



CELEBRATING A DECADE OF MANUFACTURING MARVELS

The prestigious Machinist Super Shopfloor Awards recently concluded its 10th edition by recognising the outstanding achievements of individuals and organisations on the shop floor. Held in Hyderabad, the grand awards ceremony highlighted innovation, excellence, and continuous improvement in manufacturing operations.

Viewpoint

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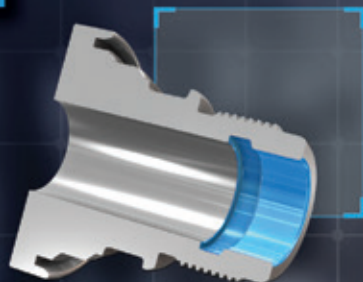
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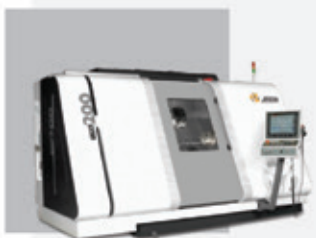
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GOLDEN DECADE FOR EPC PLAYERS

Robust capex in infra, power T&D, and hydrocarbons in international markets will likely further boost growth for Indian EPC players. The government of India's capex growth would remain a driving force, with private-sector capex also on the cusp of picking up pace owing to multiple enablers such as deleveraged corporate balance sheets, healthy profitability, rising domestic demand, and increasing capacity utilisation. Players with a prudent execution track record, superior technology bandwidth, and a strong balance sheet would be clear winners.

India is witnessing a multiyear capex cycle. The 23 per cent CAGR increase in the Central Government capital expenditure budget during FY22–25BE, clear development roadmaps through NIP/NEP, and streamlined financing arrangements would facilitate funding. The PM Gati-Shakti scheme worth Rs 100 trillion is expected to be transformative and boost private capital expenditure. We believe infrastructure development, urbanisation, renewable capacity addition, power T&D, data centres, railways, water, etc. are key domestic themes.

The country remains a key supplier of engineering products to global markets, and capex announcements worldwide are likely to strengthen EPC players' presence in export markets, especially neighbouring countries in the Middle East region. Several developed nations (such as the USA and European countries) have been revisiting and diversifying their supply chains post-COVID-19. India, with its low-cost labour and focus on manufacturing, is likely to benefit from this. Both Europe and the USA have announced robust capex for expanding T&D infra. Also, spending by GCC nations—particularly on hydrocarbons, energy transition, new city development, and transmission—is expected to remain strong over the next few years, based on the capex plans of key players.

The government launched the National Infrastructure Pipeline (NIP) with a forward-looking approach and a projected infrastructure investment of around Rs 111 trillion during FY20–25 to provide high-quality infrastructure across India. With an annual average investment of around Rs 22 trillion, this marks a significant increase (2.5x) compared to historical infrastructure spending levels. More than 70 per cent of the investment has been allocated to four key sectors: 1) Energy: 24 per cent; 2) Roads: 18 per cent; 3) Urban Infrastructure: 17 per cent; 4) Railways: 12 per cent. This is expected to lead to infrastructure investment levels of 7-8 per cent of GDP, ensuring the necessary capacity and quality of infrastructure in the country.

R Kamat
Editor

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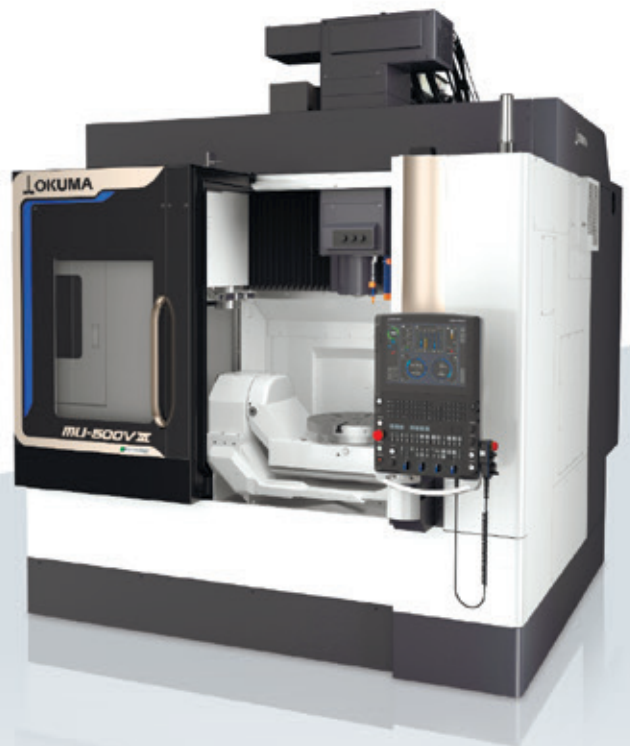
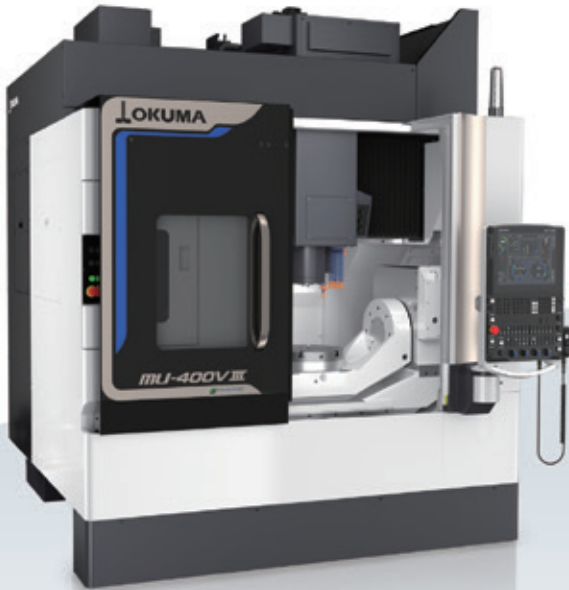
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Hindustan Zinc announces financial aid of up to Rs 1 lakh for higher education of transgender employees

HINDUSTAN ZINC LIMITED, India's largest and the world's second-largest zinc producer, has announced an inclusive and progressive people policy to provide financial support to transgender employees for their education. Recognising the barriers to their education, the company has announced financial support of up to Rs 1 lakh for professional education of transgender employees who have been with the company for at least 18 months. The announcement came at the culmination of the company's Pride Month celebrations.

The policy is a one-time benefit applicable to transgender employees and extends to the business partners across all its operational locations. This is in line with Hindustan Zinc's commitment to constantly present avenues for professional development to its people, ensuring every individual can develop market-relevant skill sets.

The policy was launched on Hindustan Zinc's homegrown #Zinclusion platform at the conclusion of Pride Month celebrations. It featured a panel discussion on 'Challenging Barriers, Fostering Inclusivity,' led by Chairperson Priya Agarwal Hebbar, CEO Arun Misra, and Zainab Patel, DEIB Leader at a heavy engineering conglomerate. The session also saw parents of transgender employees sharing their pride at seeing their children thrive at Hindustan Zinc. In a traditionally male-dominated metals and mining sector, Hindustan Zinc employs sixteen transgender employees across its business units, offering significant



representation in mainstream roles like finance, supply chain, marketing, medical, and other departments.

Hindustan Zinc's robust Diversity and Inclusion (D&I) framework includes comprehensive policies and programmes fostering an inclusive work environment. These policies support gender reaffirmation leaves, compensation for gender reassignment surgery, parenthood for LGBTQIA+ individuals adopting a child, and housing for transgender employees. The company also conducts sensitisation workshops for employees and the wider community, making its D&I efforts among the foremost in the country.

Priya Agarwal Hebbar, Chairperson of Hindustan Zinc and Director of Vedanta Limited, expressed her enthusiasm for the initiative, stating, "At Vedanta, we are dedicated to cultivating a culture that celebrates diversity and ensures equal opportunities for all. It gives me immense joy to announce our financial support policy for higher education, which reflects our commitment to empowering our transgender employees. By investing in their professional growth, we aim to

create an environment that is equal, and champions the well-being and personal development of each and every employee."

Ragini, a transgender lab technician at Hindustan Zinc's Chanderiya smelter, expressed gratitude for the inclusive, family-like environment free of discrimination. She praised the upskilling and training opportunities for aiding her professional and personal growth. Yashwardhan, another transgender professional in marketing, appreciated the support from colleagues, which helps him realise his potential and enhance his skillset. Both commend Hindustan Zinc's efforts to bring the marginalised trans community into the mainstream, providing a nurturing and dignified environment.

Since 2022, Hindustan Zinc has expanded recruitment to include transgender individuals, aiming to foster acceptance and inclusivity in the manufacturing industry. The company targets 30 per cent workforce diversity by 2025 and currently has a gender diversity ratio of nearly 22 per cent in its executive workforce, among the highest in the global metals and mining sector.

Dalmia Bharat commences commercial production of an additional 1.0 MTPA at its Kadapa unit

DALMIA BHARAT LIMITED (DBL), a leading Indian cement company, has announced the commencement of commercial production of an additional 1.0 MTPA at its existing cement manufacturing unit in Kadapa, Andhra Pradesh. The integrated cement manufacturing unit in Kadapa unit had an existing capacity of 2.6 MTPA. This expansion brings the company's total installed capacity to 46.6 MTPA, inclusive of its subsidiaries. This strategic expansion with an investment of Rs. 207 crores, aims

to meet the growing cement demand in the Southern region and enhance Dalmia Bharat's market presence in the South.

The initiative aligns with the company's long-term growth strategy to increase its total installed capacity to 110-130 MTPA by 2031.

Commenting on the expansion, Puneet Dalmia, Managing Director & CEO, Dalmia Bharat Limited, said, "The additional capacity expansion at Kadapa along with our recent expansion in Tamil Nadu reinforces our commitment to support

the growing infrastructure needs in the Southern region. With the expected focus on overall infrastructure capital outlay and its deployment, we see significant growth opportunities ahead especially in the Southern states where we continue to be a major player delivering quality products."

Dalmia Bharat has a strong presence in Southern India, with manufacturing units in Andhra Pradesh, Tamil Nadu, and Karnataka. This strategic positioning allows it to meet the region's growing infrastructure demands effectively.

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Stronger. By Design.

GLIDA installs 200KW public chargers at 'DLF Cyberpark Gurugram'

GLIDA, one of India's leading public EV charging solution provider (formerly known as Fortum Charge & Drive India), redefines electric mobility with a groundbreaking achievement by installing 200KW high-power public chargers. The company has partnered with Kempower, a leading Finnish manufacturer of DC fast chargers known for its cutting-edge and user-friendly technology.

GLIDA has unlocked this milestone by commissioning 200 KW superfast Kempower charger with six satellite charging points at DLF Cyber Park, Gurugram. With this latest installation, the engagement with DLF has got stronger and now GLIDA operates 20 charging points in DLF's Cyber City alone. This move embodies GLIDA's unwavering commitment to their brand philosophy #AllLightsGreen for e-mobility, by creating a robust and convenient charging network for EV users nationwide.

Commenting on the milestone, Awadhesh K. Jha, Executive Director, GLIDA, said, "At GLIDA, we have always been at the forefront of innovation and technology, constantly pushing the boundaries for the entire electric mobility



industry in India. The installation of new 200KW Kempower charger is just the beginning of redefining how India moves, and we will continue to commission more superfast charging sites in the future. This latest charging technology will enhance the seamless experience for EV users, encouraging wider adoption of electric vehicles. By investing in the future today, we are gearing up to set a new standard for public EV charging

infrastructure, putting India's electric mobility segment at par with global technology and advancements."

On this occasion, Kumaran W R, Executive Director - Technical, DLF Rental Business said, "Sustainability is one of the core values of DLF Rental Business and we strive to provide the tenant's workforce, sustainable and energy-efficient commuting solutions and encourage adoption of electric vehicles for personal usage."

Schneider Electric India wins Golden Peacock Award for its energy efficiency initiatives

SCHNEIDER ELECTRIC, the global leader in the digital transformation of energy management and NextGen automation, has won the prestigious Golden Peacock Award for exceptional energy efficiency initiatives at its Chennai plant. This covers exceptional performance in various areas such as energy policies, training & performance monitoring practices, energy conservation and improvement efforts, and communication of best practices. These efforts have resulted in an impressive 33 per cent improvement in energy efficiency over the past three years, leading to a substantial reduction of 6,368 tonnes of CO2 emissions.

