

365

THE 365 CIRCLE: C-SUITE ADVANTAGE

# LEADERSHIP

SPOTLIGHT

A Digital Technology  
Leader Transforming  
Manufacturing &  
Engineering



**CHANDRAMOHAN NATARAJAN**

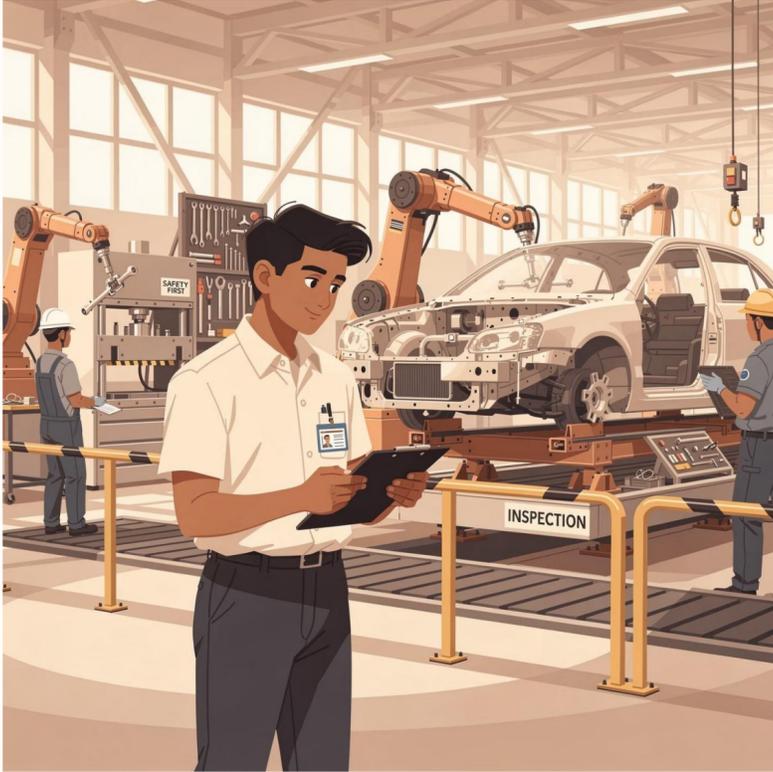
**VICE PRESIDENT**



## From Manufacturing Foundations to Digital Engineering Leadership

Chandru Natarajan is a digital technology and engineering leader shaping the future of manufacturing. While his foundation was built in core manufacturing, his leadership journey has evolved at the intersection of engineering, digital platforms, data, and automation, enabling scalable, technology-led manufacturing and design-for-manufacturing excellence across heavy industries

# Engineering Foundations That Shaped a Digital Mindset



Chandru Natarajan's leadership foundation was built in real-world manufacturing environments, but from the very beginning, his focus extended beyond execution to how engineering, systems, and technology could fundamentally improve manufacturing outcomes.

Early exposure to production lines, tooling, quality systems, and cross-functional collaboration gave him a deep appreciation for design intent, process capability, and operational constraints.

This grounding became the lens through which he would later approach digital manufacturing and engineering transformation.

Rather than viewing manufacturing and technology as separate disciplines, Chandru developed an integrated perspective where engineering design, manufacturing processes, and digital systems work as one ecosystem.

This phase shaped a lasting principle that continues to guide his work today:

