIVE DEMAND LOGISTICS

JOSSY SEBASTIAN, COUNTRY GENERAL MANAGER FOR YCH IN INDIA

Festive seasons in India bring in high volumes of business, and for Logistics Service Providers (LSPs) these periods are both their greatest opportunity and their greatest test. Quick receiving of orders, faster delivery, and concise communication, all expect agility. A no-growth season of chaos could be an easy target for the unprepared. Having additional manpower and a fleet of trucks is no longer a differentiator in the market, the market differentiator is the smart use of technology. From anticipating demand with accuracy to managing warehouses like clockwork, technology is transforming the way LSPs plan for and manage festive spikes.

Accurate demand forecasting and capacity planning : An accurate forecast is the basis of successful management of festive surges. LSPs have access to a wealth of data that includes historic order volumes, seasonal order peaks, SKU mixes, and buyer behavior. When enhanced using machine learning and AI, such data delivers sharp

and precise predictions.

With AI and ML, operators can create region-specific heat maps that accurately highlight concentration points of demand or peaks. Such information allows for the appropriate pre-positioning of inventory and transport fleets. Knowing the order prediction range helps forecast packaging and truck space, and the order volume projection enables the prediction of space to be allocated and reserved in the warehouse. Planning can be focused on expected volumes of electronics, apparel, perishables, or lifestyle products. Such advanced prediction strongly supports capacity planning. This is the basis for effective management of festive surges. Whether it is reserving extra trucks, ramping up cross-dock facilities, or staffing shifts, anticipatory planning is much better than the ad hoc firefighting tactic.

Warehouse automation: Scaling without chaos : In the

past, festive spikes compelled Logistics Service Providers (LSPs) to lease extra warehousing space on a temporary basis. This approach solves storage overflow in the short term but leads to varying service levels, inefficient layout, and, more seriously, quality control issues. Contemporary warehouse automation provides an intelligent alternative. ASRS (Automated Storage and Retrieval Systems), shuttle racks, and AMRs (autonomous mobile robots) make warehouses more flexible and responsive. These systems manage multiple SKUs and high throughput without sacrificing accuracy. Paired with smart Warehouse Management Systems (WMS), they maximize put-away, slotting, and retrieval for smooth flow of goods in chaotic holiday seasons. The warehouses then are able to sustain high and steady levels of OTIF (On-Time In-Full) delivery performance, which sustains customer satisfaction, even through extreme demand surges.

Cloud-based agile Order Management Systems (OMS) :

Festive logistics are not simply about transporting goods from one location to another. Orders flow from various sources, including B2B, D2C, general trade, and modern retail, while the returns process adds even more complexity. In this case, a cloud-based Order Management System (OMS) acts as a decoupled system and dynamically disperses control to various control tower functions. OMS systems perform consolidated order capabilities and channel selection to the Routing and Scheduling System (WMS). This provides the logistics service providers (LSP) with complete visibility. Integration with WMS and systems for route optimization empowers real-time order orchestration to the extent that control orders may be assigned, reprioritized, and rerouted in real time to a combination of predetermined distribution centers and in-use transports.

Aggregated systems for last-mile delivery and control gateways provide real-time order status updates to the transporter, irrespective of origin. This limits the required system over-adjustments, eliminating order over-constraint for snap fulfilment. With this, the logistics system is bound.

Seamless information flow: Prevention over cure : In logistics, disruptions snowball quickly. A truck stranded at one hub can propagate throughout the chain. That's why information flow is not a luxury but a lifeline. Technology allows data to move both forward and backwards along the value chain. Inventory level notifications alert suppliers ahead of time for stock-outs. Advanced Shipping Notices (ASN) get warehouses ready to accept incoming loads. Delivery Order and Shipment Order information supplies transportation teams with the correct lane requirements. Customers are proactively notified about their orders, which decreases stress and inbound calls. For leadership groups, live dashboards provide transparency—identifying bottlenecks, delays, and manpower deficiencies as they arise. This switch from post-crisis firefighting to anticipatory action is what keeps festive logistics strong.

Smart workforce planning : Technology is sometimes viewed as substituting for people, but in logistics, it's more about scaling human capability. Holiday demand surges need around-the-clock human resources, and inefficiently managed shifts can result in fatigue, mistakes, and turnover. AI-driven workforce planners forecast headcounts in line with order spikes without overloading or underloading. Computerised assignment puts the right individuals in the right spots, experienced pickers on fast-moving SKUs, additional workers in cold storage areas, and trained managers on quality inspection. Through the proper management of overtime, rest cycles, and recovery schedules, LSPs are able to make their workforce perform at their highest levels while remaining motivated and protected.

The orchestration advantage : Each one of these interventions—forecasting, warehouse automation, OMS, information flow, and workforce planning, creates value individually. But the magic occurs when they are all put in concert. Predictions initiate not only truck reservations but also warehouse slotting schedules and staff scheduling. OMS systems maintain those schedules nimble as demand fluctuates in real-time. Dashboards provide leadership visibility, and supplier notifications avoid shortages before they occur. Warehouse automation absorbs spikes without requiring costly emergency leases. As each node in the chain is interlinked, decision-making latency decreases. That speed is what transforms holiday logistics from a headache into a competitive advantage.

Guardrails to keep in mind : Technology is not a magic pill. Forecasting relies on the quality of data, and integration between OMS, WMS, and partner platforms can be complex. Investments in automation need to be offset with long-term ROI, and change management is still key. People must trust and embrace these systems, not resist them. And, naturally, there will be exceptions. Weather disruptions, returns, and damaged goods can't be totally eliminated. There has to be a provision for human intervention with flexibility in the systems.

Conclusion: From chaos to opportunity : Festive logistics will always be high-pressure. What makes leaders different from laggards is the inclination to use technology as a force multiplier. Rather than scrambling to respond to crises, LSPs that communicate, integrate, automate, and forecast can deliver reliably—even during peak demand. For customers, it means gifts arriving on time. For retailers, it means shelves never run empty. For suppliers, it means predictability. And for LSPs, it means the festive season becomes a stage to prove resilience, reliability, and trustworthiness. Technology doesn't replace the hustle of logistics—it makes that hustle smarter. And in the middle of the festive rush, smarter is exactly what the industry needs.

The views and opinions expressed in this article are those of the author and do not necessarily reflect the views of Indian Transport & Logistics News.

Source: itnl.in



FROM GROWTH ENGINE TO GLOBAL EDGE: SUPERCHARGING INDIA'S LOGISTICS

Key Takeaways

- India's logistics cost has dropped to **7.97%** of GDP.
- IPRS 3.0**, developed with the Asian Development Bank, rates industrial parks on sustainability, green infrastructure, connectivity, digital readiness, and skills.
- The SMILE program launched **logistics plans in 8 pilot cities** across 8 states to assess existing logistics infrastructure and improve efficiency and reduce costs.

