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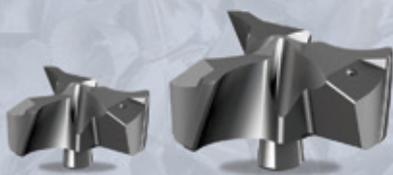
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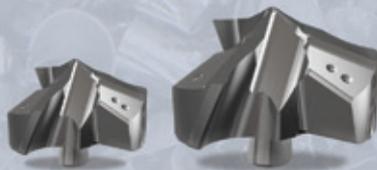


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ENCOURAGING SIGNS!

E The growth in India's industrial output accelerated to a 3-month-high of 5.2% in May 2023 from 4.5% in the previous month. This encouraging performance during the month was anchored by healthy growth in the mining and manufacturing sectors. Electricity output also picked up following a muted performance over the last two months supporting the overall IIP growth.

Within the use-based classification of industrial output, the highlight was the improvement seen in the consumer goods segment (both durable and non-durable goods). However, a durable improvement in consumption demand remains critical for overall industrial activity.

The output of the manufacturing sector grew by an encouraging 5.7% in May compared to 5.2% in the previous month. Within the manufacturing sector, 11 out of 23 categories recorded growth in output on a year-on-year basis. Among the major components of the manufacturing sector, output of basic metals (having the highest weight of 12.8% in overall IIP) grew by an upbeat 9.6% compared to 10.2% last month.

The impact of sluggish external demand was visible in the subdued performance of sectors such as textiles (-3.7% growth) and wearing apparel (20.9%). Following a dismal performance in the last two months, growth in electricity output inched up to 0.9% in May.

Mining output grew by a healthy 6.4% in May compared to 5.2% in the previous month. Overall, the growth in industrial output during the month was anchored by the strong performance in mining and manufacturing segments.

The growth in industrial output remained encouraging in May with the noteworthy aspect being the improvement in the consumer goods segment. Going ahead, a durable pick-up in consumption remains crucial for the overall industrial activity as the sluggishness in external demand is expected to persist. The inching up of retail inflation driven by an acceleration in food prices is concerning given that the recovery in consumption is underway. Also, any weather-related disruptions could aggravate the risks to the nascent rural demand recovery.

R Kamat
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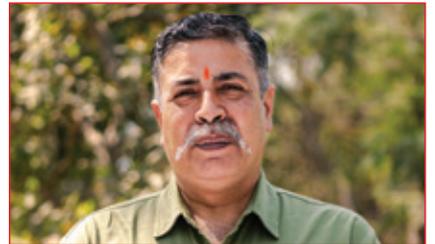


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Seeing beyond

It is imperative to strengthen cooperation between India and Japan as special strategic global partners: Yoshihide Suga, Former PM of Japan

HE MR YOSHIHIDE SUGA, Former Prime Minister of Japan today said that India and Japan share fundamental values and as the international situation becomes increasingly severe, it is further important to deepen cooperation between India and Japan as special strategic global partners.

Addressing the FICCI Forum of Parliamentarians Interaction with Former PM of Japan and Delegation of 'Ganesh' Group of MPs from Japan, HE Suga said that he will be happy to get suggestions on how the Members of Parliament from both countries can work together to improve the bilateral trade and business opportunities.

Former Prime Minister of Japan expressed hope that the 'Ganesh' delegation visiting India will give further momentum to India-Japan relationship and will serve as an opportunity to further strengthen the business engagements.

Sushil Kumar Modi, MP Rajya Sabha, BJP (Bihar) and Chair, FICCI India-Japan Forum of Parliamentarians said that last year they celebrated 70th anniversary of diplomatic relations between India and Japan. "Japan is the 5th largest FDI investor in India and between April 2000 and September 2022, we received FDI equity inflows



worth \$ 38.12 billion which is 6 per cent of the total inflows received," he added.

Emphasising on the potential of Indian Start-ups, Modi stated that Japan ranks 5th in investing in Indian Start-up with a total investment of \$ 50 billion received over the last 5 years and funded 165 Indian Start-ups through venture capital and private equity investment. "Key Japanese companies have today become household name in India. The relationship between India and Japan is strengthening with investments in Mumbai Bullet train project, Make in India project along with various investments at state level as well," he added.

Subhrakant Panda, President, FICCI said "Collaboration on various pillars such as trade, supply chains, and clean

economy holds a lot of potential. In a world fraught with instability due to geopolitical developments, bilateral ties between India and Japan stand out for their genuine warmth and solidity. Partnership between the two countries is not just mutually beneficial but will help the world at large."

Shailesh K Pathak, Secretary General, FICCI moderated the interaction session with the Former Prime Minister of Japan along with the delegation of 'Ganesh' group of MPs from Japan.

Harsh Pati Singhania, Past President, FICCI and Jyotsna Suri, Past President, FICCI and Co-Chair, FICCI Forum of Parliamentarians also shared their perspective and emphasised on the need to further strengthen the trade between India and Japan.

Yokohama India launches its Yokohama Club Network in Telangana

YOKOHAMA INDIA has announced the launch of a dedicated store in Karimnagar, Telangana, within its flagship Yokohama Club Network (YCN) to facilitate a world-class tyre buying experience for its customers. Sri Rajarajeshwara Wheels and Tyres, one of the most prominent tyre retailers in Karimnagar is now the official merchandiser of Yokohama branded performance tyres and will have the full range of products and services on display, including passenger car and SUV tyres. The specialised store will further propel the already expansive Yokohama Club Network to create a well-connected channel around the country.

"To achieve excellence, customer reach and customer satisfaction hold



utmost importance. The Yokohama Club Network has been at the forefront of offering a wide range of tyres to meet the Indian motorists' needs and also services thus setting a benchmark in customer satisfaction. The new YCN store in Karimnagar is an opportunity for us to connect with the customers in this area to equip their vehicles with our top-notch performance tyres and get the most from their motoring lifestyle," said Harinder Singh, Managing Director and CEO, Yokohama India.

Lokati Raju, owner of Sri Rajarajeshwara Wheels and Tyres said, "My association with Yokohama Tyres

is only three years old. And the superior product quality and service support that I got from the company prompted me to upgrade to a dedicated YCN store quickly. I look forward to enhanced customer satisfaction with this move."

Since 2020, Yokohama India has increased its YCN fourfold and looks to expand its reach more aggressively in 2023 as well.

The Yokohama Rubber Co. Ltd. recently also announced that it is expanding its passenger car tyre production capacity in India to meet the increasing demands from the local market. With an additional investment of \$82 million, the company looks to increase its annual passenger car tyre production capacity in India from the current 2.8 million to 4.5 million tyres.



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UNITED GRINDING Group hosts the *umati* Hackathon

EXPERTS FROM THE MACHINERY AND PLANT ENGINEERING SECTORS

met for the second time for a *umati* hackathon. The aim of the *umati* initiative is to further advance connectivity and digitalisation in machine tools. The focus of this year's hackathon was on expanding the connectivity of older generations of existing machines using *umati*. The experts met at the cylindrical grinding machine specialist, Fritz Studer AG, a company of the UNITED GRINDING Group.

A *umati* hackathon is when around thirty digitalisation experts from the machine and plant engineering sectors of different industries meet and network machines together, implement standardised data models, and generate and test code for two days. After 2022, it is the second such event, this year, it took place in May in Steffisburg, Switzerland, at Fritz Studer AG, the cylindrical grinding machine specialist of the UNITED GRINDING Group.

"As the host of this event, we enable a creative platform that brings developers from different companies together – not for their own purpose, but always with a focus on specific customer benefits," said Christian Josi, Head of Digital Engineering at the UNITED GRINDING Group. We are big proponents of *umati* and have supported the initiative since day one.

umati stands for 'Universal Machine Technology Interface' and aims to introduce a universal manufacturer-independent data interface for machines based on OPC UA. Thanks to this interface, machines on the shop floor can communicate with each other and with their production environment in a uniform language.

The VDW and VDMA are the initiators and sponsors of this initiative. "Standardisation of communication and interfaces is enormously important for machine tools and the industry of the future," said Alexander Broos, Head of Research and Technology at VDW and project manager of *umati*.

This uniform language can only be developed in cooperation with the various machine manufacturers. Around 310 partners from all over the world are



now involved in *umati*. All of them share the goal of making their customers' work lives easier and increasing productivity in production by harnessing the potential of digitalisation. This is achieved with *umati* through the implementation of the OPC UA communication and interface standard, which can now be used for a wide range of machine tool applications through numerous sub-specifications, so-called companion specifications. The advantages are:

- Quick overview of all machine, process, and production data, as all machines can be connected to a monitoring system, which makes it significantly easier to uncover optimisation potential in production.
- Plug and Produce – i.e., the simple connection of machines from different manufacturers to one another and to the superordinate production system without any time-consuming coordination and tedious manual configuration ahead of time, which saves a lot of time and resources.
- The variety of different interfaces is reduced with *umati*; this improves transparency and manages the complexity.