Through focused energy-efficiency initiatives, 1/3rd of the plant's energy now comes from renewable sources, aligning with Schneider Electric's goal of reaching 100 per cent green energy usage within five years. This outstanding accomplishment underscores the plant's

commitment to sustainability and environmental responsibility.

Deepak Sharma, Zone President - Greater India, MD & CEO, Schneider Electric India, said, "At Schneider Electric, we believe that electrification is the most potent tool for decarbonisation. We understand that technology-infused, energy-efficient factories are pivotal for manufacturers to drive innovation and attain operational excellence. Our dedication to sustainability remains resolute, and we are immensely proud of the acknowledgment of our Chennai plant's energy efficiency initiatives, exemplified by the prestigious Golden Peacock Award. This accolade is a testament to our endeavours in shaping the factories of the future, and we are committed to setting similar high standards throughout our 31 factories in the country."

Venkat Garimella, Vice President - Sustainability, Schneider Electric India, added, "At the core of Schneider Electric's

heritage lies a steadfast dedication to energy efficiency and a sustainable tomorrow. Our pride stems from ongoing investments in technological innovations and progress, coupled with a robust approach to responsible energy management across our factories, products, and services. By nurturing a culture that champions energy-efficient practices and decarbonisation, we remain steadfast in our pursuit of environmental distinction. Over the next five years, Schneider Electric will unwaveringly follow its definitive path to embracing 100 per cent renewable energy. Through this accolade, we take immense pride in setting the standard for the creation of greener, sustainable smart factories."

Schneider Electric currently has 31 factories in India and has targeted an investment of Rs 3,200 crore in expanding its industrial footprint with the addition of 1,200,000 sq.ft. up to 2026, as part of its continued commitment towards Atmanirbhar Bharat.



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By Sharan Maini, Director, Veira Group

UNVEILING THE SUPPLY CHAIN DYNAMICS OF INDIA'S TV MANUFACTURING SECTOR

The article examines the supply chain dynamics of raw materials and open cells in India's TV manufacturing sector. It also offers suggestions to mitigate risks in the event of disruptions or strategic manipulations by suppliers.

The television manufacturing sector in India stands at a critical juncture, facing an array of challenges and opportunities shaped by global supply chain dynamics. As the country aspires to enhance its manufacturing capabilities and achieve self-reliance, understanding the intricate supply chain for raw materials and key components is paramount.

India's TV manufacturing sector is currently intricately linked to the global supply chain for raw materials, particularly semiconductors and display fabs, commonly known as open cells. The reliance on imports for these key components significantly influences the industry's dynamics. Open cells constitute more than half of the total material cost in TV manufacturing, making their availability and pricing crucial to the sector's stability and growth.

Since the COVID-19 pandemic, not only television manufacturers but the entire electronics manufacturing industry has faced challenges. The pandemic disrupted supply chains globally, leading to fluctuating prices and inconsistent availability of essential components. Open cell prices, for instance, have experienced a dramatic increase, sometimes soaring by up to 100 per cent within a single month. This volatility has made it increasingly difficult for manufacturers to plan and budget effectively, ultimately impacting end-consumers with higher prices and limited product availability.

Geopolitical tensions further complicate the scenario. Conflicts, such as those between Taiwan and China, have had far-reaching effects on global trade. While the Russia-Ukraine war might not have directly impacted



the supply chain as severely as the pandemic, it has created an environment of uncertainty and instability. Currently, disruptions in the Red Sea due to tensions between Israel and Iran add another layer of complexity affecting the global supply chain.

The industry's heavy reliance on a limited number of suppliers for open cells, primarily from China and Taiwan, puts India in a vulnerable position. This dependency means that any disruptions or strategic manipulations by these suppliers can create significant shortages in the market, leading to artificial scarcity and inflated prices. Such situations make it extremely challenging for TV manufacturers in India to maintain a steady production line and meet consumer demand.

Recognising these vulnerabilities, many players in the industry have taken proactive measures over the past three to four years to strengthen their inventory and supplier relationships.



Sharan Maini, Director, Veira Group

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- 2D measurements with motorised movement



Measuring range	700 mm
Expandable range	1080 mm
Resolution	0.010 / 0.005 / 0.001 / 0.0005 / 0.0001 mm
Repeatability (2σ)	On Plane ≤ 0.001 mm On Bore ≤ 0.002 mm
Max. Measurement speed	1000 mm/sec
Measuring force	1.0 N ±0.2
Max. Permissible error *	2 + L / 330 μm (L= Length in mm)
Squareness **	0.006 mm
Air Cushion	Standard
Operation time (Battery)	16 hrs
Operation temperature	10°C to 40°C
Weight	27 kg
Standard probe	Ruby Ball Ø 6 X 48 mm

*Values valid with standard ball probe at temperature 20°C ± 0.5°C

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SCAN FOR PRODUCT CATALOGUE 2023

Effective inventory management and robust supplier relations have become critical to navigating supply chain uncertainties. Companies are now focusing on building strategic partnerships and diversifying their supplier base to mitigate the risks associated with over-reliance on a few sources. This shift towards more resilient supply chain strategies ensures a more consistent flow of raw materials and helps buffer against sudden market fluctuations.

Despite these efforts, the long-term solution lies in reducing dependency on imports by enhancing domestic production capabilities. For India to truly achieve self-reliance, or 'Atmanirbhar Bharat,' in the TV manufacturing sector, there is a pressing need to develop indigenous semiconductor and display fab manufacturing facilities. Establishing a strong domestic manufacturing base for these critical components would not only stabilise the supply chain but also foster

technological advancements and economic growth within the country.

The Indian government and the private sector must collaborate to address this issue comprehensively. The government can play a pivotal role by creating a conducive environment for investment in semiconductor and display fab manufacturing. This includes offering incentives such as tax breaks, subsidies, and grants to encourage both domestic and international companies to set up manufacturing units in India. Additionally, investing in research and development (R&D) and fostering innovation within the country are crucial steps towards building a self-sustaining ecosystem.

Collaborative efforts between the government and the private sector will be essential in achieving this vision, paving the way for a self-reliant and robust TV manufacturing ecosystem in India. 

MAHINDRA TRACTORS INAUGURATES SKILL DEVELOPMENT CENTRE IN NAGPUR

VEDIC-Mahindra Skill Development Centre was inaugurated recently at the Ordnance Factory in Ambajhari, in the presence of Shri. Nitin Gadkari, Minister for Road Transport & Highways.

Established as a collaborative effort between VDIA (Vidharbha Defence Industries Association), Yantra India Ltd., and Mahindra Tractors, the centre will address the challenges faced by rural youth and promoting skill development in the Vidharbha region.

The event also witnessed the presence of Shri. Dinesh Rai, Founder Chairman, Alliance of Indian MSMEs (AIM) & Former Secretary, MSME, GOI, Gurudutt Ray, officiating Chairman & Managing Director, Yantra India Ltd., Nachiket Kodkani, Sr. VP - Mfg., CME, SCPC & Quality, Mahindra Tractors, Kapil Chandrayan, Consultant NSDC, Vipin Itankar, IAS, District Collector Nagpur and Dilip V. Gondnale, Chairman, VEDIC (Vidharbha Engineering Design & Innovation Centre) along with other dignitaries.

Speaking on the occasion, Vikram Wagh, Chief Executive Officer, Mahindra Tractors said, "At Mahindra, we believe that by providing world-class skill development, we can create numerous opportunities for rural youth and women, enabling them to build successful careers and address the challenges of rural India, while contributing to the nation's growth. The inauguration



of the Skill Development Centre, 'VEDIC-Mahindra SDC' in Nagpur, is a testament to that objective and a major milestone in Mahindra Tractors' continued thrust toward transforming lives and strengthening communities."

Through VEDIC-Mahindra SDC, Mahindra Tractors will bring unmatched industry

expertise in tractor and farm machinery, together with a commitment to excellence in skill development. The centre is particularly focused on skilling rural youth from the Vidharbha region, paving the way for multiple potential career opportunities across the ecosystem, including sales and service roles at dealership locations and assembly roles at manufacturing plants.

Mahindra Tractors has curated a unique curriculum covering skill development across tractor service, sales, and assembly, delivered by the best trainers in this field. Students will also have access to the most modern technical equipment and hands-on experience in various aspects of tractor-related skills.

As Mahindra Tractors celebrates 60 years of leadership in the domestic market and a milestone of 40 lakh tractors sold, the establishment of this centre underscores the company's commitment to rural prosperity across the country through youth empowerment. This initiative aligns with Honourable Prime Minister Narendra Modi's emphasis on skill development as a national priority to leverage India's unique demographic dividend.

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THE MANUFACTURING INDUSTRY IS NOW SEEING IMMEDIATE BENEFITS DUE LATEST ERP SYSTEMS

In an interview with **Rahul Kamat, Phil Lewis (PL)**, Senior VP of Solution Consulting International (EMEA & APJ) at Infor, and **Rahul Marothia (RM)**, Head of IT at GMM Pfaudler, discuss the benefits of implementing an ERP system for businesses and how it offers added advantages for manufacturers in efficiency, decision-making, and providing business insights through data and analytics.

What are the biggest IT challenges you have faced in the manufacturing sector, and how do you address them?

RM: When we talk about IT challenges from a manufacturing perspective, the first hurdle is adoption. Users are generally less tech-savvy compared to IT industry professionals. Multiple challenges arise across different domains. For instance, regarding data, the primary issue is capturing it when we lack a structured database.

The second challenge involves automating business processes. In manufacturing, we manage an order-to-cash cycle that involves entering sales orders, procurement, production planning, and related activities. While this entire flow exists, users often find data entry repetitive and question why historical data isn't automatically captured. For example, when raising a purchase order with an ABC supplier, the system should recall the last five to six orders to confirm if those are the items to reorder.

Artificial intelligence and digitalisation, particularly in machine learning, are emerging trends for us. In terms of equipment manufacturing on-site, we aim to receive post-shipment data from our equipment to enhance proactive customer service, such as advising on optimal preventive maintenance timings.

Users also express a desire for AI capabilities where verbal instructions automatically generate sales orders and approve pending purchase orders.

These are ongoing challenges we are actively



Phil Lewis, Senior Vice President of Solution Consulting International (EMEA & APJ) at Infor



Rahul Marothia, Head of IT at GMM Pfaudler

addressing through various new initiatives within our organisation.

You oversee the EMEA and APJ regions. How do you view the digital transformation landscape in these regions?

PL: My responsibilities cover everything outside the Americas. What intrigues me is witnessing technological evolution across different countries and regions. Traditionally, Nordic, Scandinavian, and European countries lead technological advancements. During my recent visit to Mumbai, discussions with 60 partners from across India highlighted their focus on warehouse management and its applications.

Customers now experience immediate productivity and efficiency benefits through automation, AI, robotic process automation (RPA), and generative AI (Gen AI). These technologies are demonstrating their potential to significantly impact on business operations.

The adoption of technology isn't about replacing existing systems but enhancing them. There's a



genuine eagerness in India to apply technology across both traditional and new businesses to accelerate productivity.

You've been a long-term customer of Infor. How has implementing an ERP system like Infor benefited your company in terms of efficiency and decision-making?

RM: With Infor, our entire business process models are interconnected. The ease of reporting activities surpasses what was achievable with older ERP versions. Customisation is sometimes necessary for specific functionalities or new requirements. For instance, the extensibility feature allows us to integrate small logic into the system for smoother operations, such as creating new reports.

Customer Defined Fields (CDF) are particularly valued by users for department-specific purposes, enabling drag-and-drop functionalities for report criteria.

The latest Infor ERP has strengthened our workflows, including purchase order workflows and approval cycles, while providing customisation options through additional vendor packages.

Phil, each customer comes with unique challenges and requirements. How does Infor tailor its solutions to meet industry-specific needs?

PL: This is a key differentiator for us. Rather than offering a one-size-fits-all ERP solution, we provide industry-specific ERP systems. For example, Rahul uses Infor LN, which is tailored for discrete manufacturing.

We also offer core systems like Infor food and beverage for process-based manufacturing, and solutions for public sector and healthcare.

