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CIO&LEADER

TRACK TECHNOLOGY • BUILD BUSINESS • SHAPE SELF

Spl Edition – Vol. 1

AI LAUREATES

Insights from the Leaders Defining Enterprise AI's Next Era Pg. 10

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In today's enterprises, the CISO are the guardian on trust, resilience, and business continuity. At the CISO Forum Conference & Awards 2025, 70+ India's top CISOs & security leaders across verticals will come together to exchange insights, strategies, and experiences that are shaping the future of enterprise security at the serene beauty of Alibaug.

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Board Risk Advisor,
Chairman, Leadership
Collective Australia.

Cook-a-thon with
Sashi Cheliah
(Winner Master Chef
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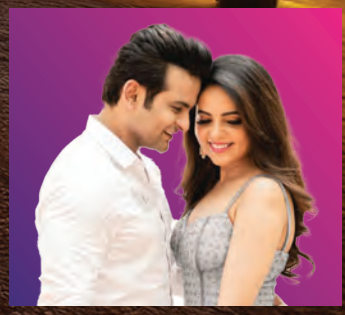
Fireside chat with
eminent cricketer,
Sanjay Manjrekar



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Turning AI Experiments into Real Enterprise Impact

FOR MOST enterprises, adopting artificial intelligence (AI)—especially Generative AI—to boost productivity and enhance customer experience is no longer optional; it has become a necessity. According to the CIO&Leader State of Enterprise Technology Survey 2025, Generative AI deployments have increased fivefold since 2023, transforming creative processes across domains—from marketing content to software code. By the end of 2025, 30 percent of IT services are expected to be automated.

Yet, despite clear evidence of AI's potential to drive structural disruption, many organizations struggle to move beyond pilots into full-scale production, resulting in widespread experimentation without meaningful enterprise impact.

The challenge lies in ensuring that AI investments evolve into governed, measurable programs rather than isolated experiments. Industry estimates indicate that only about 10 percent of custom enterprise AI tools are successfully moving into production. So, what's going wrong? Why are technology leaders unable to move past AI pilots? Where are the gaps, and what needs to be addressed?

With this in mind, we invited some of the industry's leading CIO practitioners who have not only grappled with these challenges but also demonstrated how to translate AI investments into measurable business outcomes. At our annual conference, they shared candid perspectives on their AI journeys—the hurdles, the breakthroughs, and the opportunities ahead.

In this issue, we bring you the essence of those conversations: practical insights, proven strategies, and real-world experiences that can guide enterprises in moving from experimentation to true transformation.

I invite you to share your reflections and experiences. Write to me at jatinder.singh@9dot9.in ■

"Industry estimates indicate that only about 10 percent of custom enterprise AI tools are successfully moving into production."

Jatinder Singh
Editor
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content September 2025

COVER STORY

10-27
AI Laureates

Insights from the Leaders Defining Enterprise AI's Next Era

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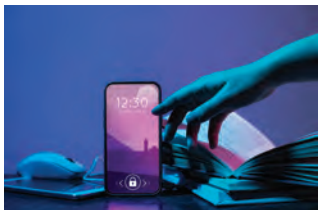

INSIGHT

TECH TALK

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Editor: **Vikas Gupta**

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CIOmovements

Saurabh Dwivedi elevated to CTO at MobiKwik

MobiKwik elevated **Saurabh Dwivedi** as CTO. With two decades' experience across fintech, travel tech, and enterprise systems, he will lead technology vision, scalability, and innovation.

Prakash Dharmani joins Okaya Power as CIO

Prakash Dharmani joins Okaya Power Group as CIO, bringing 30+ years' expertise in IT leadership, digital transformation, AI, IoT, RPA, cybersecurity, and enterprise innovation.

Amit Ray joins Jio Platforms as CIO Advisory & Customer Success Leader

Amit Ray joins Jio Platforms as CIO Advisory & Customer Success Leader, bringing 20+ years' expertise in digital strategy, AI/ML, cloud, automation, cybersecurity, and enterprise innovation.

Gaurav Bhalotia joins EY as CTO – India

Gaurav joins Ernst & Young India as CTO, bringing two decades' expertise in product, engineering, AI, and cloud to drive digital transformation, innovation, and enterprise modernization.

NEXT100 Winner Dr. Nikhil Kumar Nigam appointed CTO at Vivekananda Global University

Dr. Nikhil Kumar Nigam joins Vivekananda Global University as CTO, bringing 20+ years' expertise in IT strategy, digital transformation, and education technology leadership across leading institutions.

NEXT100 Winner Manoj Kumar takes over as CIO at Metal Recycling Industries

NEXT100 awardee **Manoj Kumar** joins Metal Recycling Industries as CIO, bringing three decades' expertise in IT strategy, ERP, AI/ML, IoT, and global digital transformation leadership.

Venkatesh Babu S appointed as CTO at N. Ranga Rao & Sons (NRRS)

Venkatesh Babu S joins N. Ranga Rao & Sons as CTO, bringing 20+ years' expertise in IT strategy, ERP, and retail technology innovation to drive digital transformation.

NEXT100 Winner Tarun Kapoor takes over as SVP – IT (CIO) at Akums Drugs & Pharmaceuticals

Tarun Kapoor, NEXT100 Winner, joins Akums Drugs & Pharmaceuticals as SVP–IT (CIO), bringing 20+ years' expertise in digital transformation, AI, cybersecurity, and enterprise IT leadership.

Kundan Zamvar joins Systematix Group as CIO

Kundan Zamvar joins Systematix Group as CIO, bringing 20+ years' expertise in cybersecurity, IT governance, compliance, and digital risk management across BFSI, capital markets, and enterprise technology.

Balkrishna Shankwalker joins NCDEX as CTO

Balkrishna Shankwalker joins NCDEX as CTO, bringing 25+ years' expertise in IT infrastructure, cloud, scalability, and regulatory technology leadership to drive digital transformation and platform resilience.

Ashish Mittal elevated to CTO at TATA AIG General Insurance

Ashish Mittal was promoted to CTO at TATA AIG, bringing 20+ years' expertise in digital transformation, insurance technology, product development, and scalable platforms to drive innovation and growth.

Subhakar Rudra appointed CTO at SPML Infra

Subhakar Rudra joins SPML Infra as CTO, bringing 25+ years' expertise in IT strategy, ERP, digital transformation, and cybersecurity to drive innovation, efficiency, and resilience.

Sandiip Kothaari starts new role as CTO at Shrimuktai Mart

Sandiip Kothaari appointed CTO at Shrimuktai Mart, bringing 30+ years' expertise in IT strategy, ERP, AI, and digital transformation to drive growth, e-commerce, and IPO readiness.

Rajiv Kumar takes on the role of CTO, ITES at Microsoft

Rajiv Kumar appointed CTO, ITES at Microsoft, bringing 20+ years' expertise in cloud, AI, and enterprise strategy to drive AI-first transformation, innovation, and customer value.

Jai Daga joins SIES Group as CTO (Director – IT)

Jai Daga joins SIES Group as CTO & Director–IT, bringing 20+ years' expertise in digital transformation, cloud, AI, and academic innovation to drive tech-enabled education.

AI Agents to Transform 40% of Enterprise Apps: Gartner

A tech research firm forecasts a dramatic shift from basic AI assistants to autonomous, task-specific agents within two year

By **Jagrati Rakheja** | jagrati.rakheja@9dot9.in

ENTERPRISE SOFTWARE is set for major transformation as AI agents move from simple assistance to autonomous task execution, according to Gartner.

The firm predicts 40% of enterprise apps will integrate task-specific AI agents by 2026, up from less than 5% today. This marks a shift from AI tools that support workers to systems that collaborate autonomously.

Revenue Impact Could Reach $450 Billion

By 2035, Gartner expects agentic AI to drive 30% of enterprise software revenue over $450 billion, compared to just 2% in 2025.

"AI agents are evolving rapidly, progressing from basic assistants today to task-specific agents by 2026," said Anushree Verma, Senior Director Analyst at Gartner, noting multiagent ecosystems will emerge by 2029.

Critical Window for Strategic Planning

Companies have just three to six months to craft strategies, Gartner warns, or risk falling behind. By 2025 nearly all enterprise apps will feature embedded AI assistants, advancing to collaborative agent systems by 2027.

Future Workforce Implications

By 2029, at least 50% of knowledge workers will need new skills to manage and create AI agents. By 2028, one-third of user experiences may shift from traditional applications to AI-powered front ends.

Governance Challenges Ahead

As AI agents act independently, security and governance will be critical. Verma stressed the need for "strong security and governance" as agents begin executing tasks without human involvement.

The evolution from assistants to autonomous agents is among the most significant technological shifts for enterprises, with early adopters poised to gain an edge. ■

GenAI Smartphone Spending to Reach $298 Billion by 2025: Gartner

Global spending on GenAI smartphones will reach $298.2 billion by 2025, making up 20% of total AI end-user spend, Gartner reports

By **Musharrat Shahin** | musharrat.shahin@9dot9.in

WORLDWIDE END-USER spending on generative AI (GenAI) smartphones is forecast to hit $298.2 billion by the end of 2025, according to new estimates from Gartner.

According to Gartner report, worldwide end-user spending on generative AI (GenAI) smartphones is forecast to hit $298.2 billion by the end of 2025. The figure would represent 20% of total global AI end-user spending next year

GenAI smartphones are defined as devices equipped with a neural engine or neural processing unit (NPU) capable of running small language models. The category includes both premium and basic smartphones, though utility devices are excluded as they are not expected to adopt NPU capabilities.