The focus of the most recent hackathon was on the integration of existing machine tools using the OPC 40501 'UA for Machine Tools'. While new machines are predominantly equipped with the integrated *umati*

standard today, there is great potential in existing machines, known as 'Brownfliers'. The importance of Brownfliers is so significant, because machines in general, and machine tools in particular have a long service life, and several machines of different years of manufacture, can often be found in one production. At the hackathon, the experts impressively demonstrated that *umati* is also suitable for existing machines - regardless of the year of manufacture and the brand.

Another showcase from the Hackathon in Steffisburg was the implementation of the first standardised energy consumption data of the 'Energy Motoring' expansion of the OPC 40001 'UA for Machinery', which is currently under development. Electrically and pneumatically operated consumers provided their values in a uniform language on the data interface.

Christoph Plüss, CTO of the UNITED GRINDING Group, shared, "*umati* has succeeded in combining the expertise of manufacturers in an initiative that may even be competitors in day-to-day business to pursue a common goal: to drive forward digitalisation and thus offer the customer added value. Only by joining forces can an industry standard be created and developed, and I am convinced that this is the right path and that our customers will also benefit from it."

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Tresa Motors introduces India's first Electric Truck for the Global Market

TRESA MOTORS has unveiled its first electric Truck, the Model V0.1, built on its Axial Flux Motor Platform: FLUX350. Designed for the global market, the unveil showcases Tresa Motors' take on the industrial design, axial flux powertrain and safe battery packs for the medium and heavy electric truck.

Currently, India has a fleet of 2.8 million trucks, contributing to 60 per cent of emissions, highlighting the urgent needs for zero emissions medium and heavy trucks. With the upcoming vehicle scrappage policy in 2024 and increasing fuel costs, the time is ripe for a shift towards medium and heavy electric trucks. Tresa Motors aims to spearhead this transition by providing safe, innovative, and eco-friendly alternatives to traditional diesel trucks, with lowest total cost of ownership. Tresa Motors strives to transition India's 2.8 million trucks to electric, one at a time.

At the core of Tresa's trucks lies its Axial Flux Motor technology, called



FLUX350, delivering upto 350kW continuous power, making Tresa the only Indian OEM with this kind of power output. Axial Flux motors are renowned for their compact size and light-weight nature. Entirely developed in India, and with a handful of axial flux motors manufacturers in the world.

"The journey to the official launch of Tresa's Model V0.1 and the development of our Axial Flux Motor platform has been nothing short of extraordinary," said Rohan Shravan, Founder and CEO, Tresa Motors. "Since our inception a lot

has happened. We overcame a lot of challenges. All in all the team at Tresa has made and manufactured more than 200 different kinds of Trucks in their careers (in India, Germany, the US, and Japan), and have sold a staggering 2 million plus units in the past."

Months of intensive simulations in ANSYS and MATLAB were conducted to fine-tune hundreds of parameters before embarking on the manufacturing process.

This rigorous approach showcases Tresa Motors' commitment to designing and engineering products with first principles.

The launch of Tresa Motors also marks a significant step towards fulfilling the founder's vision for India. Shravan, further shared, "India has the potential to become a global powerhouse for EVs in the years to come. With Tresa Motors, we are determined to contribute to the realisation of this vision and position India as a leader in global transportation solutions."

Eicher delivers first batch of Intercity 13.5m AC sleeper busses

EICHER TRUCKS AND BUSES, a business unit of VE Commercial Vehicles, announced its first deliveries against a prestigious order of 50 Eicher Intercity 13.5m AC sleeper buses to Vijayanand Travels Private Limited (VTPL), one of the most prominent players in the Indian Bus Industry.

The Eicher Intercity 13.5m AC sleeper buses will form the latest addition to VTPL's extensive fleet. These state-of-the-art buses are a combination of the renowned body-building excellence of VECV's Hosakote factory and fully speeded Eicher 13.5m full-air suspension bus chassis. Designed to elevate the travel experience, each berth in the sleeper variant offers a spacious and comfortable environment. Passengers can enjoy personalised features such as individual headboards, well-lit saloons with LED lighting, reading lights, individual AC vents for optimal climate control, side guards for added safety, convenient upper deck access



ladders, USB chargers, mobile holders, ample storage racks, dedicated footwear space, and large side windows that offer panoramic views of the surroundings.

Vinod Aggarwal, MD and CEO of VECV, stated, "VECV remains dedicated to offering secure, reliable, and premium transportation options, and our association with VTPL represents our commitment to achieving this goal."

Akash Passey, President, Bus Division, VE Commercial Vehicles Limited, added, "The delivery of Eicher Intercity sleeper buses to VTPL aligns perfectly with changing market dynamics, wherein passengers seek enhanced comfort and safety. VTPL has been a valuable partner for VECV, and we are proud to contribute to their success by delivering top-of-the-line buses. VECV through

Volvo and Eicher brands, proudly stands as India's only OEM to manufacture sleeper buses, further exemplifying our commitment to innovation and shaping the future of the bus industry."

"We are thrilled to partner with VECV for the delivery of Eicher Intercity sleeper buses. VECV has always been at the forefront of innovation in the commercial vehicle industry, and its commitment to delivering reliable and luxurious buses is commendable. The Eicher Intercity sleeper buses provide exceptional comfort, safety, and convenience for our passengers, elevating their travel experience. This collaboration reinforces our position as a market leader in the private passenger travel industry and enhances our ability to serve our customers across various routes and destinations. We look forward to continuing our successful relationship with VECV," said Shiva Sankeshwar, Managing Director, Vijayanand Travels Private Limited.

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FICCI wins Business Promotion Organisation of the Year at India Global Forum Awards

THE FEDERATION OF INDIAN CHAMBERS OF COMMERCE AND INDUSTRY (FICCI) has emerged triumphant as the Business Promotion Organisation of the Year at the prestigious 5th UK-India Awards 2023. FICCI received the award for its work in the India-UK corridor. The event, held in London, brought together industry leaders, policymakers, and renowned personalities to recognise and honour exceptional contributions to the India-UK business landscape.

The UK-India Awards, organised by India Inc., celebrates the outstanding contributions of those who drive the UK-India partnership, including leaders in business, professional services, government, culture, and social impact. FICCI's recognition as the Business Promotion Organisation of the Year highlights its role in promoting India's business interests globally and fostering a favourable ecosystem for economic development.

Baroness Usha Prashar, Chairperson, FICCI UK Council and Param Shah, Director – UK and Ireland, FICCI received the award. The award was presented by Sir Ron Kalifa, Chairman, Network International and Jury Member for the Awards.

Subhrakant Panda, President, FICCI said, "We are truly honoured to be recognised as the Business Promotion Organisation of the Year at the 5th India Global Forum Awards. This award is a testament to the collective efforts of our members, partners, and stakeholders who have worked tirelessly to enhance India's global competitiveness. FICCI remains committed to empowering Indian businesses and driving sustainable economic growth."

Baroness Prashar, Chairperson, FICCI UK Council said, "I am delighted that FICCI's work in the United Kingdom has been recognised. This will further motivate us to work with greater enthusiasm to facilitate bilateral trade,

investment, and research and innovation partnerships."

Professor Manoj Ladwa, Founder and CEO, India Inc. Group said, "This evening, we celebrate the enterprise, the grit, the innovation and the success of British and Indian businesses and organisations, big and small, who represent what is now the super-highway of UK India Relations. I congratulate FICCI UK for the award and compliment them for the work that has enriched every aspect of the winning partnership between our two great nations."

FICCI UK Council has consistently spearheaded initiatives that have propelled India's relationship with the United Kingdom. It has played a crucial role in connecting Indian businesses with their counterparts, fostering partnerships, and promoting trade and investment opportunities across sectors. FICCI has also been instrumental in advocating for policy reforms for enhancing the bilateral trade and investments.

TVS Motor announces association with Zomato to accelerate last mile green deliveries

TVS MOTOR COMPANY, a reputed manufacturer of two-wheelers and three-wheelers globally has announced an association with the food ordering and delivery platform, Zomato. This association is in line with TVS Motor's commitment towards its green and

sustainable mobility solutions. It further strengthens the company's electrification journey across diverse mobility segments and aligns with Zomato's efforts to enable the adoption of EVs through last-mile delivery partners. This collaboration aims to reshape the future of urban transportation by combining TVS Motor's cutting-edge electric scooter technology with Zomato's extensive network of delivery partners.