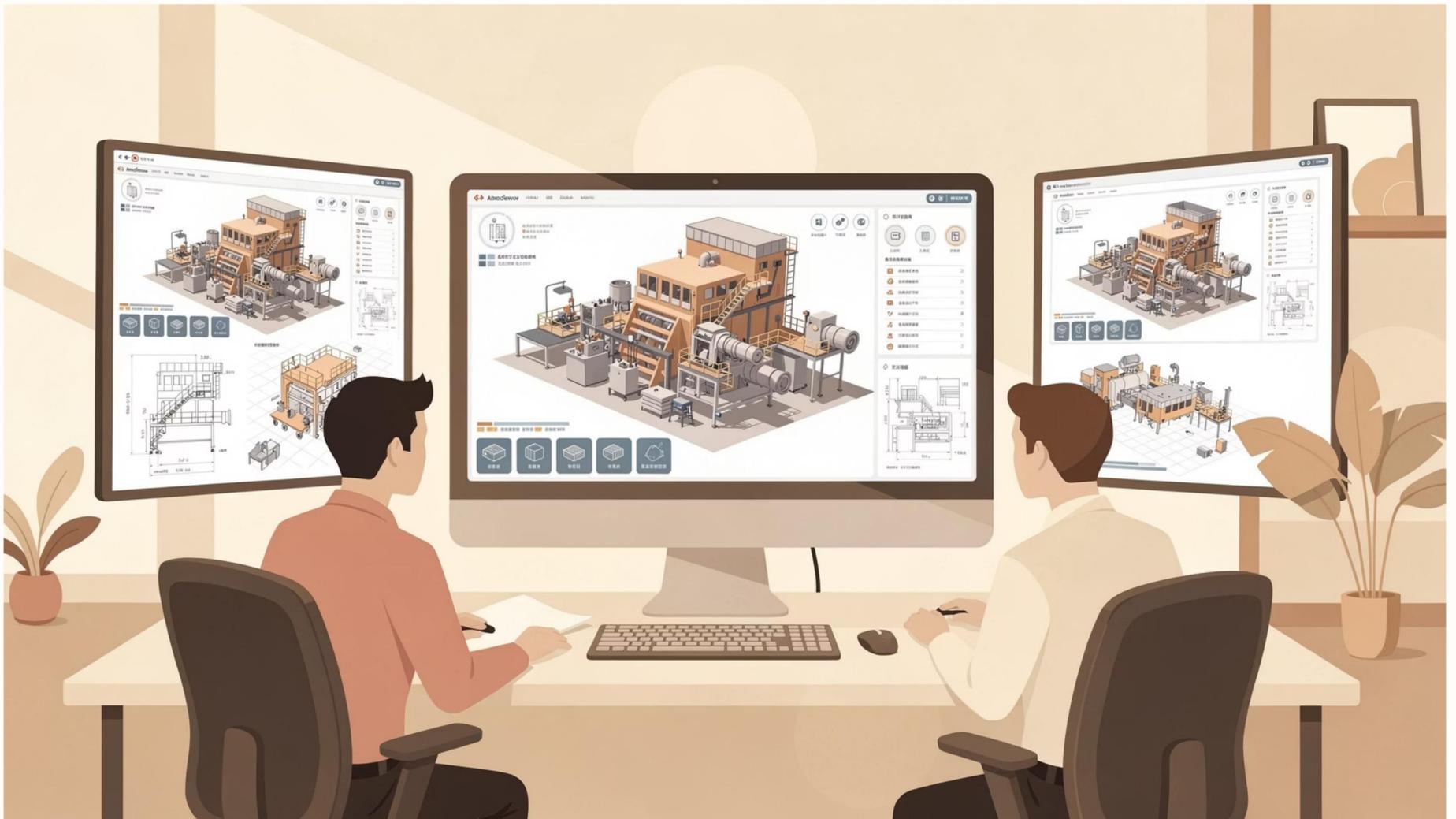
**Technology delivers impact only when it is anchored in manufacturing reality.**

It is this principle that enabled his transition from core manufacturing environments into engineering technology leadership, where digital platforms, data, automation, and design-for-manufacturing practices are applied to solve real, large-scale industrial challenges.

# Where Engineering Met Digital Manufacturing

A pivotal phase in Chandru Natarajan's leadership evolution emerged when engineering design began to merge with advanced digital manufacturing technologies. Working within complex, global industrial environments, he was exposed early to the emerging possibilities of virtual manufacturing, digital twins, and simulation-led engineering to ensure throughput.

This phase marked a shift from reactive problem-solving to anticipating challenges digitally before physical products or processes were built. By integrating product design, manufacturing process planning, and plant-level constraints into unified digital models, engineering decisions became faster, more accurate, and significantly more cost-effective.



At scale, these initiatives focused on:

- Reducing time-to-market through virtual validation
- Optimizing cost and quality through early design decisions
- Aligning product, process, people, and plant through digital platforms

This experience shaped a defining belief that continues to guide his leadership:

Digital manufacturing is not a tool, it is a strategic capability that determines how efficiently ideas become industrial reality.

Operating across diverse global manufacturing environments further strengthened his conviction that technology-led engineering must remain grounded in real-world manufacturing conditions, enabling consistency, scalability, and performance across geographies.