A New Chapter in India's Logistics Story : India's logistics is entering a new phase and converting itself into a faster, smarter, and globally competitive sector. From integrated digital platforms that streamline freight movement to modern infrastructure connecting every part of the country, a next-generation logistics ecosystem is steadily taking shape. Backed by targeted policy reforms, institutional realignment, and technology-driven solutions, the government is transforming logistics into a key driver of India's economic growth and global trade positioning.

A wave of structural changes is reshaping how logistics is planned, executed, and scaled across the country. Platforms like **ULIP (Unified Logistics Interface Platform)** are integrating data across departments, while **LDB (Logistics Data Bank) 2.0** enables real-time visibility of millions of containers. Every **HSN (Harmonized System of Nomenclature)** code is mapped to its line ministry, improving accountability and policy design. Logistics plans at the **city and state levels under the SMILE (Strengthening Multimodal and Integrated Logistics Ecosystem) programme** are being aligned with national priorities. **Inland waterways transported a record 145.84 million tonnes of cargo last year**, while rail congestion is being addressed through dedicated freight corridors. In industrial zones, **plug-and-play parks under NICDC (National Industrial Corridor Development Corporation)** offer ready infrastructure for investors. On the ground, reforms such as **GST and the e-Way Bill** have removed long-standing frictions in interstate transport. These interventions are driving a clear objective: **reducing logistics costs, improving efficiency, and strengthening India's position in global supply chains.**

Multimodal Logistics along the Gangetic Plain India is transforming its logistics network along the Gangetic Plain through an **integrated multimodal approach** that combines road, rail, and inland waterways, making transport faster, cheaper, and greener. The **Eastern Dedicated Freight Corridor (EDFC)**, a high-speed rail freight line, has reduced wagon turnaround times from **15–16 days to 2–3 days** and cut transit times from over **60 hours to around 35–38 hours**. Freight operations are now managed via a central control centre in Prayagraj, easing congestion on existing rail networks. The revival of the **Ganga Waterway**, linked to the EDFC at Varanasi, allows manufacturers to move cargo efficiently to eastern ports like **Haldia**. **Rapid development of**

warehousing and logistics facilities near the corridor has **boosted employment, improved inventory management, and enabled timely production and export**. These projects involve significant investments from the **World Bank**, including **\$1.96 billion for the Eastern Dedicated Freight Corridor and Rail Logistics initiatives** and **\$375 million for the Ganga Waterway** development. Together, these efforts are creating an **efficient, integrated logistics system that reduces costs, lowers carbon emissions, and strengthens India's connectivity to domestic and international markets.**

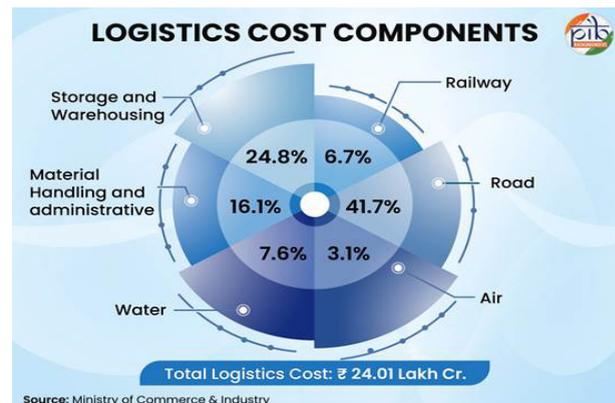
Why Logistics Matter More Than Ever : India's path to economic growth increasingly relies on efficient logistics, which are key to enhancing competitiveness and global connectivity.

The National Logistics Policy and PM GatiShakti have injected new momentum into this transformation, laying the foundation for a more integrated and data-driven logistics ecosystem. But strategy needs precision, and that starts with knowing the true cost of logistics.

Until recently, India's logistics costs were often overestimated. Commonly cited figures of 13 to 14 percent of GDP were based on partial or external data. This led to confusion in policymaking and misperceptions globally.

That has now changed.

A new, first-of-its-kind study titled **Assessment of Logistics Cost in India** by the Department for Promotion of Industry and Internal Trade (DPIIT), in collaboration with National Council of Applied Economic Research (NCAER), provides a scientifically grounded estimate. Using a hybrid methodology that combines primary data from over 3,500 industry stakeholders with secondary data from the Ministry of Statistics and Programme Implementation (MOSPI), Reserve Bank of India (RBI), and Goods and Services Tax Network (GSTN), the report places India's logistics cost at **7.97 percent of GDP and 9.09 percent of non-services output for 2023 to 2024**. In absolute terms, the total cost is estimated at **24.01 lakh crore**.



This is more than just a headline number. The report offers a detailed breakdown by cost components, firm size, and product type. It highlights a critical insight: **smaller firms face significantly higher logistics costs, which affect their ability to scale and compete.** The study also introduces **benchmark freight costs per tonne-kilometre across various transport modes and distances.** This data is essential for better supply chain planning and pricing.

Multimodal transport is emerging as a key lever for efficiency. For example, the report shows that **for journeys of around 600 kilometres, improving the first and last 50 kilometres can significantly lower the total logistics cost.** This underscores the importance of last-mile infrastructure and multimodal logistics integration.

All findings are available through a new interactive dashboard designed to support real-time analysis and informed decision-making. With this data-backed clarity, both the government and industry can make smarter investments, design sharper policies, and upgrade infrastructure faster. This brings India closer to its goal of becoming a global logistics hub.

In short, logistics is no longer a black box. With accurate cost estimates, actionable insights, and targeted interventions, India is transforming its supply chains from a hidden burden into a source of strength.

2025: Supercharging India's Supply Chains

Several initiatives launched in 2025 showcase the government's push to refresh logistics across measurement, local planning, infrastructure, and data integration. These new-generation logistics programs were unveiled to break bottlenecks, accelerate movement, and supercharge supply chains.

1. PM GatiShakti: Driving Integrated Planning

During the commemoration of four years of the PM GatiShakti National Master Plan, the transformative impact of this path-breaking initiative was highlighted, and several key initiatives were unveiled. Key launches included:

- **PM GatiShakti District Master Plans** in all **112 Aspirational Districts** to guide social and economic infrastructure projects.
- **PM GatiShakti – Offshore**, consolidating geospatial data from multiple ministries to guide offshore projects like **wind farms, marine resource exploration, and coastal infrastructure**, while **minimizing regulatory and environmental risks.**
- **PM GatiShakti Public**, a web-based platform providing access to **230** non-sensitive datasets for private entities, researchers, and citizens, promoting transparency, data-driven decision-making, and cross-sector collaboration.
- **Knowledge Management System, NMP (National Master Plan) Dashboard, and Decentralized Data Uploading System**, improving coordination, transparency, and cross-learning across government departments.
- **Compendium Volume-3**, showcasing best practices and successful on-ground use cases across social, economic, and infrastructure sectors.
- **LEAPS 2025** is a **DPIIT initiative** to benchmark

logistics performance and promote innovation and sustainability in the sector.

2. SMILE: City-Level Logistics Planning



The **Strengthening Multimodal and Integrated Logistics Ecosystem (SMILE)** program, developed by DPIIT in collaboration with the Asian Development Bank, focuses on streamlining logistics at both state and city levels. As part of this initiative, plans have been launched across **eight pilot cities in eight states**, each selected to demonstrate how local logistics systems can align effectively with national priorities.