As part of this strategic partnership, TVS Motor will deploy over 10,000 TVS electric scooters over a course of two years, powered by its advanced electric powertrain and superior battery technology. These vehicles will contribute



towards revolutionising last-mile delivery, enabling Zomato to further reduce carbon footprint. TVS Motor will also ensure that delivery partners on boarded on Zomato have access to charging stations within their radius and receive smooth digital integration to ensure ease of delivery.

Manu Saxena, Senior Vice President, Electric Vehicles, TVS Motor Company, said, "With the success of TVS iQube Electric, we are expanding our electric offerings across multiple segments and last-mile delivery services stands at the opportune inflection point towards faster adoption of EVs. TVS Motor is proud to partner in the mission for electrification

of Zomato's delivery partners' vehicles. This strategic partnership adds another milestone in TVS Motor's journey to provide smart and reliable EV products and services with lowest total cost of ownership to our delivery partners."

Zomato's Chief Operations Officer,

Rinshul Chandra added, "At Zomato, we are committed to 100 per cent EV adoption by 2030, and are the first food ordering and delivery platform to join Climate Group's EV100 campaign. We are now partnering with over 50 companies in the EV ecosystem with the intent of onboarding over 1,00,000EV-based delivery partners on our platform within the next 2 years. This association with TVS Motor adds further momentum to our commitment, given their global repute in the sustainable mobility domain. We are excited to jointly facilitate greener last-mile deliveries by transitioning our delivery partners' vehicles to EVs."

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LOKUMA

“EMBRACING DIGITAL TRANSFORMATION WILL BECOME IMPERATIVE FOR PLAYERS”

Unlocking the potential of digital technologies in the manufacturing sector is essential for businesses to thrive in today's highly competitive market. **Rakesh Prasad**, Senior Vice President of Strategy and Solutions at **Innover**, sheds light on how the company has successfully fostered the adoption of digital technologies in manufacturing, empowering businesses of all sizes to drive innovation, efficiency, and growth in an interview with **Dipika Lalwani**.

How has Innover inculcated the adoption of digital technologies in the manufacturing sector, and what are some of the strategies you have implemented?

Making use of digital and analytics technologies, Innover is transforming the operations of manufacturing businesses and enabling them to remain competitive in today's rapidly evolving digital landscape.

We have successfully implemented various digital and analytics strategies into the manufacturing processes of leading global enterprises. By harnessing data from diverse sources, we provide valuable and actionable insights. These real-time insights help them to monitor and optimise activities, ensuring uninterrupted operations and efficiency. We have developed sophisticated analytics platforms that gather, cleanse and analyse data from sources within manufacturing facilities to drive accelerated value. The insights from the data provide visibility into production, supply chain, and quality control processes.

Moreover, we integrate AI/ML, IoT, Digital Twins, and Intelligent Automation to connect machines, devices, and sensors across the manufacturing ecosystem, facilitating data exchange and communication. This enables real-time monitoring, predictive maintenance, and

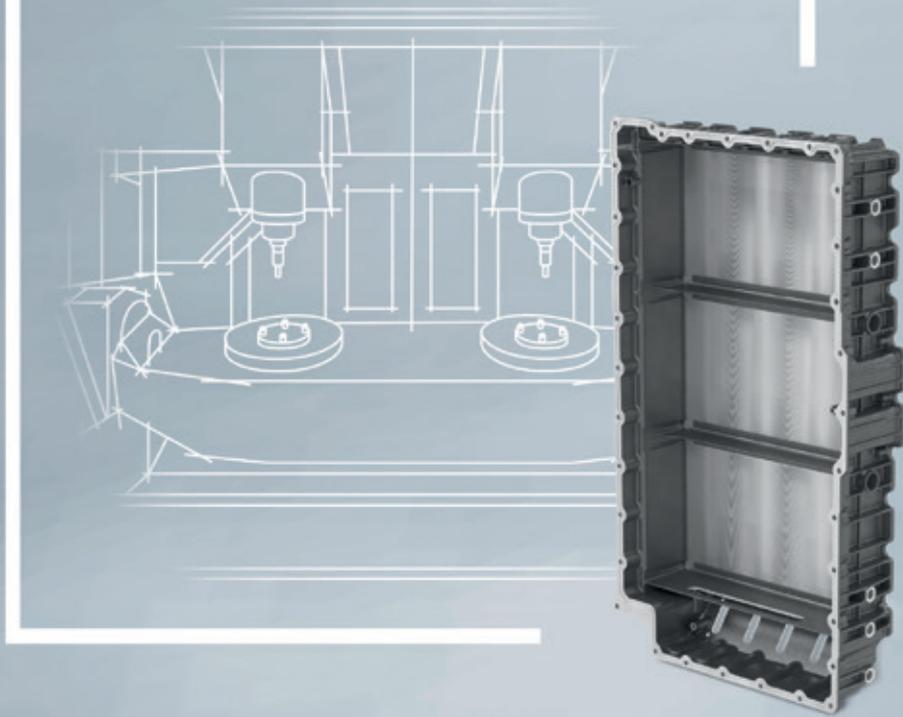


Rakesh Prasad, Senior Vice President of Strategy and Solutions, Innover

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We have successfully implemented various digital and analytics strategies into the manufacturing processes of leading global enterprises. By harnessing data from diverse sources, we provide valuable and actionable insights.

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LEAP's algorithms have been developed to help manufacturers connect data strands from diverse sources and get insights into the manufacturing process.

quality control of manufacturing equipment. The infusion of automation leads to improved productivity, minimised downtime, and enhanced operational agility. Our industry-centric solutions continuously adapt to new information, enabling decision-making and future-oriented strategies.

How has Innover used AI/ML to combat issues including those of forecasting SKUs, demand predictability and machine breakdowns?

Innover has made significant investments in developing LEAP™ – our Advanced Analytics and AI platform with ready-to-use AI models for the manufacturing sector. LEAP's algorithms have been developed to help manufacturers connect data strands from diverse sources and get insights into the manufacturing process. This helps accelerate data-to-insights-to-business outcome journey, ultimately driving tangible impact. Organisations can maintain equilibrium between supply and demand, mitigate unproductivity, safeguard asset health, amplify Overall Equipment Effectiveness (OEE), and optimise scheduling and dispatch.

LEAP analyses real-time data such as production rates, Point-of-sale data, work orders, stock levels, and more to forecast demand at the granular level, thus manufacturers can promptly adjust production schedules, maintain optimal inventory levels, fine-tune workforce planning and make informed decisions on SKU assortments and production volumes.

LEAP's predictive and preventive maintenance capabilities help manufacturers minimise machine outages, enhance asset lifetime expectancy and curtail costs. By analysing historic maintenance data, sensor readings, and other relevant factors, LEAP can identify patterns and anomalies that indicate potential equipment failures or maintenance needs. This can help optimise maintenance schedules, prioritise critical repairs, and provide insights into asset performance.

Can you share any specific success stories of manufacturing clients that have successfully adopted digital technologies with the help of Innover?

One notable success story revolves around a leading

global Original Equipment Manufacturer (OEM). The client handled over 100 thousand monthly order requests and faced challenges due to a lack of data-driven workforce planning and allocation. This resulted in idle times, impacting service order fulfillment, revenue leakage, and a weakened brand image. Innover leveraged LEAP to analyse demand patterns, order completion times, peak hours, and other contributing factors; and identified statistically significant time slots for future planning. We assisted the client in developing a robust demand planning and capacity allocation simulator dashboard, enabling swift and accurate insights on field force use. The solution delivered impressive results, including 650 thousand dollars in annual cost savings, a 30 per cent reduction in overtime, and a 16 per cent reduction in employee idle time.

Can you share any examples of industries that have struggled with data quality issues, and what impact has this had on their ability to make informed decisions?

Poor quality data is a pain point for industries spanning from Supply Chain and Manufacturing to Telecommunication and BFSI. Without good quality data, the decision-making process is bound to be adversely impacted with reduction in the reliability of insights and reports.

With respect to supply chains, good quality data can provide end-to-end visibility, intelligent transformation and drive resiliency. It equips supply chains with the much-needed preparedness to face unplanned eventualities caused due to the constantly evolving business environment and global events.

In the manufacturing and logistics realm, good quality data is the guiding light to plan labour, production, and logistics. Good-quality data can optimise operations, upend performance, and build trust across clients, partners, and the industry as a whole. With accurate and timely data on inventory levels, demand forecasts, asset health and supplier performance, manufacturers can optimise their procurement processes, reduce lead times, minimise stock outs or excess inventory, and ensure equipment longevity.



“Our Data Quality (DQ) Framework empowers organisations to identify high-impact data-related issues across multiple sources to progressively clean and improve the data quality within just 6 - 8 weeks.”

How does Innover approach the challenge of ensuring accurate data quality for its clients, and what kind of services do you offer in this area?