# The Bold Move: From OEM to Services

After building deep experience within OEM-driven manufacturing environments, Chandru made a deliberate shift to engineering and technology services, seeking broader exposure to diverse customer challenges, operating models, and industry contexts.

This transition significantly expanded his leadership scope, moving from single-enterprise optimization to solving complex engineering and manufacturing problems across multiple clients, industries, and geographies.

## 600+

### Global Team

Professionals managed across virtual manufacturing, tool design, NC programming, robotics, and industrial engineering

## \$40+M

### P&L Responsibility

Managing operations across transportation, industrial products, and medical domains

## 65+

### Global Customers

Diverse client base spanning multiple industries and geographies

**Depth builds expertise. Breadth builds perspective. Solving problems across industries sharpens how technology is applied at scale**

This phase proved pivotal. It accelerated his digital leadership, strengthened his ability to translate technology into business outcomes, and reinforced a core belief:

**Digital engineering delivers impact only when it is adaptable across contexts, customers, and operating models.**



# Driving Digital Transformation at Scale

A defining chapter in Chandru Natarajan's leadership was driving large-scale digital transformation within a complex manufacturing enterprise, spanning multi-plant operations, extensive dealer networks, and highly diversified product portfolios.

He spearheaded digital transformation across manufacturing operations and a comprehensive channel partner ecosystem, supporting an expansive product portfolio.

The mandate extended beyond digitization to end-to-end business integration.

He orchestrated the deployment of a dealer- and channel-management platform tailored to industry-specific nuances, enabling real-time visibility and operational control at scale.

An integrated business planning framework connected demand forecasting with procurement, manufacturing, dispatch, and inventory planning, bringing alignment across the entire value chain.

On the factory floor, plant efficiency monitoring systems powered by edge analytics delivered real-time operational insights, while an integrated MES with IoT platforms transformed how manufacturing performance was tracked, analyzed, and optimized.

He also initiated a pilot to harness AI-based analytics and layered data models to minimize design iteration loops and accelerate development timelines.

Rather than replacing engineers, the focus remained on augmenting human capability, using AI and LLM models to enable faster, more informed design choices and improved decision quality.

"AI delivers value when it empowers engineers with better insights, not when it attempts to replace them."



# The AI Philosophy: Upskilling, Not Downsizing

In an era where AI is often framed around job displacement, Chandru presents a fundamentally different leadership perspective. He believes the real value of AI lies in strengthening human capability rather than reducing headcount. For him, technology is a force multiplier when it is used to elevate people, not replace them.

“If India wants to be among the top five nations globally, we cannot follow the traditional path,” he emphasizes. “With the same workforce, but armed with knowledge of the latest technologies and diversified across industries, we can compress our development timeline from two generations to just seven years.”