These Infor-specific solutions are designed to meet industry requirements, reducing the need for extensive modifications. While many competitors still require significant customisation to support industry-specific needs, our approach ensures that customers receive solutions built explicitly for their sectors.

Our Infor OS platform integrates intelligent workflow automation, data management, and AI capabilities. It supports extensive customisation through extensibility features, particularly valuable as all our solutions now operate in the cloud.

You mentioned data management and analytics. How does Infor help improve operational efficiency and business insights through data and analytics?

RM: Data sourced from Infor ERP solutions provides comprehensive backup and reporting capabilities. For instance, as a listed company, we require real-time reports on order bookings, backlogs, sales, and daily shipments. These reports are generated promptly with robust functionality.

Initially on a single-tenant cloud setup, we later migrated to on-premises to gain database access. This flexibility allows seamless integration with third-party software used across various in-house operations, including inspection, service mobile apps for engineers, and 24x7 maintenance applications.

Data lakes play a pivotal role by centralising diverse data sources, essential for comprehensive data analysis and



Infor's OS platform integrates data management capabilities, enabling businesses to consolidate, analyse, and leverage their data effectively. This approach facilitates intelligent decision-making and supports sustainable business practices across diverse industries.

reporting. This unified approach enhances our operational efficiencies across different business functions.

What measures does GMM Pfaudler take to ensure the security of its IT infrastructure?


RM: We maintain a robust information security management system across our ecosystem. Most critical applications operate in the cloud, prioritising data privacy and security. Data leakage protection (DLP) systems monitor outbound data transfers, ensuring compliance and preventing unauthorised data disclosures.

We leverage Security Information and Event Management (SIEM) tools to consolidate alerts from our entire IT infrastructure, including switches, firewalls, and endpoints. Immediate actions are taken based on these alerts, ensuring proactive management of potential security threats.

Lastly, Phil, how is Infor addressing the growing demand for sustainable and innovative solutions across enterprises?

Phil: Sustainability is a crucial focus area for us, reflecting global regulatory trends like EU sustainable reporting standards (ESRS) and Global Reporting Initiative (GRI) guidelines. These frameworks guide companies on sustainability reporting, where we support our customers in meeting these standards.

Our Infor OS platform integrates data management capabilities, enabling businesses to consolidate, analyse, and leverage their data effectively. This approach facilitates intelligent decision-making and supports sustainable business practices across diverse industries.

By offering a scalable data scheme through our cloud-based solutions, we empower organisations to achieve operational excellence while aligning with their sustainability goals. 

COVESTRO (INDIA) INAUGURATES ITS POLYOL TANK FARM PROJECT IN KANDLA, GUJARAT

Covestro (India) has announced the inauguration of its Polyol Tank Farm Project in Kandla, Gujarat's Kutch district. This cutting-edge facility underscores the company's commitment to meeting rising customer demands through enhanced supply chain resilience and operational efficiency.

Designed to meet stringent requirements, this state-of-the-art facility will be storing polyols, a crucial ingredient for its Performance Material business. This strategic initiative reduces dependency on imports and longer lead times, emphasising Covestro India's customer-centric approach.

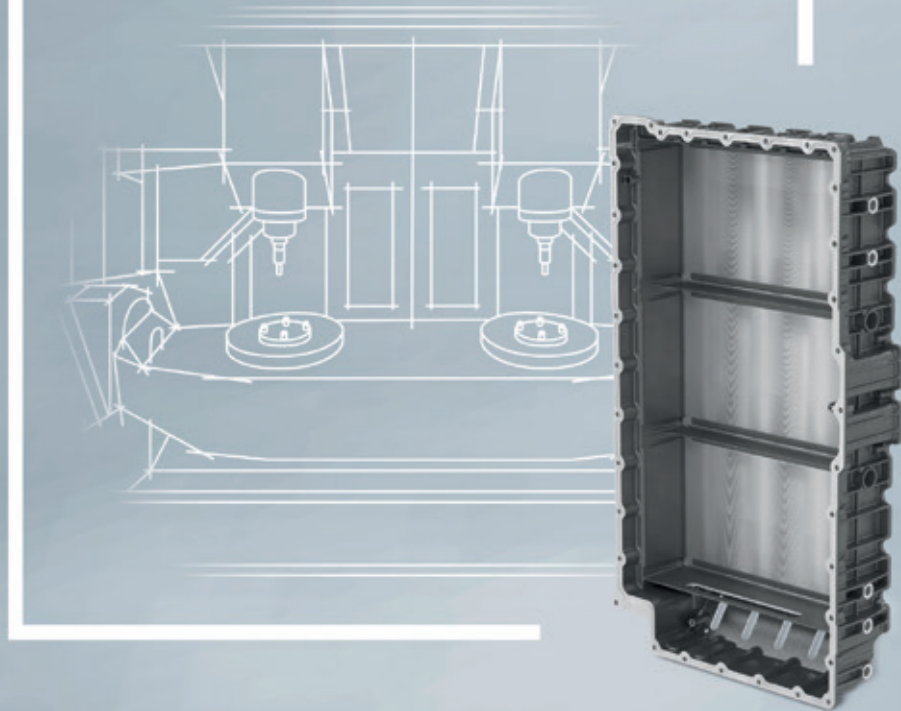
The Polyol Tank Farm represents a significant leap forward in Covestro India's supply chain infrastructure. The leased nature of the project offers a strategic balance between operational flexibility and long-term planning. Utilising ISO tanks & Flexi tanks for bulk deliveries and streamlining the filling and distribution processes of drums and Intermediate Bulk Containers (IBCs), that optimises distribution, minimising transportation time, translating to faster delivery times and needs for customers, elevating the overall customer experience and satisfaction.

The facility's strategic location and substantial storage capacity ensures a consistent and reliable polyol supply, empowering Covestro (India) to meet market demands effectively. This project signifies the company's commitment to continuous improvement and positions it for future growth by providing a robust foundation for its Performance Materials Business.

Looking at global supply chain struggle, going forward this investment will also support Covestro (India) to cater adjoining subcon countries like Nepal, Bangladesh, and Sri Lanka and creating a better business environment and a win-win for both Covestro (India) and Subcon customers.

The Polyol Tank Farm Project in Kandla, Gujarat, is more than a mere infrastructure development. It embodies a strategic initiative aimed at enhancing supply chain capabilities and supporting Covestro India's Performance Materials Business. By investing in operational efficiency and customer-centric strategies, Covestro (India) is poised to deliver exceptional value to customers, driving mutual growth and success across the industry.

AUTOMOTIVE



Two spindles for maximum productivity

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Polish Mill V type ASPV

ASPV

Epoch Mega Feed Ball Evolution

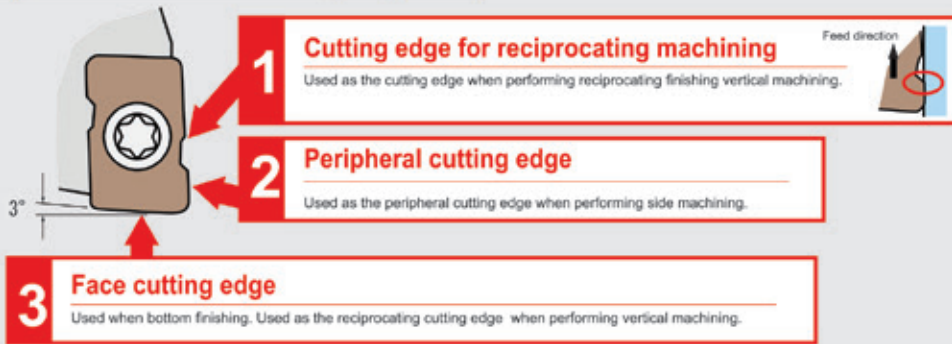
Provides good bottom finishing and can also perform standing wall finishing.

Multi-function end mill

A cutting tool with multi-flute specifications to speed up finishing



This insert has 3 cutting edges.



Polish Mill V type ASPV mini

ASPV Mini

We've added high-precision finishing tools to our small-diameter multi-flute cutting tool series. The free-cutting edge shape solves issues related to vertical wall cutting.

Free-cutting chipbreaker

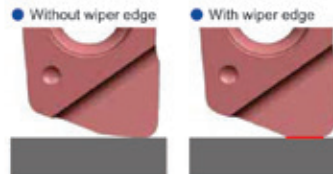
Achieves high-cutting surface grades, even for work materials whose cut surface tends to be cloudy, like carbon steel. Maintains high dimensional accuracy when cutting, even for tools with long overhangs.

Front cutting edge

This edge is used for bottom surface finishing. Various shapes with wiper edges are lined up for each R size. Makes it possible to boost feed rates when finishing bottom surfaces.

Peripheral cutting edge

Functions as peripheral cutting edge when side cutting.



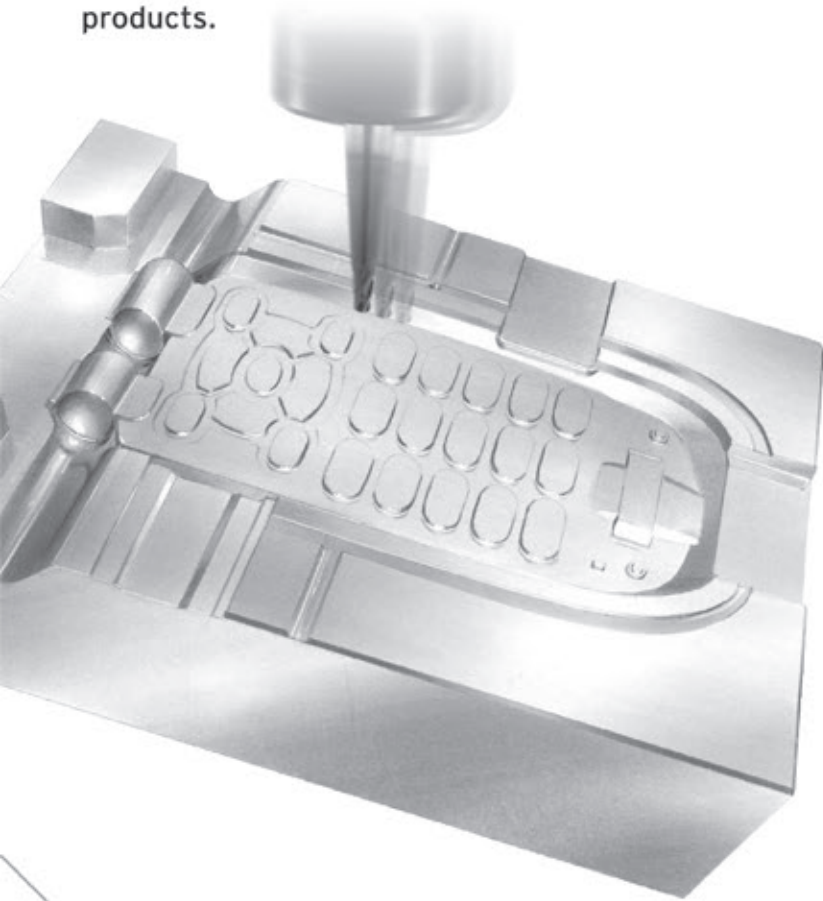
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YOUR GLOBAL CRAFTSMAN STUDIO

By Rahul Kamat

WE PLAN TO INVEST RS 850 CRORE IN INDIA

In an interview, **Deepak Sharma**, Zonal President Greater India, and MD and CEO, Schneider Electric India Private Limited (SEIPL) reveals how the group is committed to investment in technology and expanding production capabilities. Edited excerpts...

Deepak, this year we are completing 10 years of the Make in India initiative. So how do you see the entire program culminating and specifically how Schneider as a group fit in this initiative?

Well, first it's a great day today for us because we announced the naming of our existing business



Deepak Sharma, Zonal President Greater India, and MD and CEO SEIPL

L&T switchgear as Loris Knudsen Electrical and Automation. Now coming back to how the Make in India program has helped us and others: I think if you take the fundamentals of how we serve our customers, it has been an expansion in growth by bringing technologies which were designed in India and made in India. So, of course, it helps us to serve our customers better because then we can build and sell products which are closer to their habits, to your usage, and the climate.