The suite of Data Engineering and Advanced Analytics solutions offered by Innover includes a comprehensive Data Quality framework that ensures the accuracy, consistency, and completeness of critical data sets. Our Data Quality (DQ) Framework empowers organisations to identify high-impact data-related issues across multiple sources to progressively clean and improve the data quality within just 6 - 8 weeks. Powered with a pre-built AI & ML-based data validation layer, the solution helps businesses automate required checks and balances and identify more than 80 per cent of data processes that are erroneous, inconsistent, or redundant. The framework generates a scorecard, to measure the quality of their data against industry standards, providing a picture of an organisation's current data health and the right steps to incorporate to build a trusted, confident data foundation.

One of our other solutions, LEAP™, an advanced analytics and AI platform, is designed to expedite the entire data journey for manufacturing organisations, from data capture to valuable insights to facilitate informed business decision-making. It encompasses the entire data-to-value lifecycle, going beyond data quality to include tasks such as data wrangling; establishing tamper-proof, reliable data pipelines; and applying relevant analytical and statistical models to generate insights.

What are some of the key challenges that businesses face when it comes to ensuring data quality for AI/ML, and how does the DQ Framework help address these challenges?

Businesses encounter a myriad of challenges when striving to maintain data quality in AI/ML initiatives. Some of these challenges include:

Data Accuracy: Businesses struggle to obtain high-quality datasets that accurately represent the problem they are trying to solve. Their data may contain errors, biases, anomalies or irrelevant information, which can adversely affect the performance and reliability of AI/ML models.

Data Completeness: Incomplete data can arise due to various reasons such as human error during data entry,

system limitations, or incomplete data integration.

Data Consistency: Ensuring data consistency is a challenge when working with data from multiple sources or diverse business units within an organisation. Inconsistencies in data formats, naming conventions, or definitions can lead to ambiguity and make it challenging to consolidate and analyse data effectively.

Data Timeliness: Outdated or delayed data can impede decision-making and impact business agility. Data must be collected, processed, and made available in a timely manner to real-time insights and facilitate prompt decisions.

Innover's Data Quality Framework helps organisations spot data challenges before they become a menace and progressively improve data quality within just 6-8 weeks. The framework uses AI/ML models to automate data validation, cleansing, and enrichment processes. This helps businesses to help identify and correct errors, standardise data formats, and ensure data is in its prime shape.

What advice would you offer to manufacturing businesses considering adopting digital technologies, and how can they best navigate the complexities of this process?

In this competitive manufacturing market, embracing digital transformation will become imperative for players. When adopting new-age technology, the focus should be on leveraging its potential for innovation and solving business problems.

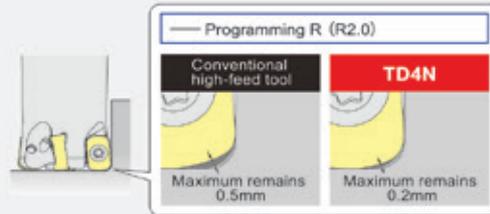
While implementing a technology, it is essential for businesses to identify compelling use cases and build the right Proof-Of-Concepts (POC) that deliver ROI-focused outcomes. Finally, for a seamless transition to new technology, businesses need to implement effective change management strategies that align the organisation with the technology's requirements. This involves providing training and support to employees, communicating the benefits and goals of technology adoption, and proactively managing any resistance or challenges that may arise. By cultivating a robust talent repository and building a resilient digital ecosystem, powered by data, advanced analytics and contemporary tech, manufacturing organisations can chart a path to data-driven dominance, propelling themselves towards unparalleled growth and prosperity. 

TD4N

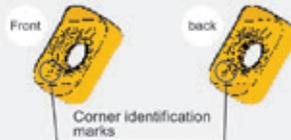
Radius mill TD4N

Reduces uncut remnants on work pieces

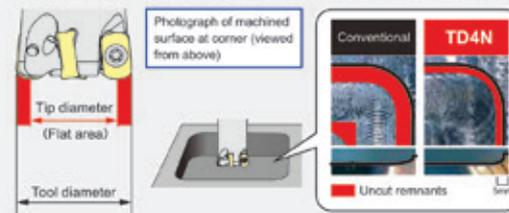
The cutting edge shape was reviewed for TD4N so that uncut remnants are reduced. This enables the load on the next process to be reduced by up to 40% compared to conventional products.



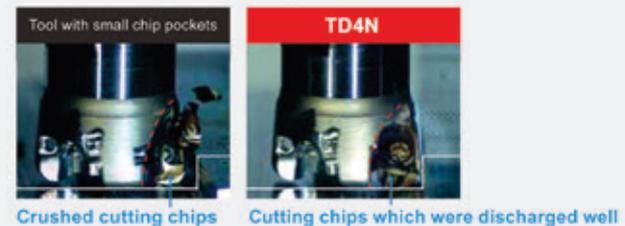
Economical 4-corner inserts with chip breakers for various applications



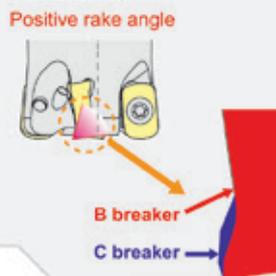
Large tip diameter for excellent handling



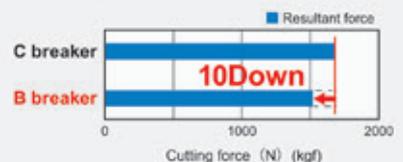
Excellent chip discharge characteristics



Magnified view of cutting edge cross section



Comparison of cutting force



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Straight Cutting Edge

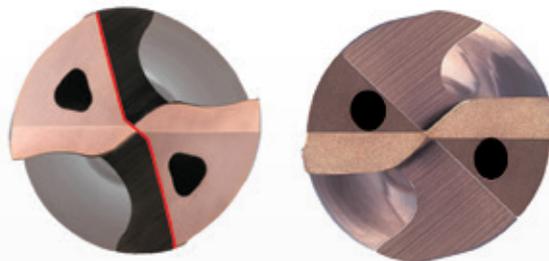
Improved chip evacuation and enhanced cutting edge strength.

New Flute Geometry

For improved chip evacuation.

LONG TOOL LIFE FOR WIDE RANGE
OF APPLICATIONS

L/D=2 is available for pilot holes



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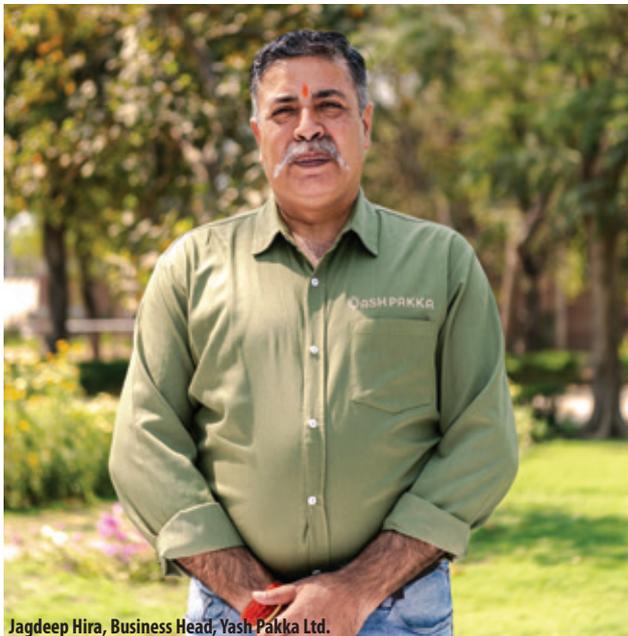
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YOUR GLOBAL CRAFTSMAN STUDIO

“A CLEANER PLANET WILL BE ACHIEVED THROUGH SCALING REGENERATIVE PACKAGING SOLUTIONS”

“By working together, we can transform our collective vision of a cleaner planet into a reality through accessible compostable alternatives to single-use plastic,” claimed **Jagdeep Hira**, Business Head, Yash Pakka Ltd. In this interview with **Dipika Lalwani**, he sheds light on the company's commitment to responsible manufacturing practices in crafting compostable base materials for packaging and tableware. Hira revealed the company's long-term goal to propagate this cause on a global stage, and reform the future of sustainability.



Jagdeep Hira, Business Head, Yash Pakka Ltd.



We are also expanding our existing facility in Ayodhya. This expansion involves the addition of a fourth paper machine and an increase in production capacity. Consequently, we will be able to offer niche specialty paper grades, a first-of-its-kind in India.

Can you provide an overview of Yash Pakka Limited's manufacturing unit and its operations?

Currently, through our key product offerings, we provide compostable base material for packaging and compostable tableware designed for dine-in and delivery purposes.