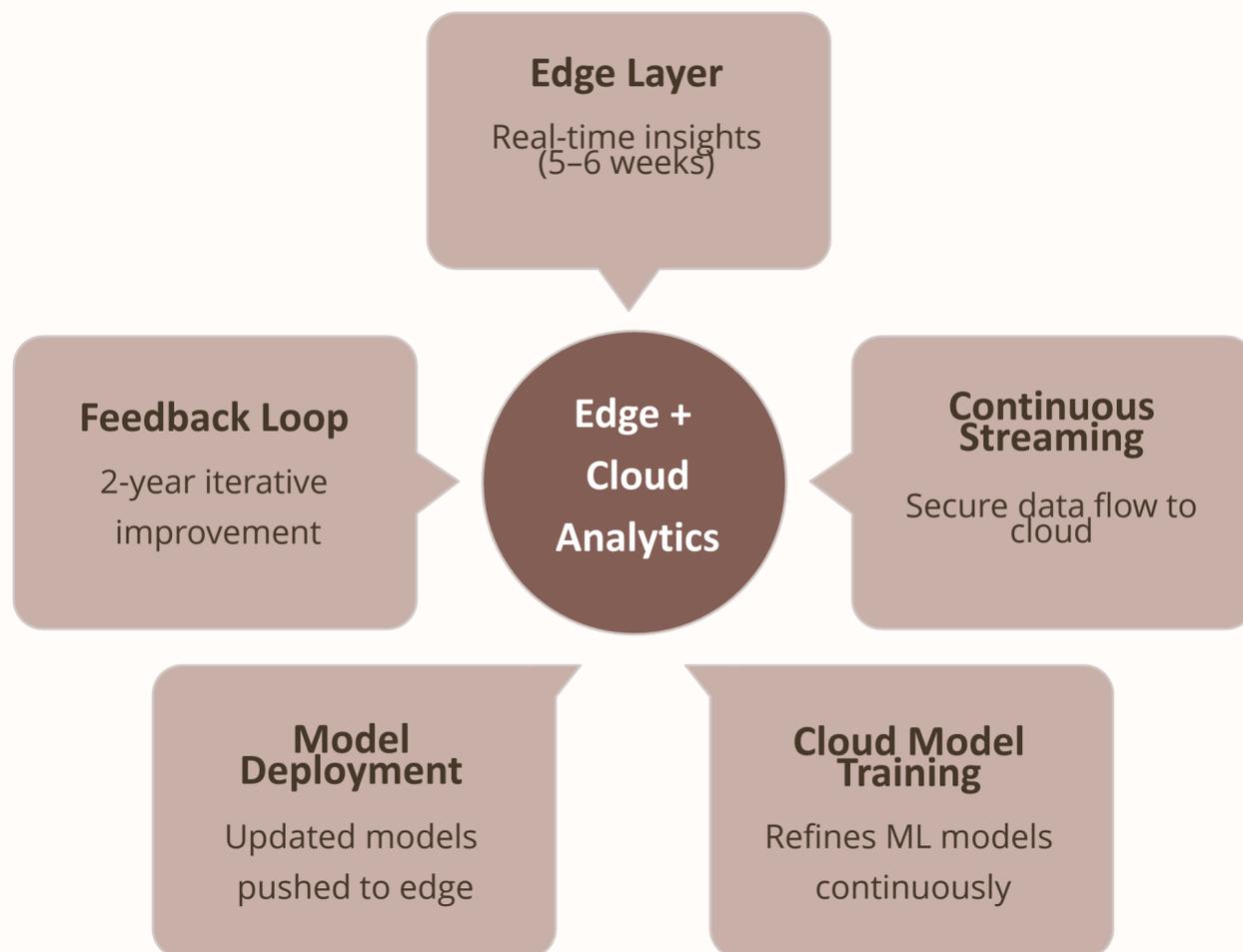
His approach to AI integration is pragmatic and deeply human-centric. In his current role at Gainwell Group, where he leads engineering and digital manufacturing across mining equipment and material handling products, his focus remains on four outcomes that matter at scale: reducing time to market, technology-enabled product development, optimizing cost, and meeting customer requirements.

“I never discuss reducing from ten people to two people,” he states clearly. “I talk about reducing timelines from ten years to five years. I talk about enabling one person to work across two different product lines, giving them broader exposure and meaningful growth.”

This philosophy reflects a consistent belief that sustainable digital transformation is achieved not by shrinking teams, but by empowering them with better tools, sharper insights, and the confidence to solve more complex problems.

# Edge Analytics: Bringing Intelligence to Machines

One of Chandru's most exciting innovations involves edge analytics platforms. Working with companies specializing in this technology, he has deployed systems that connect to factory machines and field equipment, extracting data from cameras, sensors, and PLCs.



The strength of the dual-layer approach lies in how edge and cloud analytics evolve together. Edge analytics deliver real-time insights using five to six weeks of operational data, while cloud-based systems continuously refine machine learning models using streaming inputs. Multiple pilots are currently in progress, and early results indicate a clear trajectory: with sustained iteration over the coming two years, edge-level performance can approach cloud-based, long-term model outcomes.

"This gives confidence to the operator standing in front of the machine to make decisions today rather than stopping everything and waiting for maintenance teams," he explains.