"Currently, most users still rely on text or touch for tasks, and voice interactions remain limited. But as conversational AI becomes more natural, users will view AI less as a tool and more as a proactive companion," said Ranjit Atwal, Senior Director Analyst at Gartner

The report highlights the growing integration of on-device GenAI models by mobile vendors. Spending on these devices is projected to climb further to $393.3 billion in 2026, up 32% from 2025. Gartner expects that all premium smartphones will incorporate GenAI capabilities by 2029.

Performance gains in NPUs are central to this trend. Gartner forecasts that in 2025, nearly all premium GenAI smartphones will feature NPUs, alongside 41% of basic devices. By 2027, premium smartphones are expected to standardize NPU performance exceeding 40 tera operations per second (TOPS), enabling complex multimodal AI workloads in real time without straining power consumption.

The expansion of GenAI smartphones is expected to accelerate hardware upgrades as users seek devices optimized for AI-driven experiences. Gartner emphasized that the widespread use of NPUs will make GenAI models faster and more efficient, strengthening their role in everyday mobile interactions. ■

60% of Organisations Expect AI to Act as a Colleague Within a Year

Capgemini's latest report shows generative AI is scaling rapidly, with nearly 6 in 10 organisations set to use AI

By **CIO&Leader** | editor@cioandleader.com

GENERATIVE AI is moving swiftly into the mainstream, with enterprise adoption and investment accelerating sharply, according to Capgemini Research Institute's 2025 report, Harnessing the value of AI: Unlocking scalable advantage. Nearly 60% of organizations expect AI to act as a team member or supervisor within the next year, up from 44% today. Yet, two-thirds admit they must restructure teams to enable effective human-AI collaboration.

Adoption Scales at Record Pace

The survey finds adoption scaling quickly: 30% of enterprises are now fully or partially scaling GenAI, compared with just 6% in 2023. By 2025, 93% of organizations will be exploring, piloting, or enabling GenAI capabilities. Telecom, consumer products, and aerospace are leading adoption, with functions like customer operations, marketing, risk management, and IT at the forefront.

Investment Accelerates Despite Cost Shocks

In the past year, 88% of enterprises increased GenAI spending by an average of 9%, with 12% of IT budgets now dedicated to it. Still, over half report unexpected "bill shocks" from rising cloud consumption, fueling interest in small language models for efficiency.

AI Agents and Governance Gaps

AI agents are gaining traction, with most executives expecting them to handle at least one business process within 3–5 years. Multi-agent systems are emerging too, though trust remains a hurdle: 71% of firms say they are not ready to rely fully on autonomous AI agents, and only 46% have governance policies in place.

The Road Ahead

Capgemini concludes that success will depend on strong data foundations, trusted governance, and balanced human-AI operating models. ■

Next-Gen GST Reforms: A Simpler, Citizen-Centric Tax Framework

India's new GST reforms slash rates on essentials, healthcare, and EVs, replacing the old four-tier system

By **Jagrati Rakheja** | jagrati.rakheja@9dot9.in

THE 56TH GST Council meeting has delivered what many consider the most significant tax reform since the launch of GST in 2017. From making insurance more affordable to reducing costs on everyday items, these changes promise to reshape India's economic landscape, putting more money back in citizens' pockets.

Next-Gen GST Reforms: A Simpler, Citizen-Centric Framework

India's complex four-tier GST system is being simplified into three clear slabs: 5% for essentials, 18% for standard items, and 40% for luxury or harmful goods. This overhaul eliminates confusion for businesses and consumers alike.

Relief for Healthcare and Insurance

Health insurance premiums, including family and senior citizen plans, will now be taxed at just 5% instead of 18%, while life insurance becomes GST-free. Essential medicines also see major relief: 33 lifesaving drugs are exempt, and others drop from 12% to 5%. Lower rates on medical devices will further cut healthcare costs.

Everyday Essentials Made Affordable

Kitchen staples like paneer, UHT milk, and Indian breads are GST-free, while chocolates, noodles, sauces, and cornflakes fall to 5%. Household basics such as soap, shampoo, toothpaste, and bicycles now carry half their previous tax.

Electric Vehicles Get a Major Boost

The reforms include a game-changing decision for India's electric vehicle sector. "The government's decision to keep all EVs—whether mass market or luxury SUVs—under the 5% GST slab without any additional cess is a progressive step that will have a significant impact on adoption," said Vasudha Madhavan, Founder & CEO of Ostara Advisors.

This uniform treatment removes tax disparities between different EV segments. "By removing the tax disparity between smaller EVs and larger SUV models, the policy creates a level playing field, improves affordability, and encourages greater consumer choice," Madhavan explained. "It signals India's intent to make EVs mainstream rather than niche."

A Milestone in India's Economic Journey

"The GST reform is not just a tax update; it is a milestone since 2017," said Varun Gupta, Co-Founder of GOBOULT. For citizens, it means lower costs on essentials, healthcare, and green mobility; an inclusive step toward economic progress.

Most changes take effect from September 22, 2025, perfectly timed for the festive season. However, tobacco products will continue to maintain higher rates until compensation obligations are fully met, demonstrating the government's balanced approach to reform and fiscal responsibility. ■

AI LAUREATES

Insights from the Leaders Defining Enterprise AI's Next Era

By **CIO&Leader** | editor@cioandleader.com

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Chief Digital Officer
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THE ENTERPRISE technology landscape has entered a defining decade—one where artificial intelligence (AI) and, more recently, generative AI (GenAI) are no longer distant promises but boardroom imperatives. For CIOs, this shift presents a paradox. On the one hand, AI offers a once-in-a-generation opportunity to reimagine enterprises—how they operate, innovate, and deliver value. On the other, it demands a level of stewardship, strategy, and foresight unmatched by any prior wave of technology adoption.

"It is in this context that CIO&Leader's 26th Annual Conference gathered over 200 CIOs and digital leaders under one roof to deliberate on the theme AI: From Pilot to Production. At the heart of this dialogue was CIO Shots, a TED Talk–like platform designed to capture the lived experiences, strategies, and forward-looking visions of India's most influential CIOs. CIO Shots is a rapid yet insightful series of talks where leaders distill their perspectives into sharp, thought-provoking narratives.

In 2025, the conversations revolved around AI's practical adoption across enterprises: its opportunities, pitfalls, governance imperatives, and the transformative power it holds when applied with clarity of purpose. These sessions were not abstract futurism. Instead, they were grounded in the real-world challenges CIOs navigate daily. Mahindra Group's journey, for instance, illustrates how experiments on the shop floor can be transformed into enterprise value. Pharma leaders candidly examined what it takes to balance innovation with responsibility in highly regulated environments. Global players like ECU Worldwide shared how they are blending cloud, data, and people to build continuity across borders.

AI Laureates celebrates CIOs not just as technology adopters, but as builders of the future.

From Hype to Stewardship

The voices collected in this edition underscore a common theme: AI is not a plug-and-play tool but a strategic capability that demands guardrails. CIOs emphasized that beyond experimenting with proofs of concept, the true test lies in embedding AI into core business processes, ensuring explainability, safeguarding data, and establishing governance models that inspire trust among regulators, employees, and customers alike.

Some leaders argued that it is time to rethink AI as an operating model—not just a tool. Others highlighted how agentic AI is moving beyond hype to hard results, with use cases that directly influence productivity and decision-making. In manufacturing, CIOs showed how the convergence of IT, OT, and AI is rewiring India's industrial backbone. And almost unanimously, leaders warned: AI's promise may be clear, but the business impact remains the real test.

In this month's cover story, we feature several of these CIO talks, expanded into in-depth articles that highlight their unique perspectives and enterprise journeys.

As you turn the pages that follow, you will find perspectives that are diverse yet complementary. Each CIO brings a different lens—rooted in sectoral realities, organizational culture, and strategic priorities. But woven together, these narratives form a rich tapestry of thought leadership that will guide enterprises navigating the AI era.

We call these leaders AI Laureates—a term that reflects the pioneering spirit of CIOs who are not merely adopters of technology but architects of the future enterprise. Much like laureates in science or the arts, these leaders are recognized not only for their knowledge but for their courage to experiment, their willingness to learn from failure, and their commitment to shaping intelligent, responsible, and human-centric enterprises.

At CIO&Leader, we will continue to bring you fresh perspectives. And we invite you—our readers—to share your stories as well, as we collectively chart the next chapter of the AI revolution. ■

From Shop Floor to Showroom: Mahindra's Experiments in Action

When I walked onto the stage at the 26th Annual CIO&Leader Conference, I carried a clear message: AI isn't just another technology wave, it's a strategic inflection point.

By **Bhuwan Lodha** | editor@cioandleader.com

AS A group with interests in automobiles, farm equipment, finance, IT, hospitality, energy, and logistics, we institutionalized AI through a dedicated entity, Mahindra.ai. We aim to make AI a strategic lever across every business, from the shop floor to the boardroom, while ensuring governance, ethics, and responsibility remain at the core.

Building, Not Buying AI

At the heart of this strategy is my conviction that AI must be developed, not merely acquired. The real value lies in combining AI with enterprise data, rather than public datasets available to everyone. To achieve this, we are focused on building reusable AI assets, nurturing future-ready talent, reducing adoption barriers across functions, and centralizing governance so that AI is always deployed ethically, securely, and responsibly.