As Yash Pakka, we specialise in compostable solutions for the food industry including food packaging, food carry and food service. Our manufacturing process relies on bagasse, an agricultural residue derived from sugarcane, as the primary raw material. This raw material is procured from sugar companies within a radius of 200-250 km.

Currently, through our key product offerings, we provide compostable base material for packaging and compostable tableware designed for dine-in and delivery purposes.

Some of our eco-friendly practices in the manufacturing process include 100 per cent self-generated biomass energy, recovery of 95 per cent cooking chemicals and being off grid as we are completely self-sustained for electricity.

To further demonstrate our dedication to eco-friendly practices, we employ several measures during the manufacturing process. Firstly, we

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The Guatemala plant of Yash Pakka will primarily focus on flexible packaging and moulded tableware. The expected capacity of the new plant is approximately 400 TPD. Our primary vision revolves around a cleaner planet which will be achieved through scaling regenerative packaging solutions.

generate 100 per cent of the required biomass energy internally, minimising our reliance on external energy sources. Additionally, we ensure the recovery of 95 per cent of the cooking chemicals used in our operations. Finally, our self-sustaining electricity infrastructure allows us to function independently from the grid, contributing to our overall off-grid status.

By implementing these initiatives, we strive to maintain a responsible and environmentally conscious approach to manufacturing compostable solutions for the food industry.

Since your manufacturing unit is fueled by rice husk, could you elaborate on the benefits and challenges associated with it? Also, how do you ensure a steady supply of this husk?

The calorific value of rice husk is high, and so it is the first preference for biofuel that we use in the plant. We ensure that all necessary tests are done before procurement of the material, and the most important test is moisture test. There are no inherent challenges with the material; however, there has been a supply crunch in the last year or so due to the changing global political landscape. Alternatively, we also use pith, although it has low calorific value and it also impacts the health of some types of boilers.

In general, there is no scarcity of rice husk in the region in which Yash Pakka is located due to the favorable conditions for the plantation of rice grain.

What kind of products will be manufactured at the new manufacturing unit in Guatemala, which you recently signed an MoU for? How does this expansion align with Pakka Limited's long-term goals?

The Guatemala plant of Yash Pakka will primarily focus on flexible packaging and moulded tableware. The expected capacity of the new plant is approximately 400 TPD.

Our primary vision revolves around a cleaner planet which will be achieved through scaling regenerative packaging solutions. This is a step in that direction. So far, we have been able to service primarily India, Middle-East and Far East through our manufacturing facility in Ayodhya. Further, there are some customers

in Europe as well. Through the facility in Guatemala, we aim to cater to the compostable packaging demands of North America.

What are the main products offered by Yash Pakka Limited in international markets? How do you adapt to meet the specific needs of customers in different countries?

We are one of the leading exporters of compostable bleached and unbleached kraft paper to the overseas market, making it our primary product line. Given our diverse customer base across different countries, we understand that their requirements can vary, particularly in terms of paper shade and properties. For instance, in Saudi Arabia, we provide a darker brown kraft paper specifically for bakery applications, whereas in Bahrain, we offer the same grade of paper with identical properties but in a golden shade, also for bakery purposes. This flexibility to cater to individual customer needs has positioned us as the preferred choice for foreign customers seeking compostable food packaging solutions. Additionally, we are committed to customising the paper properties to the extent possible without compromising its strength, ensuring we meet our customers' specific requirements.

What are the key target markets and industries that Pakka Limited serves with its compostable tableware? Are there any specific sectors where the demand is particularly high?

Yash Pakka's compostable tableware brand, Chuk, targets a wide range of clients, including prominent organisations such as PVR, Shri Mata Vaishno Devi Shrine Board, Haldiram's, and Tapri Jaipur. Our objective is to bring about a transformative change by offering an alternative to single-use plastic to any organisation that currently uses it. We firmly believe that true and impactful change can only be achieved by ensuring that no segment is left untouched, which is why we strive to make a significant impact on a large scale.

Thus far, we have observed a significant demand for Chuk tableware from Quick Service Restaurants (QSRs). The fast-paced nature of these establishments,



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The last 2 financial years have seen significant growth in top line for the company and a big reason for this is the paradigm shift of brands and customers to sustainability. A YoY revenue growth of more than 50 per cent in the last financial year and 40 per cent in this financial year shows that the efforts are being put in the right direction, and there is huge acceptance of compostable packaging in the market.

coupled with high customer turnover, makes Chuk an ideal choice as it facilitates seamless operations. In terms of geographical acceptance, we have experienced a positive response, particularly in metropolitan areas, especially in Delhi-NCR. This can be attributed to the growing awareness among brands and end consumers regarding compostability and sustainability.

Can you elaborate on any certifications or recognitions that Pakka Limited has received for its environmentally friendly manufacturing process?

Yash Pakka has been consistently acknowledged and commended for its commitment to sustainable practices, receiving numerous awards, accolades, and certifications over the years.

In 2023, the company achieved the distinction of being listed among the Top 50 Workplaces in Manufacturing by Great Place to Work, which is a testament to Yash Pakka's unwavering work ethic and continuous efforts to enhance its manufacturing processes.

Additionally, Yash Pakka's dedication to water conservation was acknowledged through its recognition as a water-efficient unit in the esteemed CII National Awards for Excellence in Water Management 2022. The company's proactive approach towards energy conservation was also acknowledged by UPNEDA, as Yash Pakka was honored with the Uttar Pradesh State Energy Conservation Award in December 2022.

Furthermore, our commitment to innovation and industry expertise was acknowledged by the United Nations Industrial Development Organization (UNIDO). The manufacturing facility located in Ayodhya was selected by UNIDO to conduct a workshop focused on reducing black liquor viscosity.

The company achieved a 40 per cent growth in Total Revenue, which rose from Rs 299.22 crore in FY 21-22 to Rs 419.89 crore in FY 22-23. Were there any specific strategies or market conditions that favored this growth?

The last 2 financial years have seen significant growth in top line for the company and a big reason for this is the paradigm shift of brands and customers to

sustainability. A YoY revenue growth of more than 50 per cent in the last financial year and 40 per cent in this financial year shows that the efforts are being put in the right direction, and there is huge acceptance of compostable packaging in the market.

The last two years have seen our constant efforts to increase production while maintaining quality. The trust that has been built over decades, came to fruition as customers were drawn back immediately after the COVID-19 slowdown, which helped boost sales over the last year and the year prior.

How does Pakka Limited plan to sustain and further improve its financial performance in the future? Are there any specific areas or markets the company intends to focus on?

Pakka's expansion plans, which we have been emphasising recently, are aligned with our goal of enhancing performance in the near future. By working together, we can transform our collective vision of a cleaner planet into a reality through accessible compostable alternatives to single-use plastic.

With this objective in mind, we have entered into a Memorandum of Understanding (MoU) with sugar companies in Guatemala to secure raw materials. The development of a new plant will commence shortly, focusing primarily on the production of compostable flexible packaging and moulded tableware. Simultaneously, we are also expanding our existing facility in Ayodhya. This expansion involves the addition of a fourth paper machine and an increase in production capacity. Consequently, we will be able to offer niche specialty paper grades, a first-of-its-kind in India, empowering our customers to meet their requirements domestically. Moreover, our power requirements are self-sustained, and we are in the process of installing a third power plant at our factory.

Furthermore, we are establishing a new laboratory in Bengaluru for our innovation team. This facility will facilitate significant advancements in the development of compostable packaging solutions for the food industry. Our commitment to progress spans various aspects, and we are determined to amplify the impact we can make over the next 2-3 years. 

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**WE ARE AIMING TO ACHIEVE
RS 1,500 CRORE
REVENUE MILESTONE
IN INDIA BY FY24:**

Shivaji Waghmare, CEO of Fuji Electric India



Fuji Electric India, a subsidiary of a 100-year-old group Fuji Electric Co. Ltd, is witnessing exponential growth in the country. The industrial automation and energy-efficient solutions provider recently surpassed Rs 1,000 crores for the FY 2022-23 and aims to generate Rs 1,500 crore in annual revenue in India by 2024. In an exclusive interview, **Shivaji Waghmare**, CEO of Fuji Electric India, discusses with **Nisha Shukla** the future roadmap for the company, which also involves enhancing manufacturing, R&D, and workforce capabilities in India whilst fostering a strong “In India - For India” approach.

How is Fuji Electric carrying forward the 100-year-old legacy of its group company in India? What makes India an important market for you in terms of manufacturing and market expansion?

Fuji Electric India is a subsidiary of a 100-year-old group (Fuji Electric Co. Ltd.). We are constantly striving to live up to the standards established by the latter. We are working in alignment with the global strategy of Fuji Electric. Our team is working towards realising the vision of becoming the premier, preferred, and leading energy and automation solutions provider.