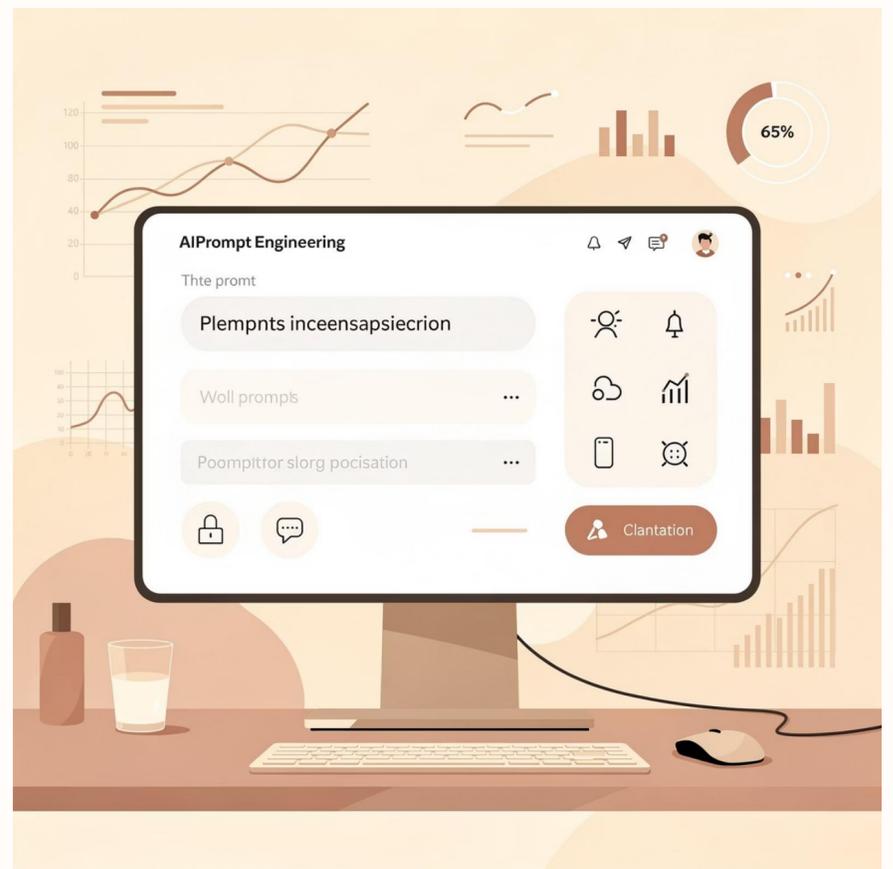
This approach to productivity and downtime reduction has been remarkable.

# The Data Layer: Foundation for Future Innovation

Ask Chandru about the future of business intelligence tools, and his answer is unequivocal. **"In the next five years, platforms like Power BI will be phased out. I don't believe in custom dashboards anymore. I envision a single screen centered around prompt engineering, with the right models running in the background."**

This conviction stems from his understanding that success in the AI era depends on building robust data layers. "The moment you adopt digital engineering and manufacturing, you start building data. Everything else follows naturally," he notes.

However, he is quick to acknowledge AI's current limitations. "AI can think through scenarios and run multiple options, but it struggles with feelings and emotional intelligence. That's where human expertise in model building remains irreplaceable."



# Material Innovation and Electrification: The Road Ahead

Looking at the future of heavy engineering and automotive sectors, Chandru identifies material innovation and electrification as the next frontiers. The shift toward electric motors and motorized equipment brings both opportunities and challenges.



## Rare Materials

New questions about sourcing and sustainability of battery technologies



## Electrification

Transition to electric motors and motorized equipment across industries



## Thermal Management

Advanced cooling systems for electric powertrains and battery packs

"The moment you move toward electrification, you encounter new questions about rare materials, battery technologies, and thermal management," he observes.

Here too, his approach centers on leveraging data and AI to accelerate innovation cycles while managing costs effectively.

For the Indian heavy engineering industry, he sees tremendous potential. "We have the skills. We have the talent. What we need is to leverage our capabilities better, supported by government subsidies and ecosystem development. The next five years will bring a significant revolution."

# Advice for the Next Generation

When asked what a 20-year-old engineering graduate should do to follow a similar path, Chandru's advice is refreshingly practical and grounded.



"First, go to the field and the manufacturing plants. See the application. Understand how the machine works," he emphasizes. "Fresh graduates have high energy and strong academic coding skills, but when they see real-world applications, their knowledge gets fine-tuned in ways classrooms cannot achieve."

He recommends spending time with aftermarket teams to hear unfiltered feedback about product performance, and with sales teams to understand cost pressures and market realities. "A five to six month exposure program covering these areas transforms how young engineers approach problem-solving."



## Visit the manufacturing plants

See applications and understand how machines work in real conditions



## Aftermarket Teams

Hear unfiltered feedback about product performance



## Sales Teams

Understand cost pressures and market realities



## Apply Technology

Leverage latest tools to address observed problems

Once this foundation is built, he encourages leveraging the latest technologies. "Whether hired as a design engineer, IT professional, or marketing specialist, I ask them what technology they can infuse to address the problems they've observed. Their fresh perspectives often lead to breakthrough innovations."