Reinventing Manufacturing

AI is already creating a measurable impact in our automotive business. Manufacturing has been redefined by four pillars: Energy.AI for reducing energy per vehicle, Agility.AI for dynamically adapting to supply and demand shocks, Uptime.AI for proactive maintenance, and Quality.AI for computer vision–based quality checks.

Transforming Customer Experiences

Customer-facing processes are also being reshaped. Our WhatsApp-based AI bots for the XUV700 guide buyers through features, test drives, and dealer visits, something a call center agent would struggle to deliver seamlessly. Generative AI is enabling personalized engagement, such as customer selfies transformed into branded vehicle images. Sales consultants now rely on automatic conversation summaries that help them recall customer interactions instantly.

> **"The real unlock of AI will not come from public data but from harnessing enterprise data to serve customers better"**
>
> **—Bhuwan Lodha**
> CEO of Mahindra's AI Division

Vehicle manuals have been reimagined as conversational "vehicle GPTs" embedded in apps, while service technicians use AI copilots for step-by-step repair guidance in their preferred language. Even vehicle inspections have gone digital, with AI-powered cameras detecting dents and scratches more accurately, improving trust and unlocking new revenue opportunities for dealers.

Beyond Automobiles

Our AI story extends well beyond cars. Mahindra Finance has integrated AI-powered bots into its app to serve rural customers across multiple Indian languages, already engaging more than 100,000 users. At Mahindra Holidays resorts, AI-enabled facial recognition technology enables seamless pre-check-ins, allowing guests to bypass paperwork and proceed directly to their rooms.

Empowering Employees With GenAI

Internally, we have democratized AI for employees through a secure "model garden" sandbox, which provides access to models such as Gemini, GPT, and LLaMA. This ensures that everyone, from factory operators to CXOs, can leverage GenAI safely with enterprise data while remaining compliant with security norms.

Governance at the Core

Governance remains central to our approach. We define our AI principles around being ethical, responsible, and secure. This translates into clear boundaries: for instance, humans always handle roadside assistance calls, while bots handle routine dealership queries. For us, responsible deployment is as important as innovation itself.

Lessons from the Journey

Reflecting on our AI journey, I see five key lessons. AI is a build-first journey, not a plug-and-play purchase. It is expensive, requiring investments in talent, compute, and integration, making prioritization critical. It is inherently cross-functional, demanding collaboration between IT, business, and risk leaders. It cannot be treated as just another project but must be embedded into the company's strategic fabric. And above all, it must show ROI, whether in customer experience, topline growth, or operational efficiency.

The Road Ahead

For us at Mahindra, AI is not a buzzword. It is a future-defining capability already delivering tangible results. The real unlock of AI will not come from public data but from harnessing enterprise data to serve customers better and transform processes from within. ■

Real-World AI in Pharma: Balancing Innovation with Responsibility

At the 26th Annual CIO & Leader Conference, I spoke about the unique challenge of integrating Artificial Intelligence into the pharmaceutical industry.

By **Chitti Babu** | editor@cioandleader.com

ARTIFICIAL INTELLIGENCE is reshaping the pharmaceutical industry, but in a tightly regulated sector, innovation must always be balanced with compliance and patient safety. Every innovation must pass through the lens of the FDA and global regulatory compliance.

At Aurobindo Pharma, we are one of the world's leading generic pharmaceutical companies, operating in over 150 countries, and a major provider of generic medicines. Unlike innovative drug makers, we focus on affordable generics. This makes efficiency, compliance, and consistency central to our AI journey. I also highlighted our IT backbone, which is built entirely on Oracle systems and has data centers in Hyderabad and New Jersey. While we use cloud tools for value-added solutions, our core systems remain on-premises to protect intellectual property.

Drug Discovery: The Slow Path Speeds Up

Drug discovery typically takes 10 to 15 years, and early AI efforts have not significantly shortened this timeframe, with some projects still taking more than a decade. With large language models, however, timelines are beginning to shrink.

That said, today's AI is still narrow and pattern-based, dependent on training data and GPU-heavy models. Any deviation from established patterns can be risky in the pharmaceutical industry. Human scientists remain irreplaceable.

Clinical Trials: From Weeks to Days

Clinical trials remain the biggest bottleneck. Traditionally, modeling how a drug interacts with the body could take 29 days. With AI, this is expected to reduce to just a few days, saving significant scientific effort while maintaining compliance.

Looking ahead, I see AI-powered simulated clinical studies as a significant opportunity. These simulations could further reduce trial timelines while adhering to regulatory standards.

> **"The future of the pharmaceutical industry lies at the intersection of AI, blockchain, and quantum computing."**
>
> **— Chitti Babu**
> CIO of Aurobindo Pharma

Manufacturing and Supply Chain: Lessons from COVID

The pandemic exposed severe supply chain vulnerabilities. To address these challenges, we utilized Meta's Prophet model, achieving 90% forecast accuracy even in dynamic, tender-based markets.

On the manufacturing side, AI now helps define optimal parameters for a "golden batch," such as blending speed and temperature, that ensure consistent quality and safety. In the future, AI could directly control manufacturing equipment to ensure these standards are maintained.

Guardrails: Ethics and Security

Hallucinations and bias in AI can have serious consequences for patient health. That is why I have called for bias audits and stress audits in addition to FDA inspections.

I also see blockchain as a tool for tamper-proof quality records, and quantum computing as both an opportunity and a risk. It could accelerate discovery but also break current encryption standards, creating cybersecurity challenges.

The Call to Responsibility

The future of the pharmaceutical industry lies at the intersection of AI, blockchain, and quantum computing. However, our industry will continue to prioritize on-premise systems to safeguard sensitive data.

For the pharmaceutical industry, AI is not just about faster processes; it is about ensuring trust, accountability, and patient safety. ■

Why Leaders Must Rethink AI as an Operating Model, Not Just a Tool

In my keynote as CDO at Tata AutoComp, I emphasised that AI is about reimagining models and leadership for a future driven by autonomous machines.

By **Vinod Bhat** | editor@cioandleader.com

IN THE race to embrace artificial intelligence, businesses worldwide are pursuing what appears to be a trillion-dollar opportunity. Investments are surging, expectations are soaring, and boardrooms are abuzz with pressure to "implement AI now." Yet beneath the glossy narratives lies a sobering reality: most digital transformation initiatives fail. Gartner estimates that fewer than half of digital projects deliver value, while McKinsey warns that nearly 70% fail to achieve impact.

This uncomfortable truth framed my keynote. I cautioned leaders against unthinkingly riding the AI wave without a clear strategy. The challenge is not whether AI has potential; it undeniably does. The question is whether enterprises are equipped to navigate what I call the "digital ocean," where risks, governance issues, and organizational inertia can quickly sink initiatives. My central message was clear: the AI age is not about automating yesterday's processes, but about reimagining entirely new operating models that can survive and thrive in an era of relentless change.

The Harsh Truth About Digital Transformation

Despite the momentum, research paints a grim picture: less than half of digital initiatives succeed, and according to McKinsey, 70% of transformations fail outright. I emphasized that many leaders rush into AI without grounding their efforts in real business value. Boards demand quick wins, yet overlook the systemic shifts AI requires. There is a fear of failure, and leaders are being pushed into a digital ocean without floaters.

Floating in the Digital Ocean: The "FLOAT" Framework

To help leaders navigate this turbulence, I introduced my FLOAT framework, which encompasses Funding, Leadership, Organization, Adoption, and Technology. No AI initiative can succeed without CFO sponsorship, top-down leadership commitment, organization-wide impact, user adoption, and robust technological backing. Without these "floaters," projects risk sinking under the weight of unrealistic expectations.

"In my keynote as CDO at Tata AutoComp, I emphasised that AI is about reimagining models and leadership for a future driven by autonomous machines."

—Vinod Bhat
CDO at Tata Auto Comp Systems

Manufacturing's Lights-Out Future

I spotlighted how AI is redefining the manufacturing sector. From microfactories that enable flexible production to gigafactories powered by IoT and sensors, the industry is moving toward "lights-out factories"-facilities that operate 24/7 with minimal or no human presence. AI-driven systems now monitor batteries, optimize supply chains, inspect products through computer vision, and even design workflows. The shift is not just about efficiency, but about reinventing how industries operate. Risks, Governance, and the New Economy of Bots

With opportunity comes risk. I emphasized the critical role of AI governance, ethics, and compliance, stressing that organizations must prepare for auditability, mitigate bias, and ensure human oversight. At the same time, I forecasted a radical new economy where "bots will have budgets and content becomes currency." In this emerging landscape, revenue-generating bots may receive larger budgets than support bots, reshaping how businesses allocate resources.

The Call to Action

I closed with a clear message: leaders must educate themselves and their boards, adopt responsible governance, and reimagine AI as an operating model rather than a collection of isolated projects. Success comes from incremental value, strong ethical foundations, and the courage to rethink the way business is done.

AI is no longer about pilots and proofs of concept; it is about transforming industries, redefining leadership, and preparing for a world where the lights may be out, but the machines never stop working. ■

How ECU Worldwide Blends Cloud, Data, and People for Continuity

Resilience isn't a buzzword; it's built into our system. By blending cloud, data, and empowered people, we build a supply chain backbone ready for any disruption.