Our parent company, Fuji Electric, is keen on developing local capabilities and expanding

the workforce - ‘in the country – for the country.’ Our mid-term goal is to enhance our manufacturing capacities, R&D centres, and workforce capabilities in India. These measures have enabled Fuji Electric to offer solutions made in India based on Japanese technology to the global market.

Are you planning to increase the market share of any of your business segments, i.e., energy/ automation?

As a global leader in power electronics and industrial automation, we have been actively expanding our presence in various markets worldwide, including India. With this objective, we have invested significantly in our manufacturing facilities, research and development, and strategic partnerships to cater to the growing customer demand and enhance our market share.

In the last 3 to 4 years, we have launched multiple new products built to cater to the challenges of our Indian customers, especially in the data centre segment. As this segment is witnessing exponential growth, we are partnering with many end-users and providing them with



reliable and efficient solutions.

Fuji Electric India is investing in the latest manufacturing technologies in close collaboration with Fuji Electric Japan and, simultaneously, is increasing its capacity ahead of market requirements to meet the growing demand of customers.

All aspects of our operations are constantly modified, and this would position us as the best in the industry.

We intend to increase our market share in both the energy and automation sectors and with all these factors working to our advantage, we expect to grow by over 20 per cent in the next five years.

We have heard that Fuji Electric will touch a revenue milestone of Rs 1,500 crore in India by FY24. Which business segment would be contributing to this growth?

Indian manufacturers have abundant opportunities to keep powering ahead. Besides, the substantial inflow of new work in 2023, so far, has led to expansion in capacities through job creation, and the lifting of input buying has made India one of the brightest spots. Furthermore, India's manufacturing PMI is also on the higher side, boosting output and new order growth.

We anticipate that the power electronic segment will contribute significantly to the growth and propel us towards reaching the revenue milestone of Rs 1,500 crore in India by FY24.

The market demand and the trust our customers show in Fuji products are the factors that will contribute to our growth story. We, on our part, are getting the infrastructure and the skilled workforce in place to etch the story.

The state-of-the-art and environment-friendly factory in Chennai, with a built-up area of 60,000 sq.ft., is borne out of extensive interaction and participation of our executives.

Recently Fuji Electric announced investing Rs 300 to 400 crore to set up a large integrated plant. Tell us about this investment and how it will further propel growth.

As a global leader in power electronics and industrial automation, we have made

significant investments in India to propel growth and expand our presence in the country. Recently, we inaugurated our new state-of-the-art facility in Chennai, and these investments aim at leveraging the immense potential of the Indian market and contribute to India's economic development.

We are investing continuously in research and development (R&D) centres in India to foster innovation and develop cutting-edge technologies tailored to meet the needs of the Indian markets. These R&D centres work on developing localised products and solutions, enhancing product performance, and addressing specific challenges faced by Indian industries. By investing in R&D, Fuji Electric aims to stay at the forefront of technology advancements and offer solutions that cater to India's evolving requirements.

Tell us in detail about your recently inaugurated state-of-the-art factory in Tamil Nadu.

The state-of-the-art and environment-friendly factory in Chennai, with a built-up area of 60,000 sq.ft., is borne out of extensive interaction and participation of our executives.

Some of the critical equipment has been imported from Japan to match the manufacturing processes between Fuji Electric India and Fuji Electric. The



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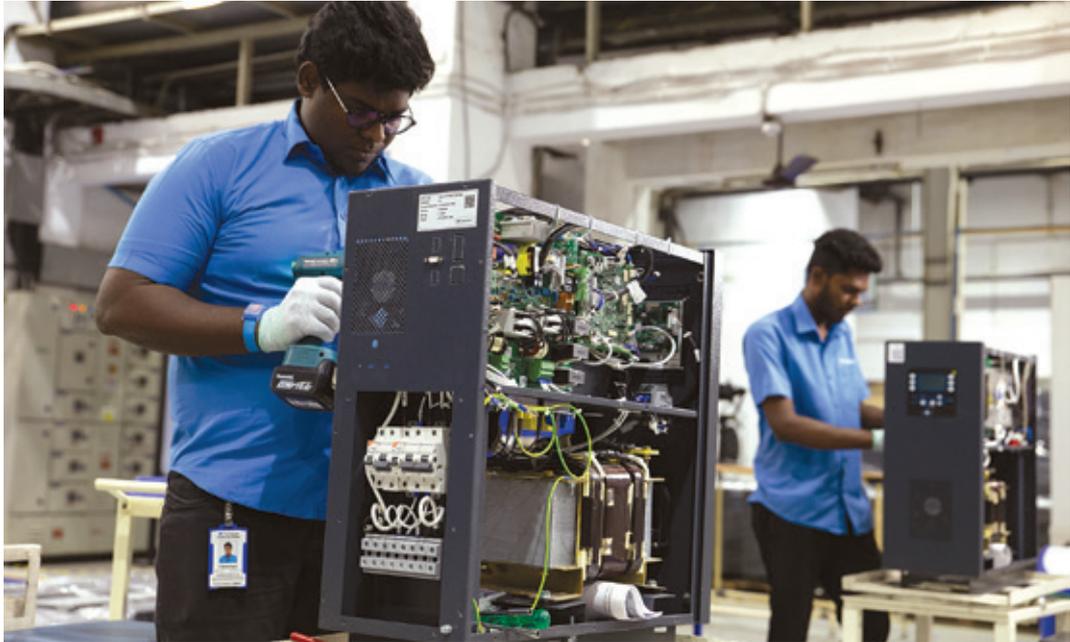
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factory is expected to produce 120k drives per year. There are plans to make 200K PCBs (printed circuit boards) annually out of the new facility. This new factory will cater to growing demands of lift and cranes, steel plant, water and wastewater, oil and gas and sugar industries with a special focus on F&B. Depending on the market demands and needs, further expansions will be done.

Which is the most profitable segment from your overall business? How is the market shaping for automation and energy business. Are there any plans to diversify into newer segments?

Both our business segments, i.e. energy and automation, have been profitable. We are witnessing significant demand from tier 2 and 3 cities. The markets for both organised and unorganised are opening, and government initiatives such as Digital India and Make in India are playing a crucial role in increasing the demand.

The market requirements are increasing manifold, and so are the customers' demands. We are planning to strengthen our capabilities in the drives and automation segment.

While, diversification is not on the cards now, we want to stay focused on the energy and automation business unit and the data centre segment.

How does Fuji Electric India incorporate sustainability practices into its operations and products?

As a nation, we are targeting net-zero emissions by 2070. India's carbon emissions are relatively low (in per capita terms), despite being the third-largest global emitter. Automation is taking the world by storm, whereas digital transformation is the only path to efficiency and sustainability.

Fuji Electric India strives to provide energy-efficient products and solutions for a sustainable and resilient planet. As India marches towards becoming a \$5 trillion economy, we cannot trivialise the role of technology in creating a sustainable future. Perhaps, industrial automation will help India emerge as a leader in climate change management.

The main philosophy of Fuji Electric is reducing CO2 emissions, and the same applies to Fuji Electric India, as well. All our products aim at maximising energy efficiency leading to a responsible and sustainable society. As a step towards a sustainable future, Fuji Electric India is combining its expertise in engineering services, optimal control technologies and IoT technologies. We have always focused on high-efficiency power electronics products such as silicon carbide and IGBTs for renewable, clean, and saved energy such as fuel cells, solar inverters and high-efficiency UPS and high-performance AC drives.

Businesses need to join hands with like-minded allies for efficient energy management so that we can march towards a greener future.

One of the challenges for automation and energy solution providers in India is the lack of awareness and adoption of these technologies. Specifically, small, and medium-sized enterprises (SMEs) are unaware of the benefits and potential of automation and energy solutions. Does Fuji Electric India offer any training or technical assistance programs for its customers?

Yes, Fuji Electric India understands the importance of providing training and technical assistance to its customers. As an industry expert, we, as a company, believe in passing the knowledge to our customers and partners regularly. Such training programs ensure that our customers and partners are well-equipped with



We host technical workshops where customers can gain in-depth knowledge about the technical aspects of Fuji Electric products and solutions. These workshops provide hands-on training and practical insights

appropriate knowledge and skills for reaping maximum benefits from our products and solutions. Some of the training and technical assistance programs offered by Fuji Electric India are as follows:

Product Training: Fuji Electric India conducts product training sessions to familiarise customers with its product features, functionalities, and operations. These training programs aim to enhance customer understanding and optimise the use of Fuji Electric products.

Technical Workshops: We host technical workshops where customers can gain in-depth knowledge about the technical aspects of Fuji Electric products and solutions. These workshops provide hands-on training and practical insights into troubleshooting, maintenance, and system optimisation.