Certainly, manufacturing in India gives us a lot of cost optimisation, not only for us but because we create an ecosystem of our partners around us which helps us to have an even faster technology development. Because, when you are dependent on other ecosystems, developments are also dependent. So when you have Make in India, it not only helps you to manufacture but it helps you manufacture by developing an entire ecosystem and that ecosystem helps you to innovate faster.

So it's a full chain and again I think it has helped a lot and I am hoping that it will continue with the same spirit.

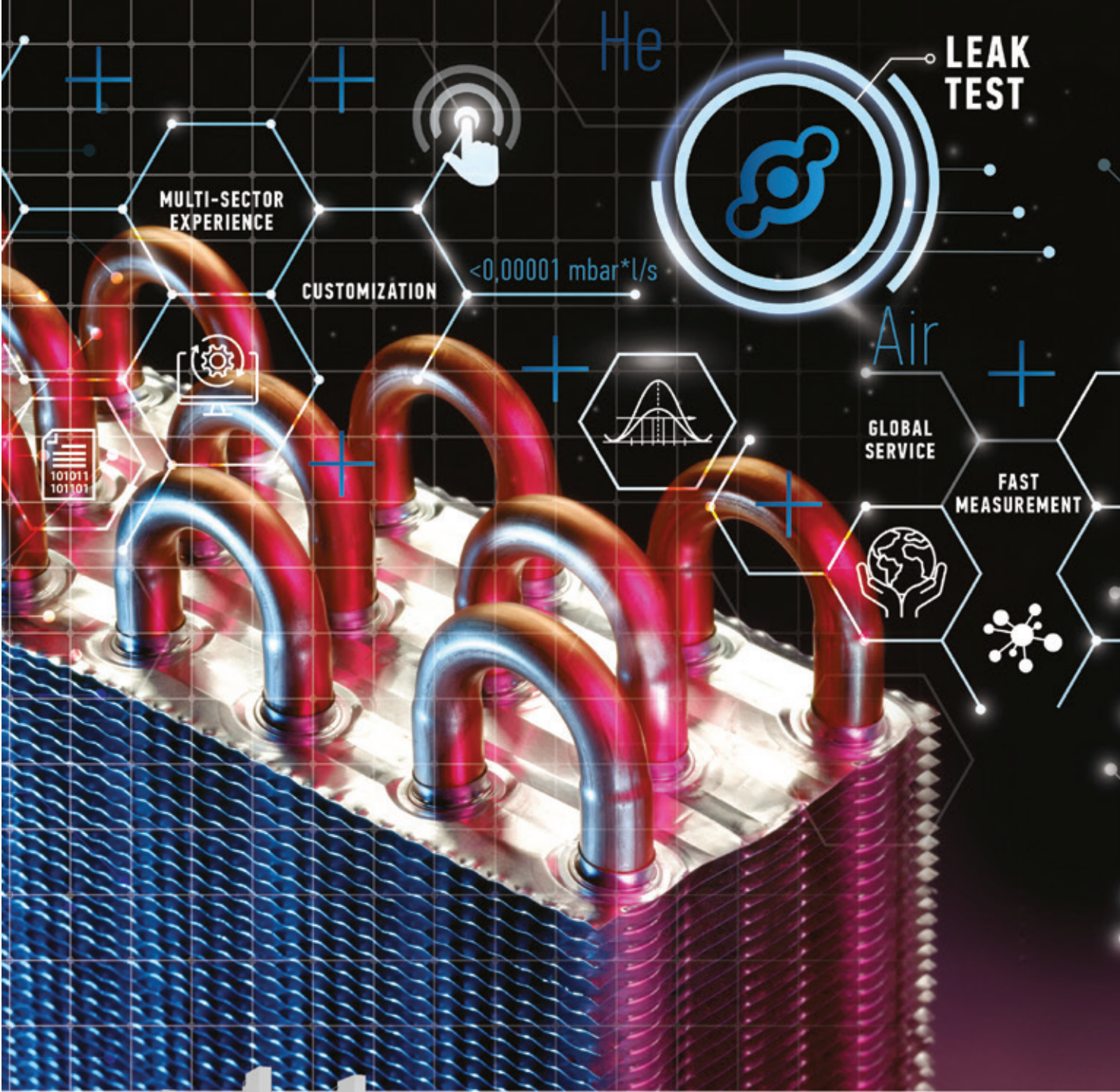
Could you talk about the investment plans of Loris Knudsen. You said around Rs 850 crore the company would be investing...

Yes, that's correct! But we would be investing Rs 850 crore in the next three years. We have already started making our investments. However, there are two strong pillars of our investment plans: one will be investment in technology and the second will be making our manufacturing capabilities stronger.

Our focus remains on how we align our investments with innovations that will lead to manufacturing more technologically advanced products for our customers, which includes being digital too.

Our second strong pillar remains on the manufacturing capabilities because to address the demands in India and for export, you need more production. So these are the two strong pillars where we are going to invest most of our Rs 850 crore.

YOUR QUALITY FORMULA



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Since you mentioned expanding manufacturing capabilities, tell us about your current capacity utilisation and going forward with the demand coming in, how do we see the expansions happening and what could be the time frame that you are looking for?

At Loris Knudsen, we already have around 2.1 million square feet of production capacity. As we speak, we are already building our next mega manufacturing lines to meet the needs of 2024. However, that's not enough. I think the Rs 850 crore commitment we made looking at 2025 and 2026.


Deepak, when we see the group's progress in India in the last 10 years, historically, it's an amalgamation of organic and inorganic growth. So going forward, do we see any M&A activities to expand in the different horizons?

As a company, we have everything we need to serve the country. I think our portfolio is rich and complete with

a strong R&D footprint in the country as a group. So for me, we have enough on the plate. But you know, as with any other business, all new ideas are welcome. We have a team that keeps on evaluating new business avenues for the group. So we will see as things progress. But with what we have, we already possess a very strong position in the country.

How do you see the groups growing in the next couple of years in the energy sector?

I think we have a very strong energy market in India. The way the infrastructure is being developed, I only see the positive side. So from bringing energy, which is a crucial part of everybody's life, and this demand will only go up because we will need more comfort, more energy to consume.

So for me, with all the investments at the household level, per capita level, and per capita consumption of energy level, it brings a lot of opportunities for companies like us to grow in this country. 

DOW INDIA RECOGNISED AS BEST COMPANIES TO WORK FOR AND BEST WORKPLACES™

Dow Chemical International Private Limited (Dow India) has been recognised as one of the Best Companies To Work For (Top 100) and has earned the distinction as one of Best Workplaces™ in Chemicals in India 2024. This esteemed award is presented by the Great Place To Work®, celebrating companies that excel in employee experience by promoting well-being, cultivating a positive work environment, and achieving excellence within their respective industries.

The recognition in this category, reflects the significant strides made over the years as a collective group



in building growth, resilience, and stronger culture in the workplace.

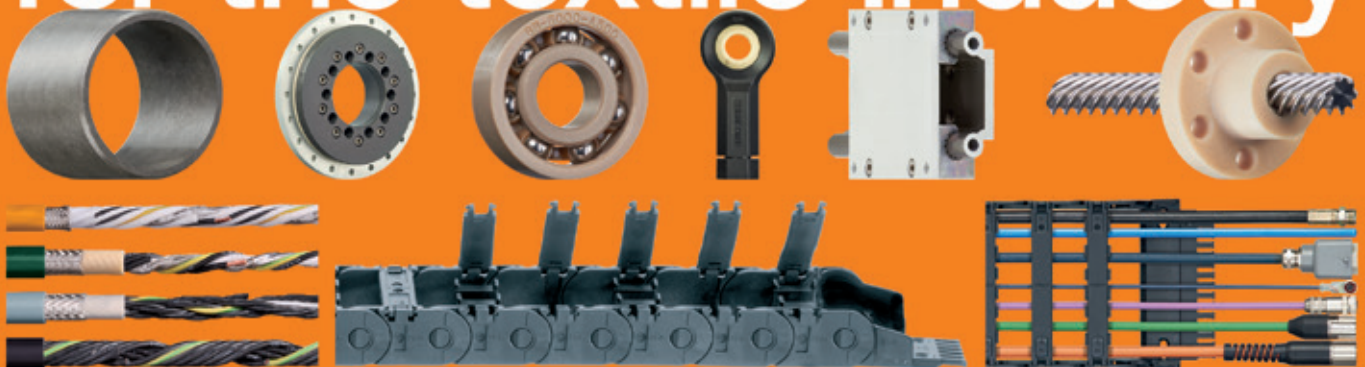
Chandrakant Nayak, CEO & Country President, Dow India, expressed his gratitude for this recognition and said, "We are honoured to be recognised as one of the Best Companies To Work For and

as one of Best Workplaces™ in Chemicals in India 2024. We believe our success is through the collective efforts of our teams. Thanks to my leadership team, together we are committed to building an inclusive workplace where everyone feels proud and inspired to be themselves, so they bring their best to work."

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TRUMPF ENABLES THE RECYCLING OF BATTERIES ON AN INDUSTRIAL SCALE

For the first time, carmakers and battery manufacturers can now recycle used or defective batteries from electric cars on an industrial scale using laser technology from TRUMPF. The high-tech company develops laser systems that safely cut used batteries and remove the valuable raw materials from the battery foil.

“Recycling batteries makes ecological sense and, thanks to laser technology, can now also be implemented economically. TRUMPF can draw on extensive expertise in laser welding and cutting to produce e-car batteries. We have been working with all leading car and battery manufacturers for years. We have incorporated this experience into the development of the new processes,” says Hagen Zimer, CEO of Laser Technology at TRUMPF. The high-tech company will present the new laser processes for the first time at the leading trade fair for battery technology, Battery Show Europe 2024, in Stuttgart.

A large market for recycling e-car batteries

Without valuable raw materials such as cobalt, lithium, or nickel, there are currently no electric car batteries. However, the extraction of these raw materials is expensive and not always sustainable. Manufacturers also must accept long and uncertain supply chains. In



addition, the EU requires a recycling rate of up to 90 per cent for batteries. “The industry therefore must recycle on a large scale. The market for laser processes for recycling batteries, which is currently emerging, is huge,” says Alexander Sauer, Head of the Fraunhofer Institute for Manufacturing Engineering and Automation IPA. In Europe alone, the industry will have to recycle 570,000 tons of battery material annually from 2030.

The electrodes for new

battery cells are created as foil strips coated with valuable materials such as cobalt and nickel. In a future recycling plant, laser processes can remove the wafer-thin layer from the foil. Manufacturers can collect the precious dust and process it for new coatings. Until now, it was common for kilometers of coated foils to end up as waste in the garbage.

In the future, laser technology could also be used to recycle battery packs. Laser technology is the only way to ensure efficient and automated dismantling, for example, to remove the covers from batteries or to cut off cables. The raw materials can then be sorted, and the battery cells that are still usable can be separated and reused directly. Until now, dismantling electric car batteries has been a manual process. It is labourious, slow, and sometimes dangerous for workers.

LAPP INDIA BAGS TIMES NOW SUSTAINABLE ORGANISATIONS 2024 AWARD

LAPP India, a leading provider of cable and connection solutions, has announced that it has been awarded ‘Times Now Sustainable Organisations 2024’ for its commitment to sustainability at the 3rd edition of the prestigious TIMES NOW Global Sustainability Alliance – Sustainable Organisations 2024 Awards.

The award ceremony in late June 2024 celebrated businesses addressing climate change and promoting environmental responsibility. LAPP India’s win highlights its dedication to sustainability, including eco-friendly raw material sourcing, energy-efficient manufacturing, waste minimisation, and eco-conscious product design.

“We are honoured to receive this recognition from TIMES NOW,” said Marc Jarrault, Managing Director of LAPP India. “Sustainability is at the core of LAPP.

We are dedicated to creating a greener future through innovative solutions that minimise environmental impact, such as developing lead-free cable glands and optimising global production efficiency. This dedication sets us apart and allows us to ‘reliably connect the world’ for a sustainable future. This award is a testament to sustainability being part of our DNA.”

LAPP India’s win at the TIMES NOW Global Sustainability Alliance awards showcases its leadership in sustainability. Dr. Shiv Venkatramani, Head of Operations, and Mahesh N Hegde, Senior Manager Manufacturing Engineering, accepted the award from Poonam Pramod Mahajan, former MP for Mumbai North Central.