By **Rajneesh Garg** | editor@cioandleader.com

WHEN SUPPLY chains stumble, the losses are staggering. the lesson is clear: resilience cannot be an afterthought; it must be built into the system itself. From consolidating multiple data centers down to six, to rolling out Microsoft Dynamics 365 in 80+ countries, to empowering a new generation of developers, Garg is re-engineering how a lean global operation spanning 180 countries and 2,800 trade lanes stays steady in the face of disruption. His keynote was less about lofty slogans and more about pragmatic fixes, summed up in his mantra: 'Predict early, prevent with precautions, and then perform to Excel'.

"Enabling your people, getting your data right, and keeping infrastructure robust on the cloud makes life easier. Resilience isn't a buzzword for us, it's inbuilt."

The Three Pillars of Resilience – For me, resilience rests on three foundations: people, data, and infrastructure.

People First

At ECU, we invested in shared services teams for infrastructure, data architecture, and digital tech. At the core of this effort are young Gen Z developers, trained in Python and React. We strengthened their readiness through mandatory certifications, incentives, and recognition programs. We created a culture where training is rewarded, and resilience becomes second nature.

Data Standardization

To address long-standing inefficiencies, we implemented Microsoft Dynamics 365 across more than 80 of our key country entities. This enabled greater financial standardization in F&O, along with HR consistency and enablement by resolving issues like global HR recruitment and performance management. Our modernization also brought transparency to critical supply chain data, including arrival and departure times, and improved visibility through track-and-trace systems.

Infrastructure Consolidation

Perhaps our boldest move was reducing multiple data centers to just six, aligned with key geographies such as APAC, Europe, Asia, the US, and Latin America. Today, more than 85% of our workloads run on the cloud, spread across AWS and Microsoft Azure. While we once aimed for a single vendor, we realized the need to rethink cloud economics and prepare for a multi-vendor future.

Predict, Prevent, Perform

Disruptions in logistics are costly. Even a 4% loss in operations translates into massive financial setbacks. My resilience mantra is simple: predict early, prevent with precautions, and then perform. We build continuity into our daily operations rather than reacting after crises.

This approach goes beyond technology. By standardizing corporate functions such as finance and HR, we ensure visibility, consistency, and efficiency across ECU's global footprint.

"Enabling your people, getting your data right, and keeping infrastructure robust on the cloud makes life easier. Resilience isn't a buzzword for us, it's inbuilt."

—Rajneesh Garg
CIO of ECU Worldwide Limited (Allcargo Group)

AI and the Road to Modernization

While I remain cautious about hype and hallucinations, I recognize AI's role in supply chain visibility and reporting. We have started deploying AI-powered dashboards and modernizing our custom ERP systems to ensure accuracy in mission-critical processes. A few AI-driven projects are already live, selected from many identified use cases, each designed to improve customer experience and operational efficiency.

Resilience as Inbuilt Culture

Resilience cannot be bolted on; it must be inbuilt. From people readiness and data standardization to infrastructure modernization, we are embedding resilience into ECU's DNA. In a business where we do not own assets but facilitate global freight flows, this mindset is not just a strategy- it is continuity. ■

From Pilots to Power Plays: Why Enterprise AI Is No Longer Optional

As Digital and AI Officer (Engineering) at TVS, I have been urging enterprises to move beyond small AI wins and treat it as a core business strategy, emphasizing orchestration of people, processes, and technology.

By **Anand Das** | editor@cioandleader.com

ARTIFICIAL INTELLIGENCE has quickly shifted from a buzzword to a boardroom priority. Yet, most enterprises are still celebrating isolated victories, automating a workflow here and deploying a chatbot there, while a select few are using AI to transform industries and claim market share.

In my keynote, I urged business leaders to move beyond pilots and proofs of concept and to embrace AI as a strategic weapon. My message was simple: companies that win with AI are not those tinkering at the edges but those embedding it into the very fabric of their organizations.

Learning from Global AI Leaders

I highlighted examples that challenge conventional wisdom. Google, once a near-monopoly in search, now faces competition from a start-up called Perplexity that leverages AI to carve out a small but growing slice of the market. In the automotive world, China's BYD has dethroned Volkswagen at home, propelled by its ability to harness AI in design and R&D to bring vehicles to market at unprecedented speed.

These cases show that AI is not just a tool for efficiency; it is a lever for strategic growth. Enterprise AI is intentional. It is strategic. It is not just about buying software and tools; it's about orchestrating people, processes, and technology.

Rethinking the CIO's Role

For traditional enterprises, the most significant shift may not be technological but organizational. I underscored the changing nature of IT roles: solution architects, product managers, and engineers must evolve from designing systems to integrating AI into ecosystems.

CIOs, meanwhile, must ensure that the AI strategy is owned at the C-suite level and tied directly to business objectives. Without this alignment, AI risks becoming a patchwork of disconnected experiments.

Building for Flexibility and Scale

I also warned against over-reliance on a single AI vendor. Instead, I advocate for modular infrastructures that allow enterprises to shift across cloud and AI platforms, such as AWS, Microsoft, or Google Cloud, without disrupting continuity.

Scaling AI requires investment in layered architectures that cover everything from databases and monitoring to governance frameworks, ensuring resilience, managing risks, and delivering a sustainable ROI.

> **"Experimentation is essential: without it, enterprises risk missing the innovations that separate winners from laggards."**
>
> **—Anand Das**
> Digital and AI Officer (Engineering) at TVS

Managing Costs Without Killing Innovation

AI's potential comes with a price tag, and I have been candid about the expense. Success hinges on cost discipline. Choosing the right models, optimizing deployment, and leveraging caching strategies can keep costs in check while preserving the runway for experimentation.

And experimentation is essential: without it, enterprises risk missing the innovations that separate winners from laggards.

The Road Ahead

I closed with a clear call to action: experiment boldly but responsibly, champion sovereign AI for critical use cases, and recognize that enterprise AI is not just about tools, but about orchestrating people, processes, and technology.

In a landscape where many are still celebrating AI's "early wins," my message is clear: the companies that will lead the next decade are those already scaling AI as a market weapon. AI is no longer a side project. It is the strategy.

Enterprise AI is intentional. It is strategic. It is not just about buying software and tools; it's about orchestrating people, processes, and technology. ■

How Agentic AI Moves From Hype To Hard Results

Agentic AI is not another hype cycle but the dawn of goal-driven systems that deliver measurable ROI. The shift is from pilots and prompts to processes and profits.

By **Harnath Babu** | editor@cioandleader.com

WHEN I discuss Agentic AI, I don't describe it as just another wave of hype. For me, the future of enterprise AI is not about writing better prompts; it is about creating systems that understand context, make informed decisions, and act across real business workflows. Agentic AI marks a shift to goal-driven systems that can plan, utilize tools, act autonomously, and continue learning. The promise is not more pilots, it is measurable ROI in consulting, finance, compliance, cyber, and enterprise operations.

What Agentic AI Really Means

Agentic AI is the natural next step after rule-based systems, machine learning, and generative AI. Unlike GenAI, which creates content but waits for prompts, agents are goal-driven. You give them a business objective, and they perceive, reason, act, and learn. They can retrieve context from transactional and vector databases, browse the web or internal systems, and execute actions often without waiting for human input.

As I put it: "You set the goal; the system perceives, reasons, acts, and learns."

Why Now: From Curiosity to CAGR

Adoption of Agentic AI is accelerating across professional services firms in India and globally. Nearly a third of enterprises expect agent-based capabilities to be embedded in their applications, and leading firms are already deploying agent stacks for client engagements. While we may be approaching the peak of the hype cycle, the economics this time are fundamentally different.

> **"Unlike GenAI, which creates content but waits for prompts, agents are goal-driven. You give them a business objective, and they perceive, reason, act, and learn"**
>
> **— Harnath Babu**
> Chief Information Officer at KPMG

Use Cases That Land

Professional services firms are actively implementing Agentic AI across key functions:

- **Consulting:** Agentic engagement managers assist consultants in parsing RFPs, drafting proposals, identifying risks, and triggering downstream actions.
- **Compliance:** Policy bots ingest new regulations and recommend edits to enterprise policies, while risk engines dynamically rescore exposure.
- **Cybersecurity:** Virtual SOC analysts integrate threat intelligence, SIEM logs, and dark web signals to escalate or auto-resolve incidents with human oversight.
- **Enterprise Operations:** Agents manage employee queries, triage IT tickets, and initiate procurement or HR workflows seamlessly across systems.

Build for Outcomes, Not Demos

My message is simple: start with low-friction, high-impact use cases. Define hard KPIs upfront, such as cycle time, cost-to-serve, error rate, and revenue lift, and measure them continuously. If you cannot state the outcome, you cannot defend the investment. Don't reinvent platforms. Experiment quickly with what already exists, scale what works, and avoid bespoke builds that drain momentum.

Foundations First: Data, Guardrails, and Talent

Agents are only as intelligent as the context in which they work. This involves unifying data across silos, ensuring data quality, and monitoring model behavior. Governance is non-negotiable. At KPMG, our Trusted AI Council ensures that privacy, security, and regulatory controls are enforced, always with humans in the loop for sensitive actions. Cyber vigilance is critical as agents browse, fetch services, and execute steps that could be exploited. Talent is another bottleneck, not just for data scientists, but also for product managers who align agent behavior with business value, and engineers who can ship safely at scale.