Application Support: To assist customers in selecting the most suitable products and solutions for their specific requirements. The technical experts at Fuji Electric India offer guidance and assistance in designing and implementing systems that align with customer needs.

Online Resources: Our website covers all the necessary resources, such as documentation, user manuals, and technical guides. These resources serve as self-help tools for customers to find answers to common queries and access technical information whenever required.

Customer Support: We also have a centralised customer support number: +917810009955 and a full-fledged multi-language support team, which provides technical assistance, troubleshooting, and quick resolution in product-related issues. Our customers can reach the

support team via phone, WhatsApp, or online chat for prompt assistance.

Cost is a significant barrier for automation and energy solution providers. The initial investment required for implementing automation systems and energy solutions can be high, making it unaffordable for many enterprises. How do you optimise your costs and ensure it is within the reach of the businesses?

We have more than 500+ customers having over 1MW installations and have 5M installations to our credit so far. The numbers are increasing rapidly, and it is because we consider every aspect, right from power quality to power usage effectiveness (PUE) to the total cost of ownership. We also review; both direct and indirect costs (Capex and Opex) to determine which solutions work best for customers. Our rich legacy of 100 years has equipped us with the insight to determine the best possible configuration the customer needs. Our local manufacturing units help us to deliver quality products with minimised lead time.

Are there any regulatory frameworks and policies posing a challenge to the adoption of automation and energy solutions? If yes, what are they, and what changes should be introduced in these policies to ensure the quick adoption of these services?

Regulatory compliance is a must for any brand. Traceability enables producers to ensure regulatory compliance and reduce expenses associated with compliance. Specific sectors we work with, such as the cement industry, have stringent regulatory and environmental constraints, and we adhere to them. It would be good if all processes turned paperless, digital, and transparent.

Each industry may have unique requirements and challenges regarding automation and energy solutions. Adapting solutions to different sectors and industries requires customisation. How do you ensure a customised solution for every customer?

With more than 100 channel partners, 18+ sales locations and 400+ business segments, customisation is something that customers love about us. Our solutions are not just innovative but are also cost-effective.

With our vast range of products and decades of expertise in installing and commissioning various projects, we help customers benefit greatly both - in the short and medium term. With Fuji Electric at the point of design and conception, companies can save on costs and commissioning time.

How important is the data centre market for Fuji Electric?

As one of India's leading power solution providers, we are helping data centres to be energy efficient, reliable, and always available. We have the most advanced 3-phase online UPS, Active Harmonic Filters, Power Distribution Units, Static Transfer Switches for unmatched power backup for data centre and HVAC drives that ensure applications for indoor environments run efficiently.

Our complete range of power backup, power conditioning and automation solutions includes Line Interactive and Single-phase UPS, three phase UPS, servo control voltage stabiliser, Active Harmonic Filters, power distribution units, and static transfer switches. We have an array of automation products which includes VFD, DCS, Servo Systems, PLC, HMI, ED&C and Instrumentation solutions.

Our wide range of products serve customers from segments such as Smart data centres, Healthcare, Manufacturing, Retail, BFSI, Heavy Industry, Energy Storage, Energy and Utilities, Water and Wastewater, Ports and Cranes.

We are also aligned to launch a few advanced products dedicated to the data centre with the highest efficiency and reliability that support green infrastructure.

Tell us about the Research and Development wing of Fuji Electric India. How much investment goes into it?

Fuji Electric is strengthening its R&D capability in India to develop products in India, for India. The R&D centre in Pune has over 30 engineers who develop UPS, Solar inverter, Active Harmonic Filters, and other power electronic technologies. The automation division R&D centre in Chennai is involved in developing embedded firmware for AC drives for Indian environment and applications. The R&D centre uses state-of-the-art HILS (Hardware-in-the-loop simulators) to test complex embedded systems with real life conditions to

reduce development time and to validate performance under all real site and power conditions. Experts from Japan are stationed in India for joint product development and to train Indian engineers.

Customers trust our Japanese technology and quality. We have a good number of installations in every sector, but have registered growth in data centres, metro rails, manufacturing, and cement industries.

The company is clearly on an expansion mode. It is investing heavily in R&D facilities in India and adding more than 3,00,000 square feet of extra manufacturing space to increase the production of UPS, AC drives, and instrumentation products in India.

Tell us about the future/expansion plans for Fuji Electric in India.

There has been an increase in demand for Fuji solutions. This is evident from the pan India service network represented by more than 400 trained service engineers with a presence in 80+ locations. Besides, there are 18+ sales centres, as well.

An investment of Rs 150 crores infused into setting up the state-of-the-art manufacturing plant in (Chennai) India will fulfil our vision to manufacture automation products, help us meet customers' demands and propel us to become a Rs 1,500 crore company by 2024. As for the Indian customers, they will get made-in-India products, powered by the best of Japanese technologies.

We intend to invest up to Rs 400 crore in India over the next four years. This will enable us to serve Indian and global customers as well.

We have already surpassed Rs 1,000 crores for the financial year 2022-23 and aim to generate Rs 1,500 crore in annual revenue in India by 2025. This is a fantastic time to be in the Indian market.

Besides, the budgetary allocation of Rs 35,000 crore towards renewable energy projects and the customs duty waiver on the import of components for the manufacturing of lithium-ion batteries will work to our advantage. 





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Seeing beyond



COMMEMORATING EXCELLENCE

The much-awaited Super Shopfloor Awards recently concluded its ninth edition and it was an overwhelming success, with the platform celebrating some of the best minds for their outstanding achievements.

By Nisha Shukla



Manufacturing industry's most coveted platform, the Machinist Super Shopfloor Awards recently concluded its much-awaited 9th edition by honouring some of the brightest minds in the industry. Held on 22nd June 2023 at Hyatt Ahmedabad, the grand awards ceremony commemorated innovation, excellence, and continuous improvement in manufacturing operations and honoured the outstanding achievements of individuals and organisations on the shopfloor.

The exclusive red-carpet event saw attendance of manufacturing stalwarts and esteemed government officials alike. Our Chief Guest, the Hon'ble Chief Minister of Gujarat, Shri Bhupendra Bhai Patel graced the event with his virtual presence, whereas our Guest of Honour, Shri Balvantsinh Rajput, Hon'ble Minister of Industries, Micro, Small and Medium Industries, Cottage, Khadi and Rural Industries, Civil Aviation, Labour and Employment, Government of Gujarat with his physical presence enlightened the audience about

various developmental and industrial initiatives the government is undertaking.

STRINGENT JURY PROCESS

Incepted in 2015, the Machinist Super Shopfloor Awards has created a benchmark through its credibility, industry acceptance and popularity over the last eight years. As a result, the competition to win the prestigious 'Machie' award has only intensified. Alike every year, this year too, our esteemed panel of jury followed a stringent evaluation process and meticulously scrutinised every nomination on basis of the set parameters. The winners were adjudicated across 46 awards categories, including 15 editorial choice and 31 category awards.

The jury comprising of distinguished members such as Vikas Kadlag, Managing Director of Robertshaw India; S.K. Sinha, Group Chief Executive Officer of Bony Polymers Group; Bireshwar Mitra, Former Executive Director of Sharda Motor Industries Ltd; Professor Madhu Ranjan, Emeritus Professor

WE ARE STRIVING TO MAKE GUJARAT AN UPCOMING CENTRE FOR NEW-AGE TECHNOLOGIES

In his virtual address, Shri Bhupendra Bhai Patel, Hon'ble Chief Minister of Gujarat said, "Unfortunately, due to unforeseen circumstances, I couldn't be a part of this glorious celebration, and thus, I am reaching out to you through my virtual address. The Super Shopfloor Awards is indeed a momentous occasion and matter of honour and pride for the entire fraternity and entrepreneurs associated with the manufacturing sector, who in a true sense, are endeavouring and playing a vital role in fulfilling the honourable Prime Minister's unwavering commitment towards his pet project- Make in India.

I would especially congratulate this platform for recognising the immense contribution of our women workforce and entrepreneurs, who are taking this sector to new heights. Acknowledging the contribution of our women workforce, is an excellent example of women empowerment.

As you all know, Gujarat is an advanced industrial state, and it is under the able leadership of our Hon'ble PM; Gujarat, today, has emerged as a growth engine and its contribution towards India's GDP is more than 8 per cent. In terms of overall exports, Gujarat's contribution stands at 30 per cent, whereas its industrial output is more than 18 per cent. Talking about Gujarat's Gross State Domestic Product (GSDP), the manufacturing sector alone contributes 36 per cent. Around 12 lakhs of MSMEs are registered in Gujarat, out of which 60 per cent are associated with the Manufacturing sector alone. It is owing to perseverance, hard work, and competence of entrepreneurs like you, which have massively contributed to the state's remarkable industrial growth.