SMILE operates on two synchronized fronts:

- **State Level:** It connects growth hubs to trunk routes, economic corridors, and logistics gateways.
- **City level:** It aligns urban freight with city mobility frameworks, master plans, and land use policies. This two-tiered approach makes logistics not an afterthought, but a built-in layer of economic and spatial planning.



Each of the eight pilot cities under SMILE will be building integrated logistics plans that span both urban and peri-urban zones. These plans map and optimize freight-intensive activity such as local retailers, e-commerce delivery routes, warehousing clusters, truck terminals, and last-mile corridors. The aim is to combine data-driven decisions with clear urban policies and institutional coordination. The plans focus on noise reduction, city decongestion, low- and zero-emission vehicles, process automation, and stronger alignment between freight and passenger flows.

The outcome is a national model where central, state, and city agencies, along with private players and start-ups, act in coordination. This supports sustainable urban freight, faster and more affordable movement of goods, cleaner and less congested cities, and millions of new jobs across the logistics value chain.

3. LEADS 2025: Scoring States on Logistics

The **Logistics Ease Across Different States (LEADS) 2025** initiative sets a new benchmark for measuring the logistics performance of States and Union Territories. Evolving into a more comprehensive framework, LEADS now incorporates both **perception-based inputs and objective data**, with the latter making up **32.5%** of the framework and expected to increase further. The assessment covers **regulatory and institutional support, logistics enablers, infrastructure, services, the operating environment, and sustainability**.

The initiative **also monitors five to seven key transport corridors, capturing real-time data on journey times, average truck speeds, and waiting periods. API-enabled tools allow for section-wise monitoring of road speeds, enabling the identification of delay points and performance gaps.** By offering detailed insights and tracking the improvement trajectory of logistics systems, LEADS serves as a key mechanism to enhance logistics efficiency and supply chain robustness across States and Union Territories, supporting India's progress toward its long-term development goals.

4. LDB 2.0: Visibility that Moves Markets

The upgraded **Logistics Data Bank 2.0** now syncs with Unified Logistics Interface Platform (ULIP) APIs, offering exporters and MSMEs real-time visibility across road, rail, sea, and even high seas. A live container heatmap highlights where containers are delayed, enabling swift corrective action before minor issues escalate. Now users will be able to track shipments using container number, vehicle number, and railway FNR (Freight Name Record) numbers. What once required days of coordination and guesswork now appears instantly on a single platform.

5. IPRS 3.0: Ranking Industrial Parks

The **Industrial Park Rating System (IPRS) 3.0**, co-developed by DPIIT and the Asian Development Bank, adds transparency and accountability to India's industrial infrastructure. It evaluates industrial parks across a broad set of performance indicators, helping identify where excellence thrives and where improvement is needed.

Each park is assessed and categorized as a **Leader, Challenger, or Aspirer**, based on factors such as infrastructure quality, logistics connectivity, digital readiness, sustainability features, and tenant satisfaction. This clear and consistent grading gives investors reliable information to guide decisions, while motivating States and Union Territories to upgrade their facilities and attract more investments.



Under NICDC, 20 plug-and-play industrial parks are in development. 4 are completed, the other 4 are under

construction, and several are on the drawing board. These ready-to-use parks reduce entry barriers for industries and send a strong signal to global and domestic investors that India is serious about ease of doing business and industrial growth. With IPRS 3.0, India is not just building more parks. It is building better ones: more competitive, more inclusive, and more geared towards the goals of national development.

6. Guidebook on HSN Codes: Clarity that Counts

A comprehensive guidebook has mapped **12,167 HSN codes** across **31 ministries**. Mapping each HSN code with the respective line ministry will help the industry understand processes related to their sectors. For businesses, it simplifies coordination. For policymakers, it sharpens accountability, and for trade negotiators, it strengthens India's hand on the global stage.

Conclusion : Logistics has long operated behind the scenes and is gradually receiving more attention. The past decades have laid the tracks and built the systems, with the current developments propelling these efforts to roar: faster, greener, and fully connected.

If Make in India builds the factories, logistics builds the highways, waterways, and data flows that carry their output to the world. With initiatives like PM GatiShakti Public/Offshore, SMILE, LEAPS 2025, LEADS 2025, IPRS 3.0, LDB 2.0, etc., and green corridors on the move, India is transforming its logistics from a cost centre into a powerful competitive advantage system. The journey from growth engine to global edge has begun.

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Source: PIB



BRANCH NEWS

VADODARA BRANCH

IIMM Vadodara Branch successfully conducted a three-days training programme on 'Materials Management' from 5th January to 7th January, 2026 at Gujarat Energy Transition Research Institute (GETRI), Vadodara for the Executives and Engineers of Gujarat Urja Vikas Nigam (GUVNL) and its Subsidiary Companies - Gujarat Energy Transmission Corporation Limited-(GETCO), Madhya Gujarat Vij Company Limited-(MGVCL), Uttar Gujarat Vij Company Limited-(UGVCL), Paschim Gujarat Vij Company Limited-(PGVCL) & Dakshin Gujarat Vij Company Limited-(DGVCL).



The sessions were delivered by expert faculties, Mr. Vishal Parikh -Materials Planning & Inventory Management and Purchasing & Contract Management, Dr. Prasanta Gupta—Legal Aspects/Business Laws & Ms. Harkiran Kaur Sitara-Soft Skills. The training contents were structured into 4 sessions on each day with examples, interactive sessions and case studies.

Participants feedback was very positive and well appreciated. Total 38 professionals participated in the training programme.

IIMM Vadodara Branch successfully organized an engaging Evening Talk on the theme “ZERO WASTE SUPPLY CHAIN-TURNING WASTE INTO WEALTH” by Dr. Prashanta Gupta on 20th December, 2025 at IIMM Conference Room.

The traditional Supply Chain creates more waste. Zero Waste Supply Chain transforms waste into valuable resources through innovative solutions like waste-to-energy and recycling, focusing on Reduce, Reuse, Recycle, Repurpose from sourcing to delivery, creating a closed-loop system that supports a circular economy, cuts costs, boosts efficiency, and reduces environmental impact. The speaker emphasised on the Mantra “Fit for Purpose” and the personal accountability and responsibility of every one to act on it.

The highlights of the speech:

Traditional supply chains cause environmental impact & cost inefficiencies and unmanaged waste increases risks, erodes profits and threatens continuity.

India generates 62 million Tons of waste annually, but only 30% is processed.

Industrial waste is significant in manufacturing hubs.

Gujarat is predominantly a chemical hub and the raw material cost is alarmingly going high. To remain competitive in the market, cost control is essential instead of increasing the price of final product.

Waste Hotspots Across Supply Chains: Waste hotspots across supply chains represent critical points where inefficiencies lead to significant resource loss, environmental damage, and financial waste.

The strategic shift from “waste to value” focuses on transforming waste from a “cost center” to a “profit center” by treating byproducts as strategic assets rather than liabilities.