Rethink the Business, Not Just the Stack

Don't just add AI; rethink your business with it. Agentic AI isn't about sprinkling tools into old workflows; it's about redesigning processes for outcomes like faster collections, quicker policy updates, and shorter resolution times in security.

Enterprises that win will move beyond pilots to measurable profits, pairing rapid experimentation with CFO-grade metrics, treating data and governance as product features, and ensuring humans remain central where stakes are high. The technology is ready. The real test lies in whether operating models and incentives are prepared to unlock its full potential." ■

How IT, OT and AI Are Rewiring India's Manufacturing Backbone

AI is the accelerator of modern manufacturing. By uniting IT, OT, and AI, India can build intelligent, resilient, and sustainable factories of the future.

By **Parna Ghosh** | editor@cioandleader.com

WHEN I discuss artificial intelligence in manufacturing, I don't begin with hype. I often remind people that we started with mainframes, COBOL, Pascal, and Fortran. But the real story today is the triad of IT, OT, and AI, a convergence that is quietly, but powerfully, reshaping Indian manufacturing.

IT–OT integration was already there. AI is the accelerator. It takes business to the next level, enabling sharper decisions, greater competitiveness, and more resilient operations.

The Triad of Transformation

For me, the interplay of Information Technology (IT), Operational Technology (OT), and Artificial Intelligence (AI) is as delicate and powerful as the mythical balance of Brahma, Vishnu, and Maheshwar.

- IT forms the backbone of cloud infrastructure, cybersecurity, ERP, CRM, HR systems, and analytics.
- OT connects the physical world, robotics, sensors, PLCs, and shopfloor automation.
- AI accelerates various applications, including predictive maintenance, real-time analytics, machine learning, and computer vision.

This triad is the true enabler of Industry 4.0, transforming factories from isolated silos into connected, intelligent ecosystems.

Smart Manufacturing in Action

The Indian automotive industry is no longer a bystander in this transformation. We are already deploying AI and IoT pilots across factories, from vision analytics for defect detection to edge computing delivering real-time shop floor insights.

> **"IT–OT integration was already there. AI is the accelerator. It takes business to the next level, enabling sharper decisions, greater competitiveness, and more resilient operations."**
>
> **—Parna Ghosh**
> President and Group CIO, UNO Minda

Traceability, safety, and quality are non-negotiable. Failures on the road must be traced back to suppliers, while AI-powered analytics achieve near 100% defect detection. Edge devices empower workers with live data, enabling faster responses and better decisions.

India is also stepping into the league of "lighthouse factories" recognized by the World Economic Forum, plants where every stage, from sensor input to automated outcomes, is AI-enabled. I summarize this journey in four words: connect, collect, analyze, and realize.

The Shopfloor Challenges

But transformation is never without challenges. Integration is the toughest part. Unifying ERP, CRM, HR, and MES systems into a single seamless platform consumes the majority of the project effort.

Furthermore, external risks loom large. Supply chain shocks, such as China's restriction on exports of rare-earth magnets essential for EV production, can disrupt India's automotive output and threaten festive-season volumes.

Cybersecurity and the Skills Gap

I see two other pressing concerns:

- **Cybersecurity:** Although IT security may be robust, OT security often lags. A breach here is devastating; outsiders could lock down a factory or alter machine specifications. The risk is real, and the stakes are enormous.
- **Skills:** Finding talent in SAP, React, Java, and AI remains one of the industry's most significant challenges. Building AI expertise and OT literacy internally, along with strong change management, is critical to success.

The Road Ahead: Intelligent, Green Factories

Looking forward, sustainability will be as important as efficiency. Just as we have green data centers, we will see green factories as a vital step toward India's 2070 carbon neutrality target.

Generative AI will accelerate design, autonomous plants will redefine production, and flexible systems will ensure resilience in uncertain times. This is what smart truly means in the factory of the future.

Final Word

The IT–OT–AI triad encompasses more than just technology. It is about creating an intelligent, resilient, and sustainable backbone for Indian manufacturing. If we can unite these forces wisely, India will not just participate in Industry 4.0, it will lead it. ■

AI's Promise Is Clear, But Business Impact Remains the Real Test

At the 26th CIO & Leader Annual Conference, Kushe Bahl, Partner at McKinsey & Company, cautioned that while AI dominates boardroom discussions, its proven business impact is still limited.

By **Musharrat Shahin** | musharrat.shahin@9dot9.in

"**WE'VE TALKED** about trillions of dollars of impact. Nobody has seen even a billion yet," Bahl told the audience, pointing that the window to prove AI's value is closing fast.

Excitement Meets Early Skepticism

He compared the current state of AI to the early days of digital transformation. Companies experimented aggressively, deploying dozens of tools, but struggled to prove their effectiveness. AI is following the same curve, only much faster. This year, skepticism has already begun even before companies have realized any real business value. Unlike digital, which took years before doubts emerged, the AI cycle is already showing cracks.

The 10% Rule: Where Impact Lies

Most large enterprises may identify 60 to 70 potential AI use cases. Yet only six or seven of them, around 10% are capable of delivering transformational business impact, such as increasing EBITDA by 5% or more. The rest of the use cases are valuable tools, for saving time or improving workflows, but unlikely to have a significant impact on the financial bottom line. Companies could pursue the 90%, but unless they bet on the more challenging, high-impact use cases, they may not achieve the business impact that boards and investors expect.

Where AI Is Showing Promise

He highlighted functional areas already demonstrating measurable improvements:

- **Sales and Marketing:** AI-driven lead generation and personalization delivering 3–4x better conversion rates.
- **Customer Engagement:** Smarter targeting and content creation driving 4–5x increases in interaction.
- **R&D and Engineering:** Faster time-to-market through simulation and data-driven testing.
- **Customer Support:** AI voice agents are reducing costs by up to 40% in India.
- **Software Development:** Code-generation tools cutting new development costs by 40–50%.

Adoption matters as much as technology. For example, AI-led lead qualification only works if sales teams commit to putting high-quality leads through the system, not low-priority ones.

> **"While data science skills are abundant, what is missing is strong product management, the ability to design AI solutions that truly align with business needs."**
>
> **—Kushe Bahl,**
> Partner & Leader – Digital and AI Practice, McKinsey

Risks, Governance, and Talent

He also pointed to risks of bias, privacy, and hallucinations, noting that AI models often fail not at the edge cases but on the "happy path" in ordinary use. Rigorous testing and training would need to become new core capabilities.

There is also a talent gap. While data science skills are abundant, what is missing is strong product management, the ability to design AI solutions that truly align with business needs. There is disproportionate importance to data science and not enough to product management.

Way forward

In his closing remarks, he said, Stop chasing breadth, and prove depth. If each company can deliver even one transformational case study by the end of the year, it will set benchmarks that the rest of the industry can follow.

AI's future is less about the number of pilots and more about the ability to show business outcomes that boards, CFOs, and shareholders can measure. ■

Enterprise GenAI: Strategy, Oversight & Guardrails

Enterprise GenAI demands governance, strategy, and continuous human-in-the-loop validation.

By **Anil Kuril** | editor@cioandleader.com

Anil Kuril
Chief Information Security Officer & Head – Data Protection Office, Union Bank of India

OUR JOURNEY with AI and GenAI has taught us that expectation management is as critical as the technology itself. In boardroom conversations, there is often a perception that AI is a plug-and-play tool—especially because public GenAI tools like ChatGPT make it appear so effortless. But in a highly regulated environment like ours, the reality is far more complex. As a CIO or CISO, I often find myself explaining why enterprise AI adoption is not as straightforward as it seems. One of the first things we had to clarify— both internally and with stakeholders—was that GenAI is not the same as traditional AI. Classical AI has long existed in banking, powering rule-based systems and analytics. GenAI, however, is non-deterministic, context-driven, and inherently less predictable.

It requires a completely different strategic lens. Before implementation, we established an Innovation Hub to evaluate emerging technologies. An early GenAI experiment revealed unreliable and inconsistent outputs—even in controlled settings—highlighting the need for a more strategic, enterprise-grade approach. We responded by building a structured framework across three parallel tracks:

- **A dedicated Center of Excellence (CoE)**
- **A use case–driven model**
- **A platform-based approach**

Given our regulatory obligations, we intentionally limited GenAI use to internal-facing applications. A key principle of our GenAI adoption is the human-in-the-loop approach, embedded across all workflows to ensure accuracy and accountability. Our field staff use GenAI to address queries related to products, processes, HR, and in some cases, customer interactions. However, every GenAI response is reviewed by a human before action is taken.

"One of the biggest challenges we face is data governance and model auditability. Most organizations still lack robust frameworks to identify and mitigate vulnerabilities in GenAI systems."

We've also embedded an explainability framework, which has helped identify gaps and refine response quality. In the early stages—even with Retrieval-Augmented Generation (RAG)—we saw only around 50% accuracy. But through iterative feedback and improvement, we've increased this to approximately 70–75%. One of the biggest challenges we face is data governance and model auditability. Most organizations still lack robust frameworks to identify and mitigate vulnerabilities in GenAI systems.

While the promise is immense, enterprise GenAI is not the same as personal use. It requires quality data, explainability, human oversight, and a governance structure that aligns not only with business needs, but also with ethical and regulatory standards. ■

—This article is part of the Futurescape 2025 Thought Leadership Book by CIO&Leader, in collaboration with Dynatrace.