Dr. Shiv Venkatramani, Head of Operations, LAPP India said, “LAPP, as a family-run company strongly believes in leaving behind a healthy planet for the next generation. They look seriously at making manufacturing sustainable by evaluating the entire production process and focusing on cleaner energy solutions. Focus on sustainable business is firmly anchored in our DNA, motivating us to keep driving innovation that minimises environmental impact.”



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- Oil and Gas
- Power T&D
- Urban Infrastructure (Water Supply, Solid Waste Management, Low-cost Housing, Parking, TMS etc).
- Smart Cities

Editorial Choice Awards

- Women's Achievement in Infrastructure Award
- Future Infrastructure Leader of the Year Award
- Emerging Infra Tech Player
- Lifetime Achievement of the Year Award
- EPC Person of the Year
- EPC Company of the Year
- Emerging EPC Company of the Year
- Construction Company of the Year
- Emerging Construction Company of the Year
- Emerging LogiTech Company of The Year

For nominations, contact:

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CELEBRATING A DECADE OF MANUFACTURING MARVELS

The 10th Machinist Super Shopfloor Awards 2024 recently celebrated leaders and innovators in India's manufacturing sector. Held with grandeur, the event held in Hyderabad showcased exceptional achievements, highlighting the state's pivotal role in shaping India's industrial landscape.

By Saishree Mohanty

The Machinist Super Shopfloor Awards 2024 proved to be a star-studded, glittery evening graced by distinguished personalities from both the state government and the manufacturing fraternity. The evening was nothing short of spectacular, with luminaries from various sectors converging to celebrate the achievements and innovations in the manufacturing industry. The ceremony began with a traditional lamp lighting, symbolising the dispelling of darkness and the ushering in of knowledge and prosperity. This auspicious start was led by the esteemed guests of honour and special

invitees, setting the stage for an unforgettable night.

The event was graced by the presence of our guest of honour, including Mr. Jayesh Ranjan, Principal Secretary, Industries & Commerce (I&C) and Information Technology (IT), Government of Telangana, and Mr. Atul Rane, Director General (BrahMos) and CEO & MD BrahMos Aerospace. Adding to the glamour were special guests Dr. Likhita Yalamanchili, Femina Miss India Andhra Pradesh 2022, and Urmila Chauhan, Femina Miss India Telangana 2023. These personalities brought an added touch of glamour and prestige to the event, underscoring its



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significance in the manufacturing sector.

The ceremonial lamp lighting was kickstarted by our distinguished guests including Jayesh Ranjan, Atul Rane, Ramesh T K, MD, Ace Designers Limited, S Yatendra Kumar, Business Head, MotulTech India, and Ravi Prem, Executive Director, Forbes Precision Tools and Machine Parts Limited. This ritual not only marked the commencement of the event but also symbolised the enlightenment and the continuous pursuit of excellence that the awards represent.

Following the ceremonial lamp lighting, Rahul Kamat, Editor – B2B Division, Worldwide Media, The

Times Group, delivered an inspiring welcome note. He highlighted the significance of the evening, stating, “This evening is not only a celebration of our award winners but also a testament to the strength of our organisation's culture. Our shared values of integrity, teamwork, and a relentless drive for continuous improvement have paved the way for these remarkable achievements.” His words resonated deeply with the audience, setting a positive and ambitious tone for the evening.

Ramesh TK then took the stage for his opening address, emphasising the importance of recognising and

Jayesh Ranjan, Principal Secretary, Industries & Commerce (I&C) and Information Technology (IT), Government of Telangana

INNOVATION AND GROWTH: JAYESH RANJAN HIGHLIGHTS HYDERABAD'S INDUSTRIAL LEGACY

I extend my appreciation for the outstanding work that each of you contributes. As you came forward to receive your awards, I recognised some of you personally and am aware of the remarkable achievements your companies have made over the years. Many of our Prime Minister's flagship national programmes, such as Make in India and Atmanirbhar Bharat, heavily rely on the manufacturing sector. The growth in this sector is thanks to your efforts.

I notice that many of you are from other parts of the country. While your main operations may be elsewhere, consider Hyderabad as a significant sourcing location. We have a substantial presence in the tooling industry, forging industry, metallurgy, and composites. Many components used in missiles and satellites launched today are supplied by MSMEs based in Hyderabad.

You may be aware that Hyderabad has a rich industrial heritage. Back in the 1960s, inspired by the Soviet model, Prime Minister Nehru initiated state-run industrial development, leading to the establishment of numerous large-scale industries in Hyderabad, including HMT, Praga Tools, and BHEL. The people of Hyderabad are entrepreneurial, with many private individuals starting their own ventures. Today, there are over 1,000 mid-scale, small, and large companies engaged in various industrial activities.

Mr. Rane will acknowledge that a significant number of components used in today's missiles and satellites are sourced from MSMEs based in Hyderabad. This legacy and tradition underscore why, even if your primary operations are elsewhere, Hyderabad should be considered a crucial sourcing hub. Here, you can procure many components with agility, and Hyderabad also offers an excellent environment for expanding your operations.

We have 65 government-run ITIs. Industry feedback indicates that while they hire graduates from ITIs, the skills often lag modern requirements. Six months ago, our government embarked on a modernisation programme for these ITIs, partnering with Tata Technologies and Japanese firms. The revamped courses now cover cutting-edge technologies like CAD-CAM, AR-VR, and robotics. We've invested nearly 1,500 crore rupees in upgrading our labs.

As a government, we pride ourselves on our progressive approach. Despite being a relatively new state, we have attracted substantial investments from both multinational corporations and domestic giants over the past decade. Investors have consistently praised the ease with which they can execute their plans here. We are committed to maintaining this momentum and ensuring a welcoming environment for all.

celebrating the hard work and innovation that drive the manufacturing industry forward. His speech was a call to action, encouraging all attendees to continue striving for excellence and pushing the boundaries of what is possible in manufacturing.

The awards ceremony was a testament to the diversity and dynamism of the Indian manufacturing sector. With 54 awards presented across 16 editorial choice and seven categories, the evening celebrated achievements in Environmental, Social, and Governance (ESG), Manufacturing Excellence, Digital Manufacturing, Innovation (Product/Process), Quality, Human Capital Management (HCM), and Supply Chain Management (SCM). The awards were further segmented into Large, Medium, and SMEs, with both runners-up and winners being recognised in each category.

Adding to the glamour of the evening was the enchanting performance by the talented harpist, Megan Pandian. Her music provided a sophisticated and soothing backdrop to the evening's proceedings, elevating the ambiance and delighting the attendees. One of the highlights of her performance was a mesmerising rendition of "Bella Ciao," which captivated the audience. The haunting melody of the beloved song resonated deeply, creating a shared moment of joy and appreciation among the guests, and reminding everyone of the powerful connection between art and innovation.

The success of the Machinist Super Shopfloor Awards 2024 would not have been possible without the support of its esteemed partners. The presenting partner for the event was Ace Micromatic Group, with MotulTech India Pvt Ltd as the 'Powered By' partner. Other key partners included Forbes Precision Tools



The 10th Machinist Super Shopfloor Awards 2024 celebrated the pinnacle of manufacturing excellence across India, held this year in Hyderabad. Esteemed speakers, including Shri Jayesh Ranjan and Shri Atul Rane, emphasised innovation, collaboration, and self-reliance. The awards recognised outstanding contributions from MSMEs and large enterprises nationwide, underscoring Hyderabad's pivotal role in sourcing components for advanced technologies.

and Machine Parts Limited as the 'Tooling' partner, Marposs India as the 'Quality' partner, Carl Zeiss India as the 'Metrology' partner, igus India as an 'Associate' partner, and ESR India and Partex Marking System as 'Supporting' partners. Bennett University was the 'Education' partner, highlighting the collaborative spirit of the manufacturing community and its collective commitment to excellence.

The pinnacle of the evening unfolded with the awarding of the Lifetime Achievement of The Year Award to Shri Atul Rane, Director General (BrahMos) and CEO & MD BrahMos Aerospace. Shri Rane, revered for his decades of unwavering dedication to indigenous R&D, choked back tears as he accepted the honour. His pioneering work in mission-critical onboard computers, hardware-in-loop simulation






Shri Atul Dinkar Rane, OS & Director General (BrahMos), DRDO,
MoD & CEO & MD, BrahMos Aerospace

studies, and avionics technologies has left an indelible mark on defence applications. Amidst thunderous applause, his trembling voice conveyed deep gratitude, reflecting the immense respect and admiration he has earned throughout his illustrious career.

A crucial aspect of the awards process was the role of the eminent jury members who meticulously evaluated each nomination. The distinguished panel included Hemant Watve, CEO & MD Wilo Mather and Platt Pumps Private Limited; Dr. Dhananjay Kumar, Emeritus Professor, College of Engineering Pune; Vikas Kadlag, Managing Director, Robertshaw India; Bireswar Mitra, Former Executive Director, Sharda Motor Industries Ltd.; S. K. Sinha, Group Chief Executive Officer, Bony Polymers Group; Rajeev Mittal, Chief Information Officer (CIO), Endurance Technologies Ltd.; Abhijit Janugade, Director-Plant, Leidel & Kracht India Pvt. Ltd.; Prof. Madhu Ranjan, Emeritus Professor, College of Engineering Pune; and Rahul Kamat, Editor-B2B Division, Worldwide Media. Their expertise and dedication ensured a fair and thorough evaluation process, recognising the most

deserving candidates.

The Machinist Super Shopfloor Awards 2024 was more than just an awards ceremony; it was a celebration of the relentless pursuit of excellence, innovation, and dedication that characterises the Indian manufacturing industry. The evening highlighted the achievements of individuals and organisations who have set new benchmarks in their fields, inspiring others to strive for greater heights. The event not only honoured the winners but also served as a platform for networking, knowledge sharing, and fostering a sense of community among the industry's best and brightest.

As the night drew to a close, it was clear that the Machinist Super Shopfloor Awards continue to play a crucial role in promoting and recognising excellence in manufacturing, paving the way for a brighter, more innovative future for the industry. The glittering ceremony, the inspiring speeches, the enchanting music, and the recognition of outstanding achievements all combined to make the Machinist Super Shopfloor Awards 2024 an unforgettable evening that will be remembered and celebrated for years to come. 

ATUL RANE CALLS FOR INDUSTRY UNITY AND TECHNOLOGICAL ADVANCEMENT

With humbleness, I accept this honour of the Lifetime Achievement Award. I extend my gratitude to the jury for deeming me worthy of this recognition. I also thank Worldwide Media and the Times Group for continuing this tradition of celebrating excellence for the past ten years. May it continue forever, for it is not just one person but many who contribute to such achievements.

There are many people involved in this success. I dedicate this award to my team at BrahMos Aerospace, our partners at DRDO of India, and our foreign partners at NPO of Russia. These are the shoulders on which BrahMos Aerospace is built, and they support me as I stand here today. Personally, I owe much to the leaders and teachers who guided us and to the founders of BrahMos, who started this journey when I was just a young boy. Today, I continue their work, hoping to pass it on to someone who will carry it forward with the same dedication.

We believe in a simple yet powerful motto: create a unique and wonderful product, deliver it on time with the highest quality, and continuously innovate to improve its capabilities. When these elements come together, we can drive our country forward and become global leaders. The Government of India and the state governments have provided immense motivation through various policies and schemes. Today, we see a synergy between the government, industry, academia, and start-ups, moving us forward as a nation of excellence, capable of exporting top-tier products. BrahMos is just a small example of this potential.

Reflecting on what the industry means to us, let me take BrahMos as an example. We have created a military-industrial complex with some of our partners present here today. Initially, we referred to them as vendors, but now they are our partner industries. We have about 15 to 20 large industries and around 200 second tier and third-tier medium and small-scale industries, including start-ups. We also collaborate with academia, following a model encouraged by the government.

While many advocate for collaboration between the government, industry, and academia, I believe the greatest strength lies in industry working with industry. Some of us have strong R&D capabilities, while others may not. By joining forces, we can overcome challenges related to capacity and quantity. For years, we have relied on the government for funding or assistance in capacity building. It is time

for us to work together independently.