In manufacturing, the management of scrap, rejections, and effluents is critical for operational efficiency, cost control, and regulatory compliance. Scrap refers to unused or residual materials left over from the manufacturing process that still possess material value

End of life: Limited recovery and recycling. In the context of the circular economy, End-of-Life (EoL) recovery and recycling refer to the final stage of a product’s lifecycle where materials are transformed into reusable resources rather than sent to landfills.

In 2025, Indian manufacturing continues to grapple with material losses of 15–25% due to process waste in heavy industries like metals, chemicals, and cement. To mitigate these losses, the Indian government has now introduced several landmark regulations like (1) Draft Solid Waste Management Rules mandate lifecycle waste reduction and advanced recycling for industrial

townships. (2) Liquid Waste Management Rules for Extended User Responsibility (EUR), requiring industries to treat and recycle at least 20% of their wastewater by 2027–28. (3) EPR Targets set recycling targets of 40–60% for various plastic categories, incentivizing manufacturers to recover materials rather than lose them to process waste.



Our spending habits increased the wastage of food, which generates methane, that is much more dangerous than CO₂.

Indian Circularity Examples:

Fly ash used in cement and road construction
Steel slag utilized in infrastructure projects

Spent catalysts recovered in chemical clusters

Impact: Embracing circular practices can lead to a 20–30% reduction in material costs

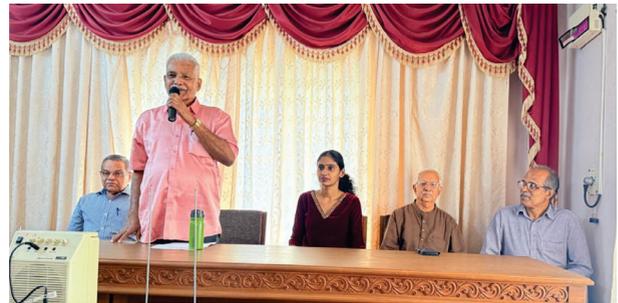
The Speaker – Dr. Prashanta Gupta is a NC Member from Vadodara Branch and Member of the Board of Studies of the Indian Institute of Materials Management. The event received high appreciation for the speakers, the subject matter and the overall execution. Around 30 members have attended the Evening Talk.

THIRUVANANTHAPURAM BRANCH

IIMM Thiruvananthapuram Branch celebrated New Year 2026 with a Family get together on Saturday, 3rd January 2026. The programme was held at IIMM Hall, Sasthamangalam, Thiruvananthapuram.

Branch Chairman, Dr.Koshy M George welcomed the Chief Guest, members and family members. In his presidential address, Chairman highlighted the major activities of the branch during the year and placed on record the co-operation of all the members in all the activities of the branch.

Dr.Rani Mathew, Consultant Physician/Partner at Vivekananda Health Global, Jawahar Nagar, Trivandrum was the Chief Guest of the function. Shri N Jayakumar, EC Member introduced the Chief Guest to the audience. Dr.Rani Mathew is a qualified holistic health practitioner with a strong academic background in Naturopathy, Psychology, and Acupuncture. She holds a Bachelor of Naturopathy and Yogic Sciences (BNYS), a Master's degree in Psychology and an MD in Acupuncture. She has been practicing at Vivekananda Health Global, Trivandrum since 2018, offering integrated natural healing approaches that address both physical and psychological well-being. She is an expert in the field of Yoga.



Chairman Dr.Koshy M George welcoming the Chief Guest and the audience. Chief Guest Dr.Rani Mathew, Secretary Shri M G Narayanan Nair, Vice Chairman Shri K Raveendra Prasad and Treasurer Shri P C Sasikumar are on the dias



Guest Dr.Rani Mathew delivering the talk on "Yoga and it's relevance in a Senior's Life".

Thereafter Dr.Rani Mathew made a beautiful presentation on "Yoga and it's relevance in Senior's Life". Yoga, one of the world's oldest health systems is receiving new attention for claims that it can contribute to healthy aging. Yoga offers a comprehensive framework

for healthy aging by addressing the physical, cognitive, and social challenges often faced in later life. The talk was very informative and interesting. Also it was well received and interacted by the audience.

Chairman, Dr. Koshy M George distributed the Membership Kits to the newly joined members.

Sri M.G. Narayanan Nair, Secretary proposed vote of thanks. The meeting ended with Lunch. It was a memorable day for the participants. New year gifts were also distributed to the members after the function.



A view of the Audience



Chairman Dr. Koshy M George handing over the Membership Kit to Sri S Prasannakumar



EC Member Shri N Jayakumar introducing the Chief Guest Dr. Rani Mathew

BANGALORE BRANCH

28th November 2025 - Inhouse Training Programme on Purchasing Management : The Indian Institute of Materials Management (IIMM), Bangalore Branch, successfully conducted an **Inhouse Training Programme (ITP)** on “Purchasing Management” on **28th November 2025** at **Hotel Olive Downtown, Kochi**. The programme was specifically designed for executives from the **healthcare sector**, focusing on strengthening their understanding of modern purchasing practices and strategic procurement functions.

The training sessions were expertly handled by **Senior Faculty Mr. Srinivas Rao** and **Mr. M. R. Achyuth Rao**, both of whom brought extensive industry experience and academic insight to the programme. The sessions covered key aspects of purchasing management, including procurement planning, vendor evaluation, cost optimization, ethical purchasing practices, and the evolving role of purchasing in healthcare organizations.

The programme witnessed active participation and meaningful interactions, with delegates engaging in discussions, case studies, and practical examples relevant to the healthcare supply chain. The faculty’s structured approach and real-world illustrations were highly appreciated by the participants, contributing to an enriching learning experience.

The Inhouse Training Programme concluded with a **vote of thanks**, acknowledging the valuable contributions of the faculty members, the organizing team of IIMM Bangalore Branch, and the enthusiastic participants, whose involvement made the programme a **resounding success**.

28th & 29th November 2025- Awards and Recognitions at NATCOM 2025- Ahmedabad

The **IIMM Bangalore Branch** achieved remarkable recognition at **NATCOM 2025**, the National Convention of IIMM, held at **Ahmedabad on 28th and 29th November 2025**. Demonstrating excellence in leadership, professional development, and membership growth, the Bangalore Branch secured **six prestigious awards**, reaffirming its position as one of the most vibrant and high-performing branches of IIMM.

The awards received are as follows:

- **Best Branch Award (Metro)** – Awarded to **IIMM Bangalore Branch** in recognition of its outstanding performance and contribution to the Institute’s objectives.
- **Best Membership Growth Award** – Received by **Mr. Karunakar C. S., Chairman, IIMM Bangalore Branch**, along with his dedicated team, acknowledging exceptional efforts in expanding the membership base.
- **Distinguished Membership Award** – Conferred on **Mr. M. S. Shankar Narayanan** for his sustained contribution and commitment to the profession and the Institute.
- **Best Faculty Award** – Awarded to **Mr. G. Balasubramanian, Senior Faculty, IIMM Bangalore Branch**, in recognition of his excellence in training and knowledge dissemination.
- **Membership Growth Award (Individual)** – Presented to **Mr. S. M. Nagaraj, IIMM Bangalore Branch**, for his outstanding individual contribution towards membership development.
- **President Appreciation Medal Award** – Conferred on **Dr. P. Sengottaiyan** for his exemplary service and contributions to IIMM.