# Sharing Knowledge Beyond the Organization

Beyond his corporate roles, Chandru has embraced consulting as a mission of knowledge transfer. He works with various organizations, bringing practical experience and technological insights to help them navigate their digital transformation journeys.

**"I've learned many things, experienced many things, and benefited from great opportunities," he reflects. "Now I want to take this knowledge to the next generations. I want to show them what works, what might not work, and what they should try."**



This philosophy of giving back extends to his participation in industry forums and roundtables, where he shares insights on AI integration, technology-enabled product development, digital manufacturing, and operational excellence.

# The Human Touch in a Digital World

Despite his deep embrace of technology, Chandru never loses sight of the human element. He speaks passionately about civic sense and how AI could improve public infrastructure management. He emphasizes work-life balance and acknowledges that younger generations seek diverse experiences over just high packages.

## Diverse Experiences

Today's workforce wants opportunities to work on various products and diversifications

## Growth Across Domains

Smart organizations create environments where people can grow across multiple domains

## Beyond Specialization

Moving away from narrow silos toward broader expertise and exposure

"Today's workforce wants opportunities to work on various products and diversifications," he notes. "Smart organizations will create environments where people can grow across multiple domains rather than being siloed in narrow specializations."

His leadership style reflects this understanding. Rather than overwhelming teams with technology, he focuses on building data layers that create consistency and enable better decision-making at all levels.

# Legacy in the Making



As Chandru continues his journey with [Gainwell Group](#), leading the development of mining equipment and material handling solutions, he carries forward three decades of accumulated wisdom. His work encompasses technology enablement, digital manufacturing deployment, and end-to-end engineering and manufacturing services.

His transformation agenda combines a model-based definition and paperless build process with remote equipment monitoring, creating a traceable digital thread across design, manufacturing, and the field. This integrated approach enhances manufacturing efficiency and maximizes uptime through real-time operational and field insights.

The Engineering Center of Excellence that he has established focuses on robust product development aligned with customer requirements, performance standards, technology, and cost targets. But beyond the technical achievements, his real legacy may be in demonstrating that **traditional manufacturing and cutting-edge technology are not opposing forces but complementary partners in progress.**

# A Vision for India

When Chandru talks about India's potential, his optimism is infectious yet grounded in practical understanding. He sees a nation rich in engineering talent, ready to leapfrog traditional development timelines through smart adoption of AI and digital technologies.

"We don't need to follow the same path that took other nations generations to traverse," he asserts. "With our demographic advantage, technological capabilities, and growing ecosystem support, we can achieve in years what others took decades to accomplish."



## Manufacturing Excellence

Meeting digital innovation to create world-class production capabilities



## Demographic Advantage

Young engineers transitioning seamlessly between shop floor and cloud-based analytics



## Global Competition

Competing not just on cost but on technological sophistication and speed to market

This vision extends beyond individual companies or sectors. He imagines an India where manufacturing excellence meets digital innovation, where young engineers transition seamlessly between shop floor understanding and cloud-based analytics, and where businesses compete globally not just on cost but on technological sophistication and speed to market.

# The Road Ahead

As artificial intelligence continues to evolve and manufacturing becomes increasingly digital, leaders like Chandru Natarajan represent the bridge between India's industrial heritage and its technological future. His journey from trainee to Vice President, from shop floor to strategic leadership, offers a roadmap for aspiring professionals.

**The lessons are clear:** build strong foundations through hands-on experience, never stop learning, embrace technology without losing sight of human factors, and always focus on solving real problems rather than chasing trends.

For the countless young engineers entering India's manufacturing sector, for the mid-career professionals seeking to reinvent themselves, and for the business leaders navigating digital transformation, Chandru's story delivers a powerful message: **success comes not from choosing between tradition and innovation but from masterfully integrating both.**

As India positions itself as a global manufacturing hub, it will need more leaders who combine Chandru's deep operational expertise with his forward-looking technological vision. Leaders who understand that the future of manufacturing is not about machines replacing humans but about humans equipped with smarter machines achieving what was previously impossible.

## The journey continues, and the the best chapters may still be be ahead.