Let us challenge ourselves to collaborate as an industry. Joint ventures do not need to be with foreign countries or the government; they can be among ourselves. BrahMos, a private limited company, exemplifies this. We strive to work with others to create unique products. The strength of security lies not only in the formidable strength of an army but also in technology and R&D. This technology, manufacturing, and production depend on us and the Indian Armed Forces.

Current geopolitical situations have shown that stockpiling is insufficient. We need the capability and capacity to sustain longer-term operations. I urge us to brainstorm and find ways to move forward. As I near the end of my leadership role, I wish to get hands-on and explore new possibilities. The Special Secretary mentioned re-equipping and moving to new technologies. We need to return to our roots and learn how we started our industries, building from the ground up to avoid importing items. BrahMos Aerospace still imports because our country lacks certain capacities and capabilities. We must build them together.

We should not allow our communication companies to import fibre cables or cranes when we can produce them in India. We have the capability to manufacture advanced machines, yet we still import small components. Let us work together to produce everything domestically, strengthening both our armed forces and the country's economy.

The Government of India has supported us over the years and will continue to provide solutions and policies. Recently, someone asked me what more I wanted from the government. I replied that they have given us so much; what more can I ask for? As an elder once said, we should not keep asking for more. Instead, let the government ask us what they need, and let us provide it. We need everyone to collaborate, from government agencies to private sectors, medium, small, micro, start-ups, and entrepreneurs.

Initially, our products may be costly, but through collaboration, we can make them affordable and competitive. The world is watching us. In the defence sector, our products are sometimes seen as expensive, but they are also highly competitive. The world will try to slow us down by restricting supplies. We cannot rely on the world; we must be self-reliant. That is Atma Nirbharta, and that is our way forward.

AND THE AWARD GOES TO....



SUSTAINABLE MANUFACTURER OF THE YEAR
Suzlon Energy Ltd



EMERGING MANUFACTURER OF THE YEAR
JEH Aerospace Inc.



INNOVATOR OF THE YEAR
Yogesh Ramanathan, Founder and CEO, Vinata Aeromobility Pvt Ltd



WOMEN IN MANUFACTURING (LARGE)
Suchitra Ella, Managing Director, Bharat Biotech International Ltd



WOMEN IN MANUFACTURING (SME)
Khushboo Doshi, Managing Director, Rajoo Engineers Limited



HR PERSON OF THE YEAR - MALE
Arun Raghav, Head-HR, ER, Admin & CSR, Mahindra & Mahindra Ltd, Swaraj Division



HR PERSON OF THE YEAR - FEMALE
Sheetal Arora, Human Resources & IR, Mobility Group, India, EATON Industrial Systems Pvt Ltd



CIO OF THE YEAR
Santhosh T G, Global Chief Digital Officer, Switch Mobility Automotive Limited



CTO OF THE YEAR
Vivek Kapoor, VicePresident & Head - Technical & Projects, Best Power Equipments India Pvt. Ltd



MANUFACTURING HEAD OF THE YEAR
Vishal Badshah, VP Operations, Tata Motors



CEO OF THE YEAR - MALE (LARGE)
N Venu, Managing Director & CEO, Hitachi Energy in India and South Asia



CEO OF THE YEAR - MALE (MEDIUM)
Prashanth Doreswamy, President and CEO, Continental India



CEO OF THE YEAR - MALE (SME)
Prabhat Kumar Gupta, CEO, ER Automotives Ltd.



BUSINESS LEADER OF THE YEAR
Visweswara Reddy N, Managing Director, Shirdi Sai Electricals Ltd.



NEXT GENERATION LEADER 2024
Satyabrata Satapathy, Co-Founder and Director, BonV Aero



LIFETIME ACHIEVEMENT OF THE YEAR
Shri Atul Dinkar Rane, OS & Director General (BrahMos), DRDO, MoD & CEO & MD, BrahMos Aerospace



MANUFACTURING EXCELLENCE – MEDIUM
Xpro India Ltd – Biax Division



MANUFACTURING EXCELLENCE – LARGE
Luminous Power Technologies Pvt. Ltd.



DIGITAL MANUFACTURING – MEDIUM
Xpro India Ltd – Biax Division



DIGITAL MANUFACTURING – LARGE
Tata Motors Ltd., TMCV, Pune – Gear Factory



QUALITY – MEDIUM
Cooper Corporation Pvt Ltd. J-1 Plant



QUALITY – LARGE
Tata Motors Ltd., TMCV, Pune – Gear Factory



INNOVATION - LARGE
Tata Motors Ltd., TMCV, Pune – Gear Factory



ENVIRONMENT SOCIAL GOVERNANCE (ESG) - MEDIUM
Minda Corporation Ltd - Die Casting Division Greater Noida



ENVIRONMENT SOCIAL GOVERNANCE (ESG) - LARGE
Bajaj Auto Ltd, Chakan Plant



HUMAN CAPITAL MANAGEMENT – MEDIUM
Supreme Nonwoven Industries Pvt Ltd.



ENVIRONMENT SOCIAL GOVERNANCE (ESG) - SME
Forvia Clean Mobility



SUPPLY CHAIN MANAGEMENT – MEDIUM
Supreme Treon Private Limited, Bawal



SUPPLY CHAIN MANAGEMENT – LARGE
Hyundai Motor India Ltd.



INNOVATION – SME
BonV Aero



MANUFACTURING EXCELLENCE – SME
VST Tillers Tractors Ltd, (Precision Components Division) Mysore



DIGITAL MANUFACTURING – SME
Mahle Engine Components India Pvt Ltd



QUALITY – SME
FORVIA Clean Mobility



HUMAN CAPITAL MANAGEMENT (HCM) - SME
Mahle Engine Components India Pvt Ltd



HUMAN CAPITAL MANAGEMENT (HCM) - LARGE
Skoda Auto Volkswagen India Pvt Ltd - Chakan



SUPER SHOPFLOOR OF THE YEAR – LARGE
Tata Motors Ltd., TMCV, Pune – Gear Factory



SUPER SHOPFLOOR OF THE YEAR – MEDIUM
Xpro India Ltd - Biax Division



SUPER SHOPFLOOR OF THE YEAR – SME
VST Tillers Tractors Ltd

WE WILL CONTINUE TO FOCUS ON INNOVATION AND COST OPTIMISATION

Mayank Panday, the Whole Time Director of Castrol India Limited, is confident in the company's future growth despite market risks. In an interview with **Nisha Shukla**, he outlined the company's vision for its supply chain in response to market trends, technological advancements, and changing consumer preferences while capitalising on emerging opportunities in the Indian market.

Castrol India reported a 6.8 per cent year-on-year (YoY) increase in net profit at Rs 216.2 crore for the first quarter that ended March 31, 2024. What according to you were the factors/ key areas contributing to this growth. What are your expectations from the upcoming financial year?

Our resilient performance in the first quarter can be attributed to a diversified product portfolio, strategic brand campaigns, expanded market reach, and a focus on EV readiness. Key drivers of growth included launching new products like MAGNATEC SUV and CRB ESSENTIAL, which diversified our offerings and tapped into new-margin pools.

Effective brand building played a crucial role, with campaigns such as #BadhteRahoAage Castrol CRB TURBOMAX Pragati Ki Paathshaala empowering over 12,000 truckers across India, and 'India's Ultimate MotoStar' garnering over 10,000 registrations nationally. Strategic associations, including one with Shah Rukh Khan, significantly enhanced brand awareness and customer engagement.

Rural market penetration was another key factor. Expanding our reach to 33,500 outlets in rural areas made us more accessible, opening new markets and increasing market share. Additionally, strengthening our presence in the aftermarket with over 9,000 multi-brand passenger car workshops improved margins.

Our focus on EV readiness involved investing in EV transmission fluids manufacturing in India and providing mechanic training, positioning us for future growth and innovation.

Looking ahead, we expect digital transformation and sustainable solutions to be crucial. Tools like Castrol SMART, Castrol Fastscan, and Castrol DIGICLAIM will enhance efficiency. We will continue



Mayank Panday, the Whole Time Director of Castrol India Limited

to focus on innovation and cost optimisation through workforce productivity and asset utilisation.

How does your company approach product development and innovation to address the specialised needs of industries like automotive manufacturing, mining, machinery, and wind energy?

We prioritise cutting-edge solutions through significant investments in future-ready and sustainable development. One of our key strategies is the active participation in the global R&D initiatives of our

parent company, bp. For instance, we have invested Rs 500 crore in the UK R&D centre to advance research in thermal management and EV charging solutions.

Understanding the distinct needs of commercial vehicles and passenger cars, we have tailored specific solutions. Castrol CRB ESSENTIAL, a cost-effective range of engine oils for commercial vehicles, promotes extended engine life and minimal downtime. For SUVs, we launched Castrol MAGNATEC SUV 5W-30, a premium synthetic oil designed to meet the unique demands of these vehicles.

To future-proof our offerings, we introduced Castrol ON, an advanced range of EV fluids, coolants, and lubricants tailored for electric powertrains. This innovation ensures that we remain at the forefront of the evolving automotive landscape.

Recognising shifting consumer behaviour, we have also expanded into auto care with products like chain cleaners, lubricants, and polishes. This foray into auto care allows us to meet the diverse needs of our customers more comprehensively.

In the realm of industrial efficiency, we specialise in wind energy turbine and gearbox lubricants. Castrol Optigear, for example, boosts efficiency by over a per cent, which can translate to an additional \$100,000 in revenue per turbine over its 25-year lifespan. We have partnered with German motion technology specialists, Schaeffler, to develop new greases for wind turbines. Additionally, our high-performance mining lubricants are formulated to reduce the risk of equipment failure, ensuring optimal performance in demanding conditions.

How do you stay ahead of the curve in terms of technology and market demands?

We are committed to maintaining a customer-focused, competitive, and sustainable supply chain. By staying attuned to the evolving needs of consumers and investing in R&D, we ensure that we remain ahead of market demands.

Our digital transformation efforts play a pivotal role in this strategy. We utilise advanced planning tools and digitalisation to gain real-time data insights and manage our supply chain efficiently. For instance, our digital solutions combine real-time data insights, order tracking, and a unified Transport Management System platform. Advanced planning tools like SO99+ further optimise demand forecasting, inventory management, and collaboration, enabling us to meet market demands seamlessly.

Sustainability is another cornerstone of our strategy. We have implemented a comprehensive sustainability plan that includes using 30 per cent post-consumer recycled materials in our packaging and launching 100 per cent PCR bottles, which reduce plastic use by 1,800 tonnes annually. These initiatives

reflect our commitment to reducing our environmental impact while maintaining high standards of quality and efficiency in our supply chain.

What are the key growth opportunities and challenges that your company anticipates in the Indian market, particularly in the high-performance lubricants and metalworking fluids segments?

India, the third-largest lubricant market globally, presents a landscape rich with both opportunities and challenges. The country's rising factory and farm output, coupled with robust infrastructure development, is driving the demand for lubricants. The growing popularity of two-wheelers, SUVs, and CNG vehicles further fuels this demand. Additionally, rural markets offer significant growth potential, making them a key area of focus.

However, navigating this market is not without its challenges. Inflation poses a constant threat, as do the pressures of competition from multiple players and the ever-evolving consumer preferences. Despite these potential risks, Castrol India is well-positioned for future growth. The company's strong presence in both traditional and EV lubricants ensure it remains a leader in this dynamic market, ready to capitalise on the opportunities while adeptly managing the challenges.

How has the integration of electric vehicles impacted the traditional supply chain system?

The rise of electric vehicles is transforming the automotive landscape and reshaping the supply chain. Although EVs currently represent a small portion of new vehicle sales, with two per cent for cars and five per cent for two-wheelers, the shift towards new energy mobility is prompting significant changes. These changes bring challenges, such as the development of local manufacturing capabilities for components and enhancing vendor competitiveness against imports.

Collaborations with partners like Ki Mobility Solutions and Mahindra Insurance Brokers are crucial in keeping us aligned with market needs. These strong partnerships ensure we remain responsive and adaptive to the evolving automotive sector.

In addition, our EV-readiness training program, endorsed by India's Automotive Skills Development Council (ASDC), has been instrumental in preparing the workforce for the future. By training over 1,000 mechanics across 13 cities, we are ensuring the effective maintenance and service of electric vehicles, thereby supporting the broader transition to EVs.