These accolades highlight the collective efforts, leadership vision, and professional commitment of the Bangalore Branch team. The achievements at NATCOM 2025 stand as a testament to the branch's continuous pursuit of excellence in materials management education, training, and professional development.

3rd December 2025 – Educational meeting with Kristu Jayanti University- Bengaluru

The **Indian Institute of Materials Management (IIMM), Bangalore Branch** held a strategic meeting with the academic leadership of **Kristu Jayanti University, Bengaluru**, on **3rd December 2025**, with the objective of strengthening industry-academia collaboration and promoting professional development among graduating students.

The IIMM Bangalore Branch delegation comprised **Mr. Karunakar C. S., Branch Chairman, Dr. P. G. Yogindra, Course Coordinator, and Mr. S. M. Nagaraj, Senior Consultant**. The team engaged in detailed discussions with the **Head of the Department and the Dean** of the concerned faculty at Kristu Jayanti University.

The deliberations focused on exploring opportunities for jointly conducting **short-term certificate courses, specialized workshops, and webinars for final-year undergraduate and postgraduate students** of the University. Emphasis was placed on enhancing students' industry readiness by exposing them to contemporary practices in **supply chain management, procurement, logistics, and related functional areas**.

The IIMM team highlighted the Institute's rich legacy, professional expertise, and capability in delivering industry-oriented training programs through experienced faculty and practitioners. The proposed academic initiatives aim to bridge the gap between theoretical knowledge and practical industry requirements, thereby improving students' employability and professional competencies.

The meeting was highly **fruitful and constructive**, with both institutions expressing strong interest in formalizing the collaboration. As agreed during the discussions, **IIMM Bangalore Branch will submit a detailed proposal** outlining the structure, duration, and delivery methodology of the proposed courses and programs. Upon mutual approval, **necessary action will be initiated to implement the programs in the forthcoming academic period**.

The interaction marks a significant step towards building a sustainable partnership between **IIMM Bangalore Branch and Kristu Jayanti University**, reinforcing IIMM's commitment to nurturing young talent and contributing to academic excellence through industry-driven learning initiatives.

5th December 2025- Seminar on Purchasing Management

A **Seminar on "Purchasing Management"** was successfully conducted on **5th December 2025 at Stadel Hotel, Kolkata**, for executives from the **healthcare sector**

organised by Indian Institute of Materials Management – Bangalore at Stadel Hotel, Kolkata. The programme was organized with the objective of enhancing participants' knowledge and practical understanding of contemporary purchasing practices in the rapidly evolving healthcare industry.

The seminar witnessed enthusiastic participation, with **around 60 delegates** representing hospitals, diagnostic centres, and healthcare service organizations. The event was conducted **in association with Transasia**, whose support contributed significantly to the smooth organization and success of the programme.

The sessions were expertly handled by **Mr. G. Balasubramanian, Senior Faculty**, who brought in-depth industry experience and academic insight to the discussions. The seminar covered key areas such as **strategic purchasing, vendor evaluation and development, cost control, negotiation techniques, ethical procurement practices, and the critical role of purchasing in ensuring quality patient care**. Emphasis was placed on addressing real-life challenges faced by healthcare procurement professionals.

The programme featured **interactive discussions, practical illustrations, and experience sharing**, which encouraged active involvement from the participants. The engaging delivery and relevance of the topics resulted in lively interactions, enabling delegates to gain valuable insights applicable to their respective organizations.

The seminar was **well received**, and participants expressed high levels of satisfaction with the content, delivery, and overall organization of the programme. The **positive feedback** received highlighted the relevance of the subject matter and the effectiveness of the faculty in addressing sector-specific procurement issues.

18th December 2025 – Educational Meeting with HAL – Management Academy:

The **Indian Institute of Materials Management (IIMM)** undertook an **educational and professional engagement visit with Hindustan Aeronautics Limited (HAL)** on **18th December 2025**, marking an important step towards strengthening collaboration between professional bodies and premier public sector organizations.

A delegation from **IIMM Bangalore Branch**, comprising **Mr. Karunakar C. S., Branch Chairman, Dr. P. G. Yogindra, Course Coordinator, and Mr. S. M. Nagaraj, Senior Consultant**, visited the **HAL Management Academy and MET**. The IIMM team held detailed discussions with **Mr. A. K. Malik, General Manager, HAL Management Academy**, along with other senior officials of the Academy.

During the meeting, **IIMM formally submitted a proposal** for conducting **specialized training programmes** for HAL professionals on key **Supply Chain Management (SCM)** topics, including **Public Procurement**, in line with current regulatory frameworks and best practices. The proposed programmes aim to enhance professional competencies and address the evolving challenges of procurement and supply chain operations in large public sector enterprises.

In addition to the training proposal, **in-depth discussions** were held regarding the **AICTE-approved Post Graduate Diploma in Materials Management** and the **Post Graduate Diploma in Logistics and Supply Chain Management** offered by IIMM. The dialogue focused on potential collaboration, academic alignment, and participation of HAL executives in these programs to support continuous professional development and skill enhancement.

The discussions were **highly constructive and forward-looking**, with the HAL Management Academy expressing **positive and encouraging feedback** on the proposed initiatives. The Academy acknowledged the relevance of IIMM's programs and its expertise in delivering industry-oriented education and training.

The visit concluded on a promising note, laying the groundwork for future collaboration between **IIMM and HAL Management Academy**. This engagement reflects IIMM's ongoing commitment to advancing professional education, fostering industry partnerships, and contributing to excellence in materials management and supply chain practices.

19th December 2025 – workshop on Supply Strategy and Global Sourcing :

The **Indian Institute of Materials Management (IIMM), Bangalore Branch** successfully organized a **Workshop on "Supply Strategy & Global Sourcing"** on **19th December 2025 at Paraag Hotel, Bengaluru**. The workshop was designed to provide participants with strategic insights into modern supply management practices and the complexities of sourcing in a globalized business environment.

The programme attracted **around 16 executives** from **diverse industry sectors**, ensuring focused discussions and personalized learning. The limited group size enabled in-depth interactions, experience sharing, and detailed deliberations on real-world supply chain challenges faced by organizations.

The sessions were conducted by **Senior Faculty Mr. E. Ganesh Kumar** and **Mr. G. Balasubramanian**, both of whom brought extensive industry expertise and academic proficiency to the workshop. The faculty covered critical topics such as **supply strategy formulation, global sourcing models, supplier selection and risk management, cost optimization, compliance issues, and managing uncertainties in international procurement**.

The workshop was **highly interactive**, with participants actively engaging through discussions, case analyses, and question-and-answer sessions. Practical examples and industry case studies shared by the faculty enabled participants to relate the concepts directly to their organizational contexts.