Why Is Human Judgment Still Essential in AI-Augmented Services?

The edge isn't artificial. The edge is how we bring human clarity and machine intelligence together with purpose

By **Joy Sharma** | editor@cioandleader.com

IN THe age of automation and algorithmic precision, it's easy to conflate speed with progress. Yet, the fundamental query remains as organizations are speeding up: Who charts the course?

As artificial intelligence cannot determine purpose, it can accelerate decision-making.

In all our ventures, we view artificial intelligence not as a replacement but as an amplifier. It augments intelligence, scales output, and increases velocity. But judgment – real, contextual, human judgment – is what converts that velocity into vision.

AI Amplifies Intelligence, But Humans Define Purpose

Without a doubt, the AI systems of today are remarkable. They produce outputs at scale, identify patterns in milliseconds, and uncover insights more quickly than we ever could. AI can improve and speed up our progress, but it cannot determine our future. That's a tactic.

Strategy is not built on logic alone. It's built on intention. And intention requires context, ethics, long-term thinking, and a sense of impact – all of which originate in human judgment.

Furthermore, strategy is a reflection of values, intent, and long-term vision rather than something that can be created in a spreadsheet. The why will always be our question, even though AI can answer the what, how, and when.

Data Can't Make the Tough Calls

We often treat data like the ultimate truth – as if feeding enough of it into an AI system will magically give us the right answers. But it's not that simple. Data tells us what happened and sometimes what might happen. But it doesn't tell us why it matters or when it's time to challenge the logic.

In high-stakes environments – where regulation, culture, and public perception collide – nuance isn't optional; it's the whole game. AI can identify patterns and bring out insights, but human judgment is necessary to manage trade-offs, reinterpret rules, and take the tough calls.

AI Predicts Outcomes, Humans Understand Consequences

AI can forecast churn, model risk, or identify a market shift. But it doesn't grapple with the impact of those decisions. It doesn't inquire as to whether a behavior strengthens or weakens trust.

Joy Sharma
Founder & CEO
EZ

Human judgment is therefore essential. Long after the dashboards are cleared, we still bear the consequences of our choices in terms of our reputation, ethics, and the law. In business, speed is powerful. But foresight is what protects you.

Human Judgment Enables Adaptive Thinking

Though intelligent, AI has limitations. It operates based on what it has observed and learned. It doesn't rethink, imagine, or challenge the rules. Humans do. When circumstances change or the unexpected occurs, we adjust. We have the ability to question the plan, change course, and proceed with purpose rather than merely reason.

That's leadership, not fallback thinking. Seeing the wider picture rather than merely responding is the goal of adaptive thinking. And that necessitates reading more than just data; it involves reading the impact, the emotion, and the moment.

Humans Safeguard Ethical Boundaries in AI

One thing we must be clear about: AI inherits the bias of its data. These systems mirror the world as it is – not as it should be. If we don't stay intentional, they can quietly reinforce the very gaps we hope to close.

That's why human involvement is essential. We need people who don't just validate outputs but question how they're built. People who ask, What's the impact? Who gains, and who might be excluded?

AI Accelerates Decisions, Humans Shape Outcomes

We talk a lot about decision velocity, how quickly we can move from insight to action. But speed alone isn't strategy. Great decisions demand context, foresight, and intent.

AI can analyze at scale, surface insights instantly, and flag emerging shifts. But it doesn't operate in isolation. Understanding why something matters, how a geopolitical event in one region might impact consumer behavior.

The Future Belongs to Human-AI Synergy, Not Supremacy

The goal of technology has always been to enable us to achieve more, not to replace what makes us human. It's about eliminating uncertainty, cutting down on inefficiencies, and making room for more in-depth, deliberate work. It's not a conflict between humans and machines; rather, it's about creating more intelligent systems that support and enhance one another.

For our global teams, AI is a trusted partner – one that extends our reach, sharpens our decisions, and moves with us at scale. And we know that the systems we're building today will define how businesses lead tomorrow. ■

—Authored By Joy Sharma, Founder & CEO, EZ

From Bricks to Bytes: Digital Maturity in Construction

India's construction sector is expanding swiftly, demanding integrated digital operations and stakeholder expectations

By **Satya Kaliki** | editor@cioandleader.com

INDIA'S CONSTRUCTION industry is entering its most accelerated phase of growth. India's GDP for Q4FY25 surged to 7.4%, and as per data issued by the National Statistics Office, the construction sector led with a 9.4% annual growth. Further, the National Infrastructure Pipeline, public-private development, and a steady push toward urbanisation are raising both the pace and complexity of execution and with that comes shortened project cycles and sharper stakeholder expectations for large-scale delivery with precision.

Meeting this demand consistently is no longer a function of capacity alone. It depends on how tightly technology is embedded into operations across procurement, manufacturing, fulfilment, and post-sales management. This is where digital maturity takes shape.

Moving beyond silos and building in layers

In any large construction or building materials environment, different parts of the business evolve at varying speeds. Sales teams work in market-specific cycles, manufacturing schedules change based on regional demand, inventory conditions shift daily, and finance, operations, and planning must stay aligned.

Digital maturity ensures that alignment without forcing everything into one rigid system. What has worked is building modular plugging into each other, credit checks running automatically when an order is raised, and inventory availability reflecting across fulfilment systems without manual reconciliation. Any change on one end of the chain, be it product specs, site readiness, or payment terms, is absorbed into the system in near real-time. These tech integrations help to remove the lag between intent and action.

Responding to ground conditions

The need for this kind of system-wide clarity has increased with the pace of infrastructure and real estate expansion. Orders today are no longer static, with potential shifts in project timelines, tweaks in product combinations, and restructuring of payment schedules mid-cycle. If the underlying tech can't adapt, every such change becomes an operational issue.

We've seen that frontline predictability improves significantly when systems reflect actual ground conditions. For example, delivery routing that adjusts based on warehouse-level stock, traffic data, and serviceability zones reduces pressure on fulfilment teams. Similarly, credit risk tools that learn from customer behaviour reduce the time taken to approve or reject transactions. These capabilities are not treated as add-ons but are part of the operating logic.

Satya Kaliki
CTO
Infra.Market

Tools that mirror the workflow

There is no point in building digital tools that aren't usable at the edge. Whether it's a dealer in a regional market or a project site manager working with limited connectivity, the tools must work where the action is.

For instance, on-field sales apps that give live product visibility, customer transaction history, fulfilment tracking in one place, and internal planning systems updating figures based on material movement. The common thread is usability, and teams don't need to learn systems, but the systems learn how the teamswork.

That approach has helped us improve adoption rates across internal and external stakeholders. It has also reduced the dependency on manual coordination, which often slows down execution even when the intent is aligned.

From Data to Direction

Data alone doesn't define maturity; what matters is how the system uses it. Platforms have been developed to detect anomalies, recommend dispatch routing changes, and prompt escalation when needed. Each is designed around operational judgement, focusing on flagging actions before delays occur.

Because systems are built to work together, new functionality can be added without reengineering the structure, allowing evolution even as business lines expand across concrete, wood, tiles, and paints.

The construction materials sector is expected to mature through a structured digital progression model fragmented, connected, integrated, smart, and optimised, reflecting how deeply digital systems inform planning, coordination, and execution. Companies can benchmark progress, identify gaps, and prioritise capabilities that drive measurable efficiency. This framework aligns digital investments with real-world impact, moving organisations from isolated initiatives to organisation-wide maturity.

Digital maturity enables consistent orders, faster planning adjustments, and better alignment between sales and operations. It's not the number of tools that matters but the clarity they provide. In a sector where execution is inherently complex, maturity allows teams to focus on delivery rather than chasing updates. Technology's value lies in reducing friction, not visibility. ■

—Authored By Satya Kaliki, CTO, Infra.Market

Rohit Midha
Executive Director-
Enterprise Business, Lenovo

AI is at the Center of Everything, and We are Investing Billions to Prove it!

Rohit Midha, Executive Director of Enterprise Business at Lenovo, on the company's shift from PC maker to AI-driven enterprise partner.

By **Jatinder Singh** | jatinder.singh@9dot9.in

IN TODAY'S rapidly evolving digital world, enterprises are reimagining how technology is deployed, utilized, and scaled. For Lenovo India, the focus extends well beyond its identity as the world's leading PC maker. The company is carving out a larger role as a trusted partner, delivering comprehensive solutions that span devices, infrastructure, services, cybersecurity, and AI.

Driving this strategic shift at Lenovo India is Rohit Midha, the Executive Director of Enterprise Business. He is the driving force behind the company's end-to-end growth and innovation, leveraging AI to unlock opportunities across all business lines. With his extensive experience and previous leadership roles, he has consistently advanced Lenovo's transformation, market share, and client relationships.

In a recent interaction with Jatinder Singh, Editor, CIO & Leader, Midha discussed Lenovo's shift from hardware supplier to trusted solutions partner, the challenges CIOs face in transitioning AI from pilots to production, the importance of consolidation without vendor lock-in, and why sustainability is finally becoming a business imperative.

CIO&Leader: Lenovo has long been associated with PCs. How are you reshaping customer perception and broadening your role in India?

ROHIT MIDHA: Globally, Lenovo is structured into three core business units. First, the Intelligent Devices Group (IDG) encompasses laptops, PCs, tablets, and Motorola devices. Second, the Infrastructure Solutions Group (ISG), which emerged from our IBM x86 acquisition and focuses on data center and server solutions. And third, the Solutions and Services Group (SSG), which is brand-agnostic and works closely with CIOs to deliver business outcomes.