How does Castrol India envision its supply chain evolving in response to market trends, technological advancements, and changing consumer preferences?

Castrol India is enhancing its supply chain through

a multifaceted approach. By leveraging digital tools, data, and technology, the company is achieving end-to-end visibility, uncovering optimisation opportunities, and establishing new capabilities to maximise value. This digital expertise is transforming how the supply chain operates, making it more efficient and responsive.

The company is also focusing on products and market expansion. By increasing its reach in rural areas through new routes to market and expanding its product portfolio, Castrol India is tapping into new market segments. This strategy not only broadens the company's customer base but also strengthens its presence across diverse regions.

Sustainability initiatives are a key part of Castrol India's supply chain enhancements. The company is committed to reducing plastic use and increasing the use of recycled materials in packaging. Additionally, by digitalising supply chain processes, Castrol India is reducing its environmental footprint while improving efficiency. These efforts reflect the company's dedication to sustainable development and its proactive approach to addressing environmental challenges.

How does Castrol India integrate Artificial Intelligence, machine learning, and technology into its supply chain operations? How have these technologies impacted the overall performance of Castrol India's supply chain operations?

Machine learning and decision-making algorithms are finding wide use cases creating business value. A case in point is using imaging-based technologies to monitor abnormalities in our manufacturing sites using CCTV and providing alerts to use of advance algorithms in demand sensing helps improve our ability to predict and respond to market demand.

What are the key trends and challenges shaping the lubricants market in India, especially in the segments your company operates in?

Market challenges such as economic slowdowns can significantly affect lubricant demand. The transition to electric vehicles presents both an opportunity and a challenge, particularly with the need to meet stricter emission and fuel economy regulations. Intense competition and product shortages also pose significant hurdles.

Despite these challenges, Castrol India navigates the landscape with a diversified focus. Through continuous innovation and a commitment to quality, the company implements customer-centric strategies that address the evolving needs of the market. New initiatives in emerging segments like EVs demonstrate Castrol India's adaptability and forward-thinking approach, ensuring that it remains a leader in the industry even amidst shifting market dynamics.

How is your company positioned to capitalise on emerging opportunities and navigate potential risks in the Indian market?

Castrol is well-positioned due to its strong legacy, extensive network, and commitment to innovation. The company has refreshed its brand identity and is pursuing an 'onward, upward, and forward' strategy, which includes prioritising volume growth in its core auto lubricants business, increasing the share of industrial volumes, and investing in new initiatives to be future-ready.

We are focused on long-term growth through independent workshops, premium products, and new initiatives. Castrol India remains adaptable to economic shifts and market disruptions, ready to seize opportunities in growing areas like data centre cooling and EVs.

What initiatives has your company undertaken to promote sustainability and reduce the environmental footprint of your manufacturing processes and products?

At Castrol, sustainability is a core commitment embedded across our operations and initiatives. One of our flagship programs, PATH360, sets ambitious targets aimed at achieving significant waste reduction, reducing our carbon footprint, and improving lives by 2030.

Central to our sustainability strategy is the adoption of renewable energy. We are actively increasing the use of renewable power and transitioning all our assets to renewable energy sources. This shift not only aligns with our environmental goals but also promotes cleaner, more sustainable practices throughout our operations.

Innovation in product development plays a crucial role in our sustainability efforts. We have launched carbon-neutral products and implemented the Castrol Certified Carbon Neutral program. By 2025, we aim to achieve a 50 per cent reduction in our Scope 1 and 2 greenhouse gas emissions compared to our 2019 baseline. This commitment underscores our proactive approach to combatting climate change and reducing our environmental impact.

Addressing the issue of plastic waste is another key focus area. Castrol is dedicated to cutting our plastic footprint by 50 per cent by 2030. We are actively transitioning to 100 per cent recycled plastic bottles for our premium engine oils, promoting circular economy practices and reducing the environmental impact of our packaging materials.

These initiatives highlight Castrol's steadfast commitment to sustainability, demonstrating our proactive efforts to drive positive environmental change and uphold responsible business practices across our global operations. 

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By Nisha Shukla

SMART MANUFACTURING STRATEGIES: FROM CONCEPT TO EXECUTION

The panellists discussed in length the entire lifecycle of smart manufacturing—from initial conceptualisation to full-scale implementation—emphasising the need for a strategic approach to harness cutting-edge technologies.



The ETNOW Tech in Manufacturing Summit's second edition featured an engaging panel discussion on Smart Manufacturing Strategies: From Concept to Execution. The panel included Arun Kumar TM, Regional Director of Best Power Equipments; Keerthivasan Ravi, Co-Founder & CTO of Raptee; Praveen Mysore, Technical Director of Dassault Systèmes; Rahul Sahai, CEO of Kirloskar Oil Engines Limited; Satyabrata Satapathy, Co-Founder and Director of BonV Aero; and Vivek Raj, CEO of Telecom Grade FRP & ARP Business at Runaya. The power-packed discussed smart manufacturing concepts, exploring strategies for implementation, integration,

and optimisation across the entire manufacturing value chain.

Moderated by Prashant Bhingardeo, Director - Operations & Manufacturing Consulting at PwC India, the discussion began with Bhingardeo asking about the current and future outlook of smart manufacturing in India.

Arun Kumar started the discussion by pointing out that India is rapidly progressing in digital transformation, especially in the manufacturing sector. He mentioned that technologies such as IoT, data analytics, and artificial intelligence are driving efficient manufacturing. These technologies are crucial for the

industry today, with significant investments flowing into various sectors, including automotive.

Kumar emphasised that the future of the industry depends on these investments. He highlighted that "India's GDP contribution from manufacturing is expected to increase from 17 per cent to 21 per cent by 2025." However, he also pointed out the challenges that need to be addressed, including the requirement for a skilled workforce, substantial investments, and effective strategies to drive this transformation. He concluded that "there is enormous growth potential as traditional manufacturing shifts towards digitisation and smart manufacturing."

Bhingardeo then directed a question to Rahul Sahai, asking him about the business benefits organisations should aim for when adopting smart manufacturing strategies. Sahai emphasised the importance of predictability in manufacturing operations, particularly in discrete manufacturing. He mentioned that the primary goal is ensuring manufacturing operations align with the planned outcomes.

Sahai shared an example from his own experience. His team designed a new technology by creating digital twins and installing sensors in every machining centre. This setup enabled real-time monitoring and interaction with the manufacturing unit, leading to improved planning and predictability of outcomes. Sahai emphasised that smart manufacturing's primary goal is to enhance predictability in manufacturing processes.

Adding to Sahai's point of view, Kumar too shared an example from his company, which manufactures UPS systems. He explained how they had incorporated IoT into their UPS units, enabling remote monitoring of the systems' health via smartphones. This innovation allowed for cost-effective maintenance and improved efficiency, demonstrating the practical benefits of smart manufacturing.

Satyabrata Satapathy discussed how smart manufacturing strategies are transforming logistics and transportation. He highlighted the use of logistic drones designed for challenging terrains, digital twin technology, automation, and IoT-based systems to streamline production and ensure precision and efficiency.

Praveen Mysore discussed how these strategies are transforming product design to product lifecycle in manufacturing. He emphasised the evolution of smart manufacturing technology, which has significantly reduced the time required to design and develop products, such as passenger cars. He explained that concurrent engineering allows for simultaneous design and manufacturing activities, breaking down silos between different functions and enabling virtual simulations before physical implementation. This

approach increases confidence, reduces non-value-added activities, and enhances overall efficiency.

When discussing the implementation of smart manufacturing strategies, whether through pilots or full-scale implementation, Vivek Raj advocated starting with pilot projects to minimise risks and evaluate different configurations before scaling up. He shared Runaya's experience of validating solutions on a smaller scale before implementing them across multiple sites.


Continuing the discussion on challenges and barriers, Keerthivasan highlighted the typical challenges faced during implementation. He shared the importance of accurately defining the problem in the initial stages. He also pointed out that overly complex processes can lead to resistance from the team, so it is essential to start with basic implementations and gradually improve the process.

Rahul Sahai further elaborated on barriers, emphasising the importance of mindset at the operating level. He shared an example of using simple video cameras enabled with neural networks to enhance predictability and safeguard assembly line operations. Sahai stressed that understanding the maturity level of an organisation is crucial before deploying advanced systems.

The panellists further discussed the importance of cybersecurity in smart manufacturing. Praveen Mysore highlighted the need to consider cybersecurity risks during deployment, as breaches can lead to production disruptions and safety issues. He emphasised the importance of updating cybersecurity measures regularly and training the workforce to avoid unintentional errors.

Finally, Arun Kumar discussed how to select and integrate technologies with existing systems and processes. He outlined a systematic approach, starting with a needs analysis, research, evaluation, pilot testing, and finally, large-scale implementation. "Upskilling the workforce and continuous monitoring are also critical components of this process," added Kumar.

Moderator Prashant Bhingardeo concluded by emphasising the importance of understanding an organisation's readiness and maturity level before embarking on smart manufacturing initiatives. Additionally, Rahul Sahai stated that "a basic level of calibration is essential to ensure that the fundamentals are in place before deploying advanced technologies."

In summary, the discussion highlighted the transformative potential of smart manufacturing strategies in India. With the right approach, including careful planning, pilot testing, addressing cybersecurity risks, and involving the workforce in the transformation journey, organisations can significantly enhance their manufacturing processes, leading to improved efficiency, cost-effectiveness, and predictability. 

By Nisha Shukla

AGILE MANUFACTURING: ENABLING A SEAMLESS TRANSITION

The panelists emphasised agility in manufacturing, highlighting the role of IoT, digital twins, and real-time data in enhancing efficiency, flexibility, and sustainability. They also discussed the challenges of implementing these technologies and the strategies to overcome them.



Moderated by Pallab De, Partner and Leader – Operations & Manufacturing Consulting, A&D PwC, the panel comprising Akilur Rahman, CTO, Hitachi Energy India; Arpit Bansal, Senior Vice President & Head of Technology and Product, DriveX; Nikhil Ramaswamy, Founder - GTM, Sales, Investment, CynLr; Sonam Motwani, Founder & CEO, karkhana.io; Srinivas Tangudu, Director - Data Analytics, Altair; Suraj Nair, Director – Technology & Centre of Excellence Leader (IOT & Telematics), Quest Global discussed how digital transformation fosters flexible production, rapid customisation, swift market adaptation, and efficient resource use, creating a responsive and dynamic manufacturing landscape.

Pallab De kickstarted the discussion by posing

a question to Suraj Nair about specific examples of how IoT has significantly improved manufacturing efficiency, flexibility, and agility. In response, Suraj Nair cited a recent example involving a food and beverage manufacturer seeking to digitally transform its production facilities. "This manufacturer faced common issues related to the segregation of OT (Operational Technology) and IT (Information Technology) and sought ways to enhance operational efficiency through digital transformation, where IoT played a crucial role," he added.

Nair explained that IoT could be viewed from two perspectives: the non-human and the human aspects. "From the non-human perspective, IoT involves communicating with equipment and systems to extract data, which can then be stored and used for future

engineering and analytics to better understand the production facility's state. The human aspect focuses on how this data helps reduce the cognitive load for workers on the shop floor.”

Further he emphasised that IoT bridges the gap between OT and IT by extracting data from various equipment, which often differ even within the same manufacturing company. This data extraction involves integrating with proprietary protocols, converting the data into a usable format for the IT network, and sometimes retrofitting sensors to legacy equipment to gather sufficient information. Nair also acknowledged that this process might face resistance from OT professionals but is necessary for obtaining actionable insights.

He highlighted the role of real-time data in making the shop floor more comfortable for workers by providing timely information through devices like smart glasses or mobile handsets with AI integration. Additionally, IoT also enhances safety by monitoring workers' proximity to hazards and analysing air quality using computer vision.

Later Nair elaborated about the challenges of implementing IoT technology and how they are addressed. He identified the diversity of equipment and the resistance to change as significant challenges. “Different locations often use different types of equipment, requiring new integration methods. Additionally, long-time shop floor workers might resist transitioning from manual data entry to using digital devices and dashboards. Overcoming these challenges involves training and demonstrating the benefits of the new systems to improve productivity and ease of work.”