The programme received **excellent feedback** from the participants, who appreciated the relevance of the subject matter, the depth of content, and the experiential learning approach adopted during the sessions. The workshop was widely regarded as effective in enhancing strategic thinking and professional competence in the

area of supply strategy and global sourcing.

25th December 2025 -Felicitation Program: The **Indian Institute of Materials Management (IIMM), Bangalore Branch** organized a **felicitation programme** to honour the newly elected national office bearers, **Mr. P. M. Biddappa, National President**, and **Dr. P. Sengottaiyan, Vice President – South**, on **25th December 2025 at Nature Abode Homestay Luxury Resort, Chikkamagalur**.

The programme was organized as a mark of respect and appreciation for the distinguished leadership and significant contributions of the office bearers towards the growth and development of IIMM at the national and regional levels. Executive Committee Members of the IIMM Bangalore, gathered for the occasion, making it a memorable and meaningful event.

During the felicitation ceremony, the achievements, professional journey, and visionary leadership of **Mr. P. M. Biddappa** and **Dr. P. Sengottaiyan** were highlighted. Each EC Members share their experiences and journey of IIMM. **National President and VP South** acknowledged their commitment to strengthening professional education, promoting best practices in materials management, and enhancing member engagement across the Institute, & expressed their gratitude to the IIMM Bangalore Branch for the warm felicitation and reiterated their commitment to working collaboratively with all branches to further the mission and objectives of IIMM.

The felicitation programme was conducted in a cordial and inspiring atmosphere, followed by informal interactions among EC members. The serene setting of **Chikkamagalur** added to the significance of the event, fostering fellowship and camaraderie among the participants.

The event concluded on a positive note, reflecting the unity, respect, and shared vision of the IIMM fraternity, and reinforcing the Bangalore Branch's commitment to recognizing leadership and excellence within the Institute.

29th December 2025 – MoU Signed with IISc : IIMM Bangalore Branch has successfully entered into strategic collaboration with the **Indian Institute of Science (IISc), Design & Manufacturing – Centre of Excellence (D-CoE)** through the signing of a Memorandum of Understanding (MoU).

The MoU marks a significant milestone and covers the joint conduct of Skill Development and Training Programs, workshops, and Certification Programs in the areas of Supply Chain Management (SCM), Product Design and Smart Manufacturing. The collaboration also aims to develop and deliver industry- relevant modules for IIMM professional Students and member, along with hands – on training and practical exposure to be conducted at D-CoE, IISc (DM)

30th December 2025- Industrial Association Visit: IIMM-Bangalore Branch visited Peenya Industrial Associations and met President – Mr. DP Danappa and Senior Vice President of association on 30th December

2025 by Mr. C.S. Karunakar, Branch Chairman, Dr. P.G. Yogindra, Course Co-ordinator and Mr. Nagaraj S.M. – Senior consultant. Formal request letter was handed over to the PIA President seeking their support in organising a gathering of PIA member industries, during which SCM-focussed technical sessions will be conducted for Industry Professionals and a detailed discussions on IIMM its educational course offerings, professional programs, and membership benefits will be delivered. The president and Senior Vice President of PIA appreciated the initiatives of IIMM and assured their full support.

7th January 2026 – Industry Visit - Meeting with KCTU : A delegation from the **Indian Institute of Materials Management (IIMM), Bangalore Branch**, comprising **Mr. Karunakar C. S., Branch Chairman, Dr. P. G. Yogindra, Course Coordinator, and Mr. S. M. Nagaraj, Senior Consultant**, visited the **Karnataka Council for Technological Upgradation (KCTU)**, a Public Sector Undertaking of the Government of Karnataka, on **7th January 2026**.

The delegation met **Dr. H. R. Arunkumar, Managing Director, KCTU**, to explore potential areas of collaboration. The discussions focused on jointly organizing **technical workshops, seminars, and skill development programmes** to enhance industry-oriented training.

Both organizations mutually agreed to collaborate on conducting workshops and seminars with **KCTU's support**, exploring **joint workshop initiatives with the Indian Institute of Science (IISc)**, and seeking **sponsorship support from KCTU and KSDC** for technical programmes conducted at conference venues and hotels.

The meeting was **highly productive and fruitful**, reflecting a strong alignment of objectives towards strengthening institutional collaboration and advancing technical and skill development initiatives.

10th January 2026- Monthly Lecture Program: The **Indian Institute of Materials Management (IIMM), Bangalore Branch** organized a **Monthly Lecture Programme on “Trends in Logistics & Supply Chain Management”** on **10th January 2026** through the **MS Teams platform**.

The lecture was delivered by **Mr. D. Manoj, Assistant Professor, Tata Institute of Social Sciences (TISS)**, who shared valuable insights on logistics models and contemporary practices in supply chain management. The programme witnessed **around 65 participants**, including IIMM members and supply chain professionals. The lecture generated active participation and interaction, and the programme received **positive feedback** from the attendees for its content and delivery.

17th and 18th January 2026 – NEC Business Plan Meet at Bangalore: The **IIMM National Headquarters** successfully conducted a **Business Plan Meeting at Hotel Paraag, Bengaluru**, coordinated by the **IIMM Bengaluru Branch**. Led by **Mr. P. M. Biddappa, National President**, and **Mr. C. S. Karunakar, Chairman**, the meeting featured strategic deliberations on future initiatives, including **SCM**

programs, PG and certification courses, Fellowship/PhD programs, and digital outreach. The discussions were insightful and forward-looking, with valuable inputs from **NEC members and Past Presidents**.



KOLKATA BRANCH

Valediction Program on “One Year Diploma Course” September 2024 Batch Students, held on 21st December, 2025 at Bharatiya Bhasa Parisad Hall, Shakespeare Sarani, Kolkata

Indian Institute of Materials Management, Kolkata Branch organized a valediction program for the students of “One Year Diploma Course on Materials, Logistics & SCM” on 21st December 2025, Saturday at 3:00 p.m. at the at Bharatiya Bhasa Parisad Hall, Shakespeare Sarani, Kolkata



On this occasion, pass out certificates and mark sheets were handed over to the successful students. Forty four students attended the said program on Saturday, 21st December 2025 at 3:00 p.m. at the At Bharatiya Bhasa Parisad Hall, Shakespeare Sarani, Kolkata, Anchor: SREYOSHI NAG, Ex Students, DMLM April 2024, Assisted by Saikat Ghosh, DMLM Sept. 2024, Special Guest of Honour were Dr. Avijit Ghosh, Former Principal, Technical Officer, Central Glass & Ceramic Institute, Jadavpur, and Mr. Indranil Banerjee, President, Calcutta Management Association, Additional General Manager (HR & A), West Bengal State Electricity Distribution. Co. Ltd.

Mr. Debasis Mallick, Chairman of Education Committee and Mr. Sajal Das, Course Coordinator were present in the program. Certificate and mark sheets of 44 pass out were handed over to the students.