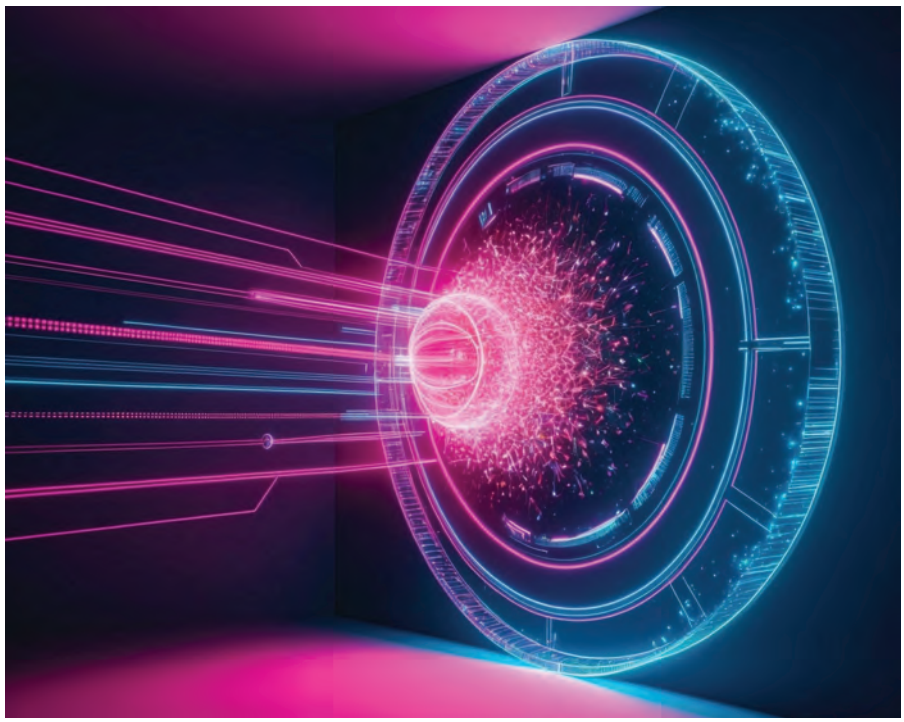
In India, our focus has been to move away from being seen as a hardware supplier to becoming a trusted partner. Despite significant marketing expenditures, many still view Lenovo as a PC company. But today, we work with leading banks, telecoms, and retailers to manage entire technology stacks—often across non-Lenovo devices. For example, for one of India's fastest-growing banks, we manage

uptime for thousands of endpoints, 95% of which are not Lenovo devices. That's the fundamental transformation.

CIO&Leader: How does this shift to services create differentiated value for CIOs, especially in a hybrid and edge computing era?
ROHIT MIDHA: COVID was a big realization point. CIOs quickly saw the need for consolidation in IT lifecycle management. Traditionally, there were multiple vendors—one for imaging, another for deployment, yet another for cybersecurity. However, during the pandemic, the business problem was straightforward: how to deliver ready-to-use devices to employees across India without requiring them to come to the office? We built end-to-end logistics, even customizing packages with HR or CEO letters, SIM cards, or coupons. Later, attrition made reverse logistics equally critical.

These sound trivial, but for CIOs, they became decision points. What consolidation delivers is not just simplicity, but also frees up CIO teams to focus on innovation rather than routine endpoint management. That's why we see CIOs actively seeking partners who can manage scale across geographies—whether it's 300,000 endpoints in retail or first-line L1 support for telecom back offices.

CIO&Leader: While consolidation reduces complexity, CIOs also fear vendor lock-in. How do you balance the one-stop model with multi-vendor flexibility?
ROHIT MIDHA: The risk is actually on us. Services account for 8–10% of our global revenue today, but 90% of our revenue still comes from devices. If we fail to deliver on services, we risk losing multi-million-dollar hardware contracts. Therefore, our skin in the game is higher than that of traditional service providers.



CIOs are actively seeking partners who can manage scale across geographies—whether it's 300,000 endpoints in retail or first-line L1 support for telecom back offices.

Second, our services are designed to be brand-agnostic. In one global SI engagement, we even manage competing operating systems alongside Lenovo devices, including L1 support. CIOs value this flexibility. At the end of the day, they are not looking for a vendor to save Rs. 100 on contract value; they want reliability when the CEO's device goes down.

CIO&Leader: You mentioned AI being the inflection point. How is Lenovo enabling enterprises to move beyond pilots?
ROHIT MIDHA: AI is at the center of everything now. Lenovo is investing not in millions, but billions, in AI. We collaborate with over 60 ISVs to co-develop industry-specific use cases. A BFSI requirement is significantly different from those in the pharma or retail sectors, and that's where partnerships truly matter.

Globally, we've worked on unmanned store concepts, reducing pilferage, and sustainability tracking. In India, we're piloting similar solutions, including with a jewelry retail chain. Our AI-based tool, "LISSA" helps CIOs assess their current position in their greenification journey.

But let me be clear—most enterprises are still in POC mode. A recent study conducted by IDC, which surveyed nearly 1,000 Asia-Pacific CIOs, and another study with Indian CIOs reveal that almost 80% of AI projects are stuck in pilot phases. The challenge is moving to production with clear ROI and responsible AI governance.,

Real differentiator lies in responsible AI – striking the right balance across private, public, and hybrid models

CIO&Leader: Is sustainability still a boardroom talking point, or is it finally shaping real investments?
ROHIT MIDHA: It's definitely moving beyond talk. Four or five years ago, discussions centered on processor, RAM, or screen size. Today, CIOs are asking: How much power does the device consume? We now provide CO_2 offset services, offering devices with certified carbon offsets at the point of purchase.

In Europe, regulations already mandate lifecycle extension for a percentage of devices, and global firms are mirroring that in India. For one large SI, we extended the lifecycle of thousands of devices as part of their international policy. This will soon become a regulation in India as well. Customers are increasingly requesting Decra certifications and CO_2 metrics. Sustainability is no longer "nice to have"; it's becoming business-critical.

CIO&Leader: Where do you see the most significant inflection points for Indian enterprises in the next year?
ROHIT MIDHA: GWithout doubt, the future belongs to AI. But the real differentiator lies in responsible AI—striking the right balance across private, public, and hybrid models. Lenovo is advancing this vision by building AI-ready devices, infrastructure, and services, all backed by proactive monitoring and support.

For instance, instead of waiting for the dreaded "blue screen of death," our AI-driven tools can alert CIOs in advance that specific devices may require memory upgrades or battery replacements, ensuring business continuity and uninterrupted employee productivity.

As Gen Z enters the workforce, the expectation of zero downtime and proactive support is only intensifying. Enterprises that fail to adapt risk losing both talent and productivity. Our role is to equip CIOs with the exemplary architecture and governance frameworks to deliver seamless, resilient experiences at scale.

CIO&Leader: Lenovo operates in 180 markets worldwide, but India's enterprise landscape is distinct. What lessons from your global operations are most relevant to Indian CIOs today?
ROHIT MIDHA: India is at an interesting crossroads. On the one hand, we share the same global challenges: AI adoption, sustainability, hybrid cloud, and cybersecurity. On the other hand, Indian enterprises face scale and diversity that few other markets can match. For instance, delivering a ready-to-use device to a new employee in Chikmangalur or Shillong is very different from shipping in New York.

The lesson from global operations is that while the technology stack may be similar everywhere, execution must be deeply localized. That's why we invest in logistics, lifecycle extension, and region-specific service hubs. The other big takeaway from global experience is the importance of responsible AI. Europe is already setting regulations, and India will likely follow suit.

Our role is to equip CIOs with AI-ready devices, infrastructure, and services, while ensuring that governance, security, and compliance are built in from day one. ■

Balaji Rao
Area Vice President, India & SAARC
Commvault

Why Recovery, Not Just Protection, Defines Enterprise Survival

Balaji Rao, Area Vice President, India & SAARC, Commvault, said India's construction growth demands digital operations with recovery readiness, governance, and for continuity and trust.

By **Jagrati Rakheja** | By jagrati.rakheja@9dot9.in

IN AN era where cyberattacks are faster, more targeted, and increasingly AI-driven, the difference between business survival and collapse lies in one crucial capability: recovery. CIO&Leader spoke with Balaji Rao, Area Vice President, India & SAARC, Commvault, about how enterprises must redefine cyber resilience for today's threat landscape. From the launch of Arlie—Commvault's AI-powered assistant that automates recovery and threat detection—to strategies like "the 'Minimum Viable Company'" approach for continuity, Rao emphasizes that recovery readiness is no longer an IT function but a boardroom priority. He explains why Indian CIOs must embed resilience into growth strategies to thrive in 2025 and beyond.

With dual cloud regions in Mumbai and Hyderabad and deep investments in AI-native infrastructure, Oracle is positioning itself not just as a global cloud provider but one deeply integrated into the Indian ecosystem.

In this exclusive interaction, Palanivel Saravanan, Vice President of Cloud Engineering at Oracle India, shares insights into Oracle's expansion in India, its differentiation in a hyperscaler-dominated market, and how it's enabling enterprises with AI-native solutions, industry-specific services, and future-ready cloud engineering capabilities.