The discussion moved to Srinivas Tangudu, who was asked about the utilisation of digital twins in process optimisation and predictive maintenance in agile manufacturing. Tangudu explained that a digital twin is a digital replica of a physical counterpart, such as an asset, plant, machinery, system, or process. It allows real-time performance simulation and decision-making to optimise and enhance the quality of manufacturing output.

He shared use cases such as real-time asset monitoring during the COVID-19 pandemic and predictive maintenance, which replaces the traditional scheduled or reactive maintenance approaches.

Tangudu highlighted that digital twins are crucial for agile manufacturing, helping companies meet sustainability goals and optimise processes. By real-time monitoring and simulation, companies can ensure efficient energy use and compliance with environmental standards.

Pallab De then asked Akilur Rahman about how agile manufacturing practices contribute to the faster


development and deployment of green technologies or new products. Rahman emphasised the importance of a vision, citing the net-zero or carbon-neutral targets set by countries and corporates. He mentioned India's goal to achieve 500 gigawatts of renewable energy by 2030 and the backcasting required to meet this target, involving significant manufacturing and supply chain efforts.

Rahman explained that long lead items like transformers require extensive time for manufacturing and assembly, highlighting the importance of integrating digital twins and simulation in the design, planning, manufacturing, and operation phases. Digital twins enable companies to predict and address issues promptly, ensuring reliability and performance. He noted that industry 4.0 and the energy transition demand more agility in manufacturing processes, combining process analytics and data analytics to enhance agility.

Lastly, Pallab De directed a question to Arpit Bansal about how agile manufacturing supports circular economy practices and the remanufacturing of pre-owned two-wheelers. Bansal defined agility as flexibility in delivery, focusing on affordability for customers. He explained that their goal is to refurbish the two-wheelers cost-effectively, catering to customers who otherwise couldn't afford them.

Bansal emphasised the importance of digital systems that provide real-time feedback from customers to the manufacturing plant, enabling quick and cost-effective refurbishments. He stressed that agility involves fixing only what the customer demands, ensuring affordability and meeting specific requirements. For instance, customers looking for stability and mileage in a reused vehicle have different needs compared to those seeking a high-performance riding experience.

Finally, Sonam Motwani discussed the trends and challenges in agile manufacturing, particularly for MSMEs. She emphasised the need for tools and technologies that can be easily adopted by smaller manufacturers to enhance capacity and capability. Motwani provided an example of how her company, Karkhana, leverages data and machine learning to expedite the quotation process for design changes, thereby improving supply chain efficiency and responsiveness.

In conclusion, the panelists highlighted various aspects of agility in manufacturing, emphasising the role of IoT, digital twins, and real-time data in enhancing efficiency, flexibility, and sustainability. They also discussed the challenges of implementing these technologies and the strategies to overcome them, underscoring the importance of training, digital integration, and customer-centric approaches in achieving agile manufacturing. 

By Nisha Shukla

CYBERSECURITY IN THE INDUSTRY: SAFEGUARDING MANUFACTURING ASSETS IN A DIGITAL WORLD

The panellists underscored the critical importance of cybersecurity in manufacturing, discussing risk management strategies, threat detection technologies, and regulatory compliance measures to protect sensitive data and assets.



During the panel discussion at the second edition of the ET NOW Tech in Manufacturing Summit, distinguished members from the manufacturing sector emphasised the use of cloud-based, mobile-centric technologies, advanced analytics, digital innovation, sustainability, and the crucial aspect of security.

The panel included Anjaiah Surgi, SVP & CIO, Somany Impresa Group; Thameem Kamaldeen, MD - Signalling & Infra, Alstom India; Rakesh Raghuvanshi, Founder & CEO, Sekel Technologies; Siva Prakash, Regional Sales Manager - South India, Varonis Systems;

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Artificial intelligence and cybersecurity are now major discussion points in boardrooms, a shift accelerated by COVID-19. Budgets for cybersecurity are more readily approved compared to other areas, reflecting its critical importance.



While technology adoption is crucial, the human element remains a significant vulnerability. Companies must therefore adopt comprehensive strategies that include technology, process improvements, and employee training to effectively protect against emerging cyber threats.

and Santosh TG, CIO, Switch Mobility. The discussion focused on the critical importance of cybersecurity in manufacturing.

The session began with moderator Ashwani Mishra, AVP & Editor of Technology at 63SATS, summarising key takeaways from discussions with CIOs, CTOs, and CEOs in the manufacturing industry. These include the adoption of AI, ML, and IoT, management of large-scale data, promotion of innovation, ensuring sustainability, and addressing security threats, particularly ransomware, which has been a major concern in the sector.

Santosh TG began by emphasising the dual role of manufacturing companies as both producers and tech companies. He pointed out that artificial intelligence and cybersecurity are now major discussion points in boardrooms, a shift accelerated by COVID-19. He notes that budgets for cybersecurity are more readily approved compared to other areas, reflecting its critical importance.

Santosh highlighted several measures his company, Switch Mobility (an electric vehicle arm of Ashok Leyland), is taking to combat cybersecurity threats. These include ensuring that data in motion and at rest is encrypted, particularly since their vehicles collect vast amounts of data. Regular vulnerability assessment and penetration testing (VAPT) are conducted as health checks for systems to identify and mitigate vulnerabilities. They also emphasise timely updates and patches for systems through effective patch management. Additionally, the company addresses the human element in cybersecurity by educating employees about risks and safe practices.

Thameem Kamaldeen highlighted the significance of cybersecurity within the transportation industry. He pointed out that cyberattacks are increasingly targeting rail networks, which are vital to infrastructure. Alstom has responded by creating cyber-hardened software for train control systems, exemplified by the implementation on the Tel Aviv Metro in Israel.

He stressed the importance of integrating cybersecurity across the product lifecycle, from design to operation. Additionally, he mentioned the establishment of the Alstom Cybersecurity Academy and Centre of Excellence in India, aimed at training the


workforce and ensuring strong cybersecurity practices.

Rakesh Raghuvanshi discussed the criticality of safety, security, and compliance. He particularly emphasised the human factor as the weakest link in cybersecurity. He demonstrated how data can be easily compromised through seemingly innocuous actions such as using Bluetooth devices or weak passwords.

He advocated for a multi-faceted approach to cybersecurity, including ensuring that emails are digitally certified to prevent spoofing. He also emphasised the importance of basic hygiene practices like segmenting networks and maintaining secure data transfer processes.

Anjaiah Surgi emphasised the growing complexity and interconnectivity of modern manufacturing, pointing out that the attack surface has expanded significantly. He discussed his company's strategy for reducing risks, which includes implementing network segmentation to isolate critical systems and using disconnected backup servers as protection against ransomware. Surgi also noted that securing budgets for cybersecurity has become easier, reflecting the increasing recognition of its significance in safeguarding business operations.

Siva Prakash discussed the complex nature of modern cyber threats, such as social engineering and identity-based attacks, and stressed the importance of focusing on data protection. He recommended that companies should not only segment networks but also prioritise understanding and protecting critical data. He also proposed a unified approach to data protection, which involves assessing who has access to data, ensuring access is necessary, and monitoring data usage to prevent unauthorised actions. Siva Prakash emphasised the significance of employing multiple strategies to effectively safeguard data and reduce risks.

Overall, the panel discussion underscored the multifaceted nature of cybersecurity challenges in the manufacturing sector. Panellists agreed that while technology adoption is crucial, the human element remains a significant vulnerability. Companies must therefore adopt comprehensive strategies that include technology, process improvements, and employee training to effectively protect against emerging cyber threats. 

EMPOWERING THE WORKFORCE: SKILLS, TRAINING, AND TALENT DEVELOPMENT IN THE AGE OF AUTOMATION

The panellists delved into the human side of technological innovation, discussing strategies for upskilling, reskilling, and talent development to ensure a skilled workforce capable of leveraging advanced manufacturing technologies in the age of automation.



At the ET NOW Tech in Manufacturing Summit, there was a discussion on "Empowering the Workforce: Skills, Training, and Talent Development in the Age of Automation." The panel included experts such as Bhaktha Keshavachar, CEO & Co-founder of Chara Technologies; Chirag Jain, Co-founder & CTO of EndureAir; J Sekar, Associate Vice President - HR at Amara Raja Group; Sayeed Ahmed, CEO of Biese India; Sumit Kumar, Chief Strategy Officer at TeamLease Degree Apprenticeship; and Vivek Srivastava, Chief Executive Officer - India Business at

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Nearly 40 million jobs might be replaced by 2030 due to automation. There is dire need for workers to upskill and reskill to stay relevant.

Suzlon Group.

Under the moderation of Nisha Shukla, Assistant Editor – B2B Division, Worldwide Media, The Times



The panel discussion highlighted the critical need for continuous learning, upskilling, and a supportive organisational culture to navigate the challenges posed by automation and digital transformation in the manufacturing sector.

Group, the experts emphasised the significance of skill development, upskilling, employee retention, and filling the skill gap, especially in the context of automation and digital transformation.

The session started with moderator Nisha Shukla asking Sayeed Ahmed about the crucial skills and competencies needed in the manufacturing sector during this era of automation and its impact on hiring trends. Ahmed responded by noting the rapid adoption of automation and the consequent replacement of manual jobs. He mentioned that nearly 40 million jobs might be replaced by 2030 due to automation, emphasising the need for workers to upskill and reskill to stay relevant. Ahmed also stressed the importance of technical feasibility and labour dynamics in implementing automation in India, highlighting that the nature of automation in India would differ from that in developed countries.

A question was then directed to Chirag Jain about the technical skills essential for the UAV and VTOL industries. Jain stressed the need for cross-functional knowledge across all levels, from technicians to project managers.

When discussing the influence of AI, IoT, and robotics on skill sets and soft skills in an automated environment, Sumit Kumar stressed the significance of digital skills as the new soft skills. This includes the ability to utilise AI and comprehend how digitisation affects cognitive skills. Additionally, Kumar underscored the necessity for foundational, transversal, and domain-specific skills. He also emphasised the importance of organisations investing in continuous learning and skill enhancement to remain competitive.

In response to a question about the importance of designing training programs to align current workforce skills with future needs, J Sekar shared a story about the emotional attachment workers previously had with machinery, which has diminished with the introduction of automation. He stressed the importance of re-establishing this emotional connection through incentives and a credit system for learning, promoting a culture of ongoing improvement.

Vivek Srivastava contributed to the discussion by explaining that training alone is insufficient for the radical changes brought by automation. He highlighted the need for a complete organisational

transformation, starting from leadership and cascading down to every worker level, to adapt to new processes and technologies.


Bhaktha Keshavachar discussed the importance of balancing traditional skills with emerging technologies in training programs. He shared his company's approach of starting from basics, encouraging continuous learning, and integrating new technologies to ensure efficient production.

Sumit Kumar further discussed re-skilling and upskilling initiatives for transitioning manual workers into digital roles, emphasising the need for organisations to invest in their talent to maintain productivity and manage costs.

Besides, J Sekar elaborated on the role of leadership in fostering a learning culture. He stressed the importance of incorporating capability building into business planning, role modelling by leaders, and simplifying approval processes for training programs. He outlined a three-pillar strategy for learning: investing, empowering, and measuring outcomes.

Finally, addressing concerns about job loss due to automation, he also suggested that companies should focus on upskilling and reskilling their employees to adapt to new technologies. J Sekar also emphasised the importance of continuous learning and the need for practical training programs incorporating VR and AR technologies to enhance workers' grasp of new skills.

Looking ahead to the next decade, Sumit Kumar predicted that India's manufacturing sector is on track to reach a value of USD 1 trillion by 2025. This growth will be driven by policy reforms and technological advancements. Kumar highlighted the increased focus on semiconductor and smartphone manufacturing, a 52 per cent surge in car manufacturers' capacity, and underlined the importance of integrating automation and AI to boost productivity. Additionally, Kumar stressed the significance of skill development initiatives, such as the Skill India mission, to prepare the workforce for new roles and ensure global competitiveness.

Overall, the panel discussion highlighted the critical need for continuous learning, upskilling, and a supportive organisational culture to navigate the challenges posed by automation and digital transformation in the manufacturing sector. 



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