PUNE BRANCH

As the Indian Institute of Materials Management (IIMM) – Pune Branch proudly entered its 60th year of service to the profession, it marked this significant milestone by hosting the 10th Annual Awards for Supply Chain Management on 17th January 2026 at Hotel Shree Panchratna, Pune. The event symbolized not only a decade of recognizing excellence in supply chain practices but also six decades of IIMM–Pune’s sustained contribution to professional development, industry engagement, and nation-building.

Over the years, the Annual SCM Awards have evolved into a respected platform that acknowledges organizations and individuals who have demonstrated outstanding leadership, innovation, and impact across the supply chain ecosystem. The 10th edition carried special significance, coinciding with the Diamond Jubilee year of the Pune Branch, making the celebration both reflective and forward-looking.

The program was organized under the leadership of Mr. Suhas Gawas, Chairman, IIMM–Pune Branch, and was ably convened by Mr. K. R. Nair, National Councillor, whose meticulous planning and guidance ensured the seamless execution of the event. The evening commenced with a special film chronicling six decades of IIMM–Pune’s journey, followed by the felicitation of former Chairmen in appreciation of their invaluable contributions to the growth and legacy of the Branch. Mr. Mohan Nair, Past Chairman of IIMM-Pune and current National Councillor, anchored the program as the Master of Ceremonies, adding depth and continuity to the proceedings.

Awards were presented across a wide spectrum of categories covering **manufacturing, logistics, real estate, healthcare, public sector enterprises, public mobility, women’s contribution, lifetime achievement, and unsung heroes**. The nominated awards recognized best practices in supply chain management across large, medium, and small enterprises, while the conferred awards honoured institutions and individuals whose work has created lasting societal and economic impact.

Key award recipients included **Kalyani Maxion Wheels Pvt. Ltd.** for Best Supply Chain Practices in Manufacturing (Large), **Kohinoor Group** and **Legacy Lifespaces LLP** in the Real Estate category, **Atlantic Road Services Pvt. Ltd.** and **Transecure Logistics** in road transportation, and **Aditya Birla Memorial Hospital** in healthcare. Among the conferred honours, **Maharashtra Metro Rail Corporation Ltd.** received the Best Public Mobility Award, while **Bharat Electronics Ltd.** was recognized as Best Public Sector Organization.

A major highlight of the evening was the **Lifetime Achievement Award**, conferred upon **Mr. H. R. Gaikwad, CMD, Bharat Vikas Group (BVG)**, in recognition of his visionary leadership and enduring contribution to infrastructure development and public services. The **Women Contribution in Supply Chain Award** was presented to **Ms. Sameera Shaikh of John Deere India Pvt. Ltd.**, acknowledging her professional excellence and

leadership. The **Unsung Hero Awards** honoured initiatives such as **Pune River Revival** and **Mann Deshi Foundation**, celebrating grassroots efforts that have brought about meaningful and sustainable social change. The event was graced by **Mr. Robert John, Director & Chief Executive, Amphenol Interconnect India Pvt. Ltd.**, as the Chief Guest. In his address, he emphasized the increasingly critical role of supply chain management in India's evolving economic landscape, highlighting how logistics, digitalization, real-time data analytics, and emerging technologies such as artificial intelligence are reshaping efficiency, resilience, and competitiveness across industries.

Addressing the gathering, Chairman Mr. Suhas Gawas remarked that supply chain management has transitioned from being an operational support function to a strategic driver of business continuity, sustainability, and national growth. He underscored that robust supply chains are the backbone of a strong economy, particularly in an era marked by global disruptions and heightened expectations. As IIMM-Pune moves forward in its 60th year, the Branch reaffirms its commitment to professional excellence and societal impact, and looks forward to the 11th edition of the Awards for Supply Chain Management.

MYSURU BRANCH

The Indian Institute of Materials Management (IIMM), Mysuru Branch, is pleased to report on the sustained success of its knowledge-sharing initiatives, marking a significant period of revival and continuity from April through November 2025.

Golden Jubilee Year & Materials Management Day: The current series of successful programs commenced with the grand celebration of the Golden Jubilee Year 2025 and 'Materials Management Day' on Saturday, April 12, 2025. The occasion was marked by an event focused on the critical theme, "Sustainable Supply Chain in Circular Economy," which provided a strong start to the Branch's renewed focus on core industry principles. This inaugural activity was subsequently featured in the Materials Management Review (MMR) – May 2025 Release.

Expert Session on Scientific Insight Stress Management – July 12, 2025: Following the successful relaunch of activities, the branch successfully organised its second event, an Expert Session on "Scientific Insight to Stress Management" on Saturday, July 12, 2025, at Hotel Le Ruchi the Prince, Mysuru. The session was led by **Prof. Suttur S. Malini**, Chairperson, Department of Genetics & Genomics, University of Mysuru. This session offered valuable, scientific insights into managing stress, resonating well with professionals across various sectors and drawing enthusiastic participation. The event's relevance and broad appeal were further cemented by receiving recognition in local daily newspapers.



The group photograph captured the essence of the event, featuring Prof. Suttur S. Malini seated at the centre, flanked by IIMM Mysuru Branch Chairman, M N Suresh on her left and Mr. Nanjunda Naika, Secretary of IIMM Mysuru Branch (Period 2023-2025), to her right flanked by enthusiastic participants from diverse professional and academic backgrounds.

In line with the branch's roadmap for monthly programs, the IIMM Mysuru Branch successfully conducted a session on "**Learnings from Steve Jobs' Style of Management**" on Saturday, November 22, 2025.

The program was delivered in collaboration with the Department of Business Administration, Vidyavardhaka College of Engineering (VVCE), Mysuru, and was hosted at Sri B.C. Lingaiah Hall. The event featured an inspiring address by IIMM Mysuru Branch Chairman, **Mr. R. Nanjunda Naika** (Deputy General Manager – HMV Upgradation, BEML Ltd. These three diverse and highly successful sessions clearly demonstrate the Mysuru Branch's continuous commitment to knowledge sharing and its role as a key contributor to managerial and professional education in the region.



The Group Photo with R. Nanjunda Naika – Chairman-IIMM Mysuru Branch in the Centre flanked by Dr. Somashekhar IC to his right and Mr. M N Suresh – Immediate Past Chairman & EC Member to his left.



Theme Key Topic-Address -Mr. R Nanjunda Naika-Chairman – IIMM Mysuru Branch.

EXECUTIVE HEALTH

GETTING AT LEAST 5,000 STEPS A DAY COULD IMPROVE DEPRESSION, MOOD

- **A new study found that walking 5,000 or more steps daily was linked to fewer depression symptoms.**
- **More benefits for mental health were seen when people walked at least 7,500 steps a day.**
- **Some people may experience benefits with just 1,000 steps a day, the findings suggest.**

Walking is not just a way to get from one place to another. New research suggests that walking can also improve your mood, adding to the heart-related and other benefits of this low impact form of exercise.

In the paper, published December 16 in JAMA Network Open Trusted Source, researchers found that adults who walked 5,000 or more steps a day had fewer depression symptoms compared to people who walked less.

The benefits increased as people walked more. Researchers found that those who clocked at least 7,500 steps a day saw a 42% decrease in depression symptoms.