CIO&Leader: How are you leveraging generative AI (e.g., Arlie AI) to bring end-to-end automation in recovery, threat detection, or decision-making for infrastructure teams?

BALAJI RAO: Commvault's Arlie, in short for "Autonomous Resilience," is our round-the-clock AI assistant, designed to deliver actionable insights, helping enterprises save time, swiftly resolve threats, tackle complexities and enhance cyber resiliency.

Arlie is designed to automate IT operations and is natively embedded in our platform, Commvault Cloud. It's available where teams already work – through the console, chatbot, or API workflows. It scales across cloud, on-prem, hybrid, and air-gapped environments without disrupting existing architecture, which means real-time insights, smarter workflows, and fewer errors.

Some of the key capabilities that Arlie delivers are:

- **Real-time operational insights**-Arlie provides real-time visibility into operational

AI in IT needs to be scalable, accurate, adaptive, and designed to be secure.

failures, highlighting what matters most to enterprises.Instead of sorting through countless filters and reports, users receive the most pressing, actionable information directly, enabling faster decision-making and response.

- **"No-code" integration and automation:**Arlie offers a "no-code" experience for building integrations or coding actions. Users simply describe the task they want to perform, and Arlie generates the required code instantly using Commvault APIs, eliminating the need for deep technical expertise.
- **Context-sensitive, guided walkthroughs:** Setting up and customizing Commvault Cloud is made easier with Arlie's context-aware, guided product walkthroughs.Users can ask "how to" questions and receive step-by-step documentation, including annotated screenshots tailored to their environment and task.
- **Advanced troubleshooting and optimization:** Arlie helps identify operational issues and offers real-time fixes along with optimization recommendations.With easy-to-understand resolution summaries and actionable steps, enterprises can resolve problems quickly while strengthening their cyber resilience.

AI in IT needs to be scalable, accurate, adaptive, and designed to be secure – ready to perform under pressure and evolve with complexity. That's exactly what Commvault's Arlie delivers.

CIO&Leader: Ransomware has moved from an IT concern to the boardroom agenda. What are CIOs still underestimating about recovery and continuity planning?

BALAJI RAO: Recovery is often the most underestimated and yet the most crucial component of a cyber resilience strategy. Traditional backup solutions can no longer address today's threat landscape as attackers now compromise data, applications, and configurations, leaving organizations with corrupted restore points.

Inspite of comprehensive planning, we continue to see that organizations are unprepared when it comes to operational complexity of recovery processes. This "preparedness gap" exists largely because recovery planning is typically technology-led rather than business-driven.

What CIOs and CISOs need is to focus on what keeps the business running even when everything else is down. This includes identifying the minimum viable company – a modern approach to disaster recovery that focuses on prioritizing, in advance, the minimum systems, applications, processes, and environments needed to quickly get back to business. Along with MVC, running recovery drills regularly and having the ability to rebuild critical systems in an isolated clean environment is also crucial.

For digital native organizations and startups, even a few hours of disruption in unacceptable. With customer confidence, revenue streams and brand reputation directly dependent on always-on digital services, the ability to recover quickly and keep core services operational has become as critical as protection itself.

Commvault helps enable this through advanced capabilities such as Cleanroom Recovery, Cloud

Rewind and immutable storage so organizations can recover fast and confidently across hybrid and multi cloud environments. These technologies transform recoveries by, in part, helping to not only rapidly recover the data, but recover the cloud applications that power that data. All of this helps digital-native companies stay resilient..

CIO&Leader: Despite massive investments in backup and DR, many CIOs find their actual recovery readiness is poor. Where is the disconnect – in architecture, culture, or testing?

BALAJI RAO: Many organizations only discover gaps in their recovery strategy when faced with a real incident. There's often an assumption that simply having backups and disaster recovery tools in place is enough for business continuity. In reality, that's not the case. Recovering from a natural disaster is very different than recovering from a cyber incident where data is infected.

Following a cyberattack, instead of asking, do we have a backup,' the question that should be asked is 'how quickly can we cleanly recover?'. Without clean, isolated recovery environments and validated restore points, traditional backups can't be fully trusted in the aftermath of an attack.

Just as critical is the culture around recovery. Often recovery planning is seen as a tabletop exercise dedicated to IT rather than a business priority. Conducting regular recovery drills and real-world simulations that bring cross functional IT and security teams together help ensure that processes and decision-making stand firm when it matters most.

Developing a cyber resilient mindset is critical to successful recoveries in this AI and cyber era. Built on the Minimum Viable Company (MVC) model, this mindset emphasizes the ability to maintain critical operations, protect brand reputation, and sustain strategic direction, even in the event of a cyberattack.

Equally important is having the right tools in hand at the time of recovery. For instance, Commvault's Cloud Rewind allows organizations to dynamically rebuild cloud environments from clean copies of data and application images within minutes, rather than relying on pre-created landing zones. This not only accelerates recovery but also ensures the restored environments are up-to-date and free from configuration drift, enhancing both agility and confidence in recovery outcomes.

Ultimately, the ability to continue functioning, even in a limited capacity during an attack, can be the decisive factor between business survival and failure..

CIO&Leader: Shadow IT and cloud sprawl continue to be a challenge. What's your take on the most overlooked risks in decentralized IT ecosystems?

BALAJI RAO: The shift to cloud and SaaS has created highly decentralized IT ecosystems where data and workloads are spread across multiple platforms. In these environments, one of the most overlooked risks is the lack of visibility. When teams adopt services outside central IT governance, critical data often resides in silos with inconsistent security, backup and compliance controls.

Another risk is assuming that cloud providers are responsible for all aspects of protection. The shared responsibility model means that organizations must ensure data resilience, retention and recovery even when applications run on third-party platforms.

Gaps in configuration, access controls and recovery planning often surface only during an outage or cyberattack.These blind spots can then lead to compliance exposure, higher cost of recovery and operational disruption. Addressing them requires stronger alignment between IT and business teams so that shadow IT is brought under a unified governance and resilience framework.

Commvault helps to address these risks by providing a unified platform – Commvault Cloud- that delivers a single pane of glass view for organizational data across all applications, clouds and workloads. It also delivers consistent protection and recovery across on-premises, hybrid and multi cloud environments. With built-in automation, policy-based protection and continuous testing, organizations can eliminate blind spots and strengthen resilience even in distributed IT environments.

CIO&Leader: How can startups view cyber resilience as a growth enabler, rather than just a safeguard?

BALAJI RAO: AI driven attacks are making cyber threats faster, more targeted and harder to predict. Startups often run lean, move fast, and operate entirely on digital platforms, which means that they can't afford prolonged downtime or reputational damage. Resilience becomes the foundation that allows them to recover quickly, maintain continuity, and keep delivering to customers, even under attack.

Embedding resilience from the start not only allows startups to scale confidently but also reduces the risk of downtime, protects intellectual property and strengthens credibility with customers, partners and investors. A strong resilience posture helps open doors to newer markets, especially in regulated industries where security

and compliance are prerequisites for growth.

Commvault Clumio is a cloud native cyber resilience solution built on AWS that enables rapid backup and recovery of Amazon S3 buckets and DynamoDB at petabyte-scale. Advanced capabilities like Cloud Rewind enable application rebuild and rapid roll back to a safe point in time after an attack, while Cleanroom environments provide a secure space to test, recover and validate recovery strategies during good times, helping startups stay prepared for the bad times.

This excellent combination of simplicity, security, and scalability turns resilience for digital natives into a growth enabler, helping them move faster, enter new markets, and build lasting trust with customers.

The focus has shifted to embedding resilience, compliance, and privacy into the way the organisation operates.

CIO&Leader: How should enterprises redefine business continuity amid today's evolving threat landscape?

BALAJI RAO: Today, business continuity needs to evolve beyond static recovery plans. The increasing speed and complexity of threats means continuity now depends on how quickly a business can identify what really matters, protect it, and bring it back online without chaos when an incident happens. This is why instead of just focusing on business continuity, Commvault is focused on helping organizations remain in a state of continuous business.

A key element of continuous business is embracing a Minimum Viable Company (MVC) approach. This approach provides a blueprint for sustaining critical functions under pressure, enabling organizations to operate through disruption and aligning business and IT on what must remain operational to prevent paralysis. We work, with our partners, to help customers think through this and prepare.

Given the pervasive nature of modern IT across hybrid, multi-cloud, and edge environments, it is also important to prepare for future cryptographic threats with post-quantum encryption. Technology on its own is not enough, it is equally important to strengthen readiness across the organization through clearly defined roles, cross functional drills and shared decision making.

CIO&Leader: How are CIOs in India shifting their data protection priorities for 2025?

BALAJI RAO: CIOs in India are moving away from treating data protection as a purely technical exercise. The focus has shifted to embedding resilience, compliance, and privacy into the way the organization operates. With rising cyber threats and the enforcement of the DPDP Act, priorities are expanding beyond backups to include privacy by design, stronger data governance, and clear accountability.

There is a clear emphasis on building zero trust architectures, using automation and AI driven threat detection to help ensure that recovery can be fast, verified, and secure across hybrid and multi cloud environments. CIOs are also making operational readiness a priority, with regular simulations, defined roles and closer alignment between IT, business and compliance teams. This shift reflects a broader recognition that data protection is now a core part of maintaining trust, enabling business continuity, and supporting growth in an increasingly complex digital environment. ■

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