The study did not look at whether the benefits of walking plateaued at some point beyond that. However, researchers found that even an increase of 1,000 steps a day resulted in a lower risk of depression.

In another analysis, researchers found that people who achieved 7,000 or more steps a day had a lower risk of developing depression compared to those who walked less.

“The implication of this [new] study is that increasing physical movement reliably decreases depression by significant measurable amounts. Walking may also lower the risk of becoming depressed,” said David Merrill, MD, PhD, a geriatric psychiatrist at Providence Saint John’s Health Center in Santa Monica, CA. Merrill wasn’t involved in the new study.

Walking helps reduce depression symptoms

For the new paper, the authors reviewed the results of 33 previous studies looking at whether walking reduced symptoms of depression in adults. Combined, over 96,000 adults were included in those studies.

The researchers also combined and analyzed the results of 29 studies in a meta-analysis. This is a statistical way of creating a study with a larger number of participants.

The studies included in the review measured daily step counts using smartphones, pedometers, or other wearable devices. Most studies recorded daily step counts over seven days, although one monitored it for a full year.

The main outcome measured in the studies was either a diagnosis of depression or self-reported symptoms of depression with no formal diagnosis. Some studies excluded people who reported having depression or who had mild to severe symptoms of depression at the initial study visit.

The new paper had certain limitations. First, it’s possible that people with fewer symptoms of depression walked more each day because they felt better.

“For many people, particularly those battling depression, the idea of engaging in structured exercise can feel overwhelming,” said Supatra Tovar, PsyD, a clinical psychologist, registered dietitian, and fitness expert. However, “walking offers a low-pressure, sustainable alternative.” Tovar wasn’t involved in the new research.

In addition, the new paper didn’t examine whether other factors, such as social connections Trusted Source gained through walking with others, might have decreased depression symptoms.

The location of your walk may also matter. Feeling connected to nature has been shown to improve your mood.

Set a goal of at least 5,000 daily steps

Overall, the results of the new paper fit with an earlier study, which found that older adults who walked 7,000 or more steps a day had a 29% lower risk of having symptoms of depression after two years.

It also adds to research showing that higher levels of physical activity provide protection against developing depression.

“Given [the new] study’s findings, I would encourage my clients — particularly those with mood disorders or looking to improve their mental well-being — to aim for a minimum of 5,000 steps a day as a starting point,” Tovar told Healthline.

“This amount appears to provide significant mental health benefits, with further improvements observed as individuals approach 7,500 steps or beyond,” she said.

The new paper highlights that even small increases in daily steps results in decreases in symptoms of depression.

“You don’t need to start running or even walking marathons to feel better,” Merrill told Healthline. “Even just a little (more) movement can make a big difference.”

The best part is that walking is a low-impact form of exercise that most people can do safely.

“The accessibility of walking is particularly important: it does not require specialized equipment, a gym membership, or extensive fitness knowledge, making it an inclusive intervention that anyone can adopt into their routine,” said Tovar.

“This simplicity removes barriers that often prevent people from pursuing physical activity, especially those struggling with the low motivation and fatigue often associated with depression,” she said.

Walking complements standard depression treatments

Tovar recommends that people start small with goals they can achieve right now, maybe 1,000 to 2,000 steps a day, and increase this by 500 steps at a time when you feel ready for more.

She said you can also incorporate walking into your

daily life, such as taking the stairs instead of the elevator, walking after meals, or parking further away from stores.

In addition, “for individuals with more severe depression or physical limitations, I would recommend integrating safe, enjoyable environments, which can amplify the mental health benefits due to the additional calming effects of natural surroundings,” Tovar said.

While the new paper shows that walking can improve individuals’ mood, those who currently have depression may need more support.

“Combining lifestyle medicine approaches like increasing walking with behavioral health approaches like antidepressants and psychotherapy may result in the best outcomes for persons living with depression,” said Merrill.

“If you’re depressed, there are always more treatment options that can be tried and combined to improve how you’re feeling,” he said. “It’s important to not give up hope.”

Takeaway

Researchers reviewed 33 previous studies looking at whether walking reduced symptoms of depression in adults, with a total of over 96,000 adults included in those earlier studies.

Walking 5,000 or more steps a day was linked to fewer symptoms of depression compared to walking less. People who walked at least 7,500 steps a day saw even greater benefits, with a 42% decrease in depression.

Even a small increase of 1,000 steps a day resulted in a lower risk of depression. The authors of the new paper did not look at whether the benefits of walking plateau at some point.

Experts recommend that people increase their daily step counts to help improve their mood. They suggest starting small and increasing slowly. People with depression may benefit more from combining walking with standard treatments like antidepressants and psychotherapy.

Source: www.healthline.com





INDIAN INSTITUTE OF MATERIALS MANAGEMENT

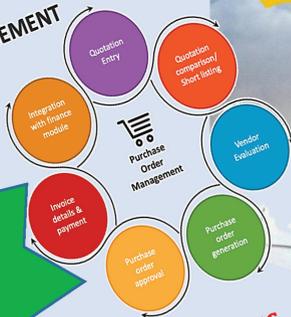
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IIMM Research Centre

CENTRE FOR RESEARCH IN MATERIALS MANAGEMENT (CRIMM)

IIMM has set up CRIMM in Kolkata jointly with the Techno India University which is one of the renowned and largest Private University in West Bengal. A MOU was signed with TIU on 17th of November, 2017. Techno India University, West Bengal, promoted by the well-known Techno India Group is a leading Private University in the state and the country

Objectives and Activities of CRIMM in brief

- To promote research in materials management discipline.
- To collaborate with industry for furthering the academic advancement of materials management and its application to industry.
- To render assistance to industries in problem solving projects, development activities, etc
- To take up project consultancy work in Materials Management. Centre will act as a nodal point for co-ordination and integration of research information in the field of Materials Management for on-going and completed research work in other countries

Research Fellowship

The candidate should have a Master Degree in any subject/discipline or equivalent professional

Management qualification i.e. PGDBM, PGDMM etc. with at least 50% marks in aggregate at the graduation and post-graduation level. The candidate should have experience in working in Materials Management discipline or allied areas in industries. In case of highly experienced candidate in the field of Materials Management, and/or Engineering Graduates, Master Degree may be dispensed with. Preference will be given to industries sponsored candidates

The fees for such research studies will depend on the specific problem/area and the tenure, which will be borne by the sponsoring organisation. Those who will take up such Fellowship research studies on their own expenses, will have to bear the expenditure on their own. Successful Research Fellow from CRIMM shall have the unique opportunity to pursue PhD in Techno India University, West Bengal with condensed course work.

Governing Committee

A steering Committee has been constituted to oversee the working of the centre consisting of nineteen members, eight from Techno India University, West Bengal, eight from IIMM, and three from industry.

For more information please contact

MALAY C MAZUMDAR

Jt. Chairman –CRIMM

M: 9909910964 / 9726425331

Email: malay_mazumdar@yahoo.co.in
crimm.malayimm@gmail.com

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