As you are aware, the Hon'ble PM has set an aggressive target of achieving a \$5 trillion economy and to fulfil his vision, Gujarat is determined to increase its share in the GDP contribution (from existing more than 8 per cent) to 10 per cent. Under the able leadership of PM Modi, we are striving to make Gujarat an upcoming centre for new-age technologies. It is under our PM's guidance; we have been recognised as a policy-driven state. As a humble request to the entire manufacturing fraternity and entrepreneurs present here, I would urge you to practice and reap the benefits of these policies. Our country, under the leadership of the Hon'ble PM, is celebrating Azadi ka Amrit kaal, and to turn this Amrit kaal into Suvarna kaal (Golden period), PM Modi has directed us on the path of AatmaNirbharta (self-reliance). I urge you all to come together and let's collectively strive to build an AatmaNirbhar Bharat from an AatmaNirbhar Gujarat. Once again, I would like to convey my best wishes to all the winners."



Shri Bhupendra Bhai Patel, Hon'ble Chief Minister of Gujarat

“INDIA’S 18 PER CENT OF MANUFACTURING HAPPENS IN GUJARAT ALONE”

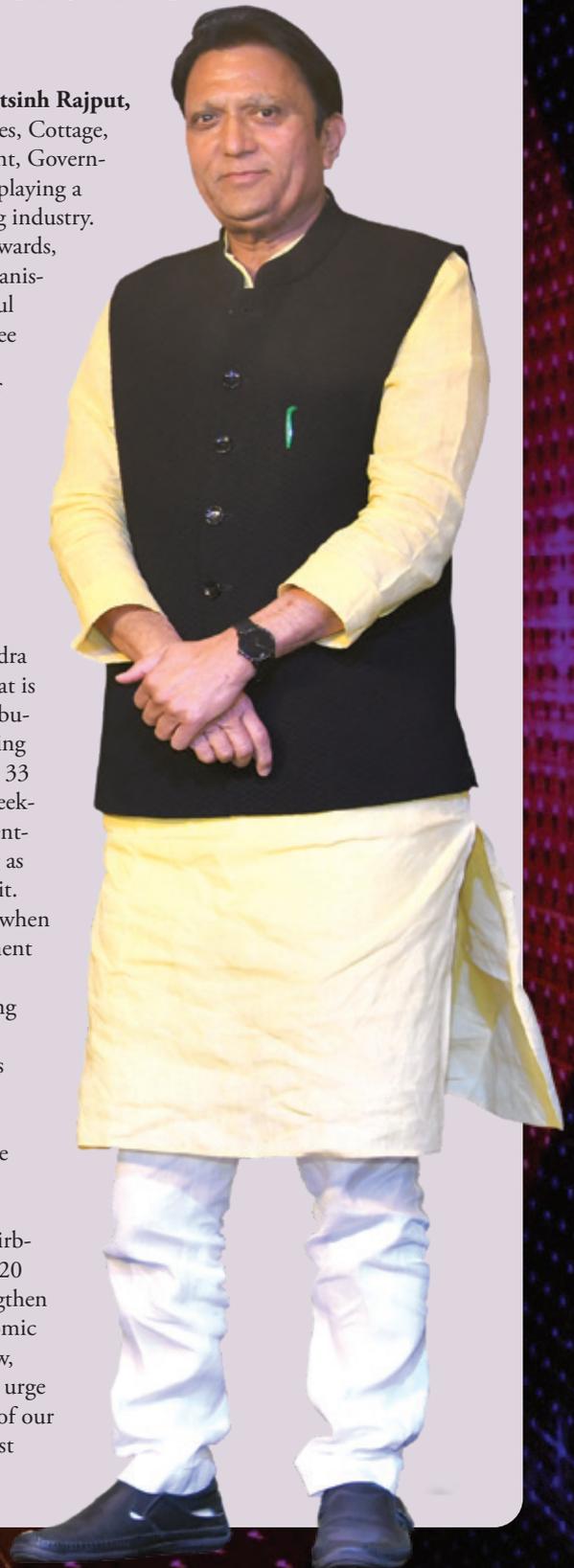
While addressing the audiences, our Guest of Honour, **Shri Balvantsinh Rajput**, Hon'ble Minister of Industries, Micro, Small and Medium Industries, Cottage, Khadi and Rural Industries, Civil Aviation, Labour and Employment, Government of Gujarat said, “Over the years, The Times of India group is playing a crucial role in nurturing exceptional talent across the manufacturing industry. A testament of their valuable contribution is the Super Shopfloor Awards, which is now in its 9th edition. I would like to congratulate the organisers and the manufacturing fraternity for putting up such a wonderful event here in the state of Gujarat. I am extremely overwhelmed to see how this prestigious platform is categorising and adjudicating every manufacturer- right from MSMEs to large organisations on basis of their merits and manufacturing prowess.”

The industry minister also extended his best wishes to the esteemed jury for carefully evaluating every nomination on basis of stringent parameters and for including categories such as Innovation, Technology, Environment, Health, and Safety. Shri Rajput also congratulated all the winners and highlighted about the valuable contribution they are making towards India's growth.

Talking about Gujarat's development model and various initiatives, the industry minister said, “Our Chief Minister, Shri Bhupendra Bhai Patel rightly mentioned in his virtual address that today Gujarat is ranking #1 across various sectors. In terms of GDP, Gujarat's contribution stands at 9 per cent, whereas India's 18 per cent of manufacturing happens in Gujarat alone. The export ratio in the state is more than 33 per cent across the country. Gradually, every state in India, is now seeking inspiration from Gujarat's development model and are implementing it. Back in 2003, when the Hon'ble Prime Minister, was serving as CM of Gujarat, he had then introduced the Vibrant Gujarat summit. So far, we have hosted 9 summits of Vibrant Gujarat, and in 2024, when its 10th edition will be hosted, we intend to showcase the development model of the state, which is progressing in several sectors including startups, smart GRDC, common facility. It will also focus on helping our manufacturers grow.”

Further he noted that, “In terms of unemployment rate, India is standing at 4.2 per cent, whereas in Gujarat, it is 2.2 per cent. This shows that the unemployment rate in Gujarat is way less and it is emerging as one of the states, offering maximum employment to the youth.”

“As India celebrates 75 years of Independence, which is also referred as Amrit kaal, it is gradually pacing towards being AatmaNirbhar (self-reliant). At this opportune moment, India has taken the G20 presidency and it is taking possible steps for G20 countries to strengthen global architecture and governance on all major international economic issues. As you all have assembled here in Gujarat for this award show, likewise we urge to be a part of Vibrant Gujarat in 2024. I specially urge women entrepreneurs to participate in the summit and make most of our schemes for accelerating your business. Once again, I convey my best wishes to all the winners and organisers for putting up such a wonderful evening.”



at the College of Engineering Pune; Hemant Watve, MD & CEO of Wilo Mather And Platt Pumps Pvt Ltd; Ramendra Kumar Sharma, Independent Director; Rajeev Mittal, Chief Information Officer at Endurance Technologies Ltd; Abhijit Janugade, Head – Production and Maintenance at Draexlmaier Manufacturing India; Dr. Dhananjay Kumar, Emeritus Professor at the College of Engineering Pune and Meghana Puthawala, SVP & Head Human Resources at WWM & ET Edge, carefully evaluated nominations during an extensive six-hour brainstorming session held at Novotel Pune.

A STAR-STUDED EVENING

The Machinist Super Shopfloor Awards 2023 proved to be a star-studded evening which was graced by the distinguished personalities from both the state government and the fraternity. The one-of-its-kind grand awards ceremony for Indian Manufacturing kickstarted with the auspicious lamp lighting ceremony.

The dignitaries, T. K. Ramesh, Managing Director of Ace Designers Limited; Sunita Quadros, Chief Business Officer, ET Edge, Times Strategic Solutions Ltd; Yatendra Kumar, Business Head, MotulTech India; Mahesh Babu, Group CEO, Switch Mobility; Rahul Kamat, Editor – B2B Division, (Worldwide Media), Times of India Group inaugurated the event.

Post the inaugural ceremony, TK Ramesh, Managing Director of Ace Designers Limited, delivered the welcome note. In his address, TK Ramesh said, “It’s always a pleasure to be here, I have very fond memories of The Machinist Super Shopfloor Awards, where we recognise the heroes and the heroines of the shop floor. Here, in the manufacturing sector, we are constantly working with dirty hands, either fixing or opening machines to know what is happening inside them. The farmers grow our food, but when it comes to creating and sustaining value, I believe, next to the farmers lies the manufacturing sector, and this should be cherished. It was with this thought that we along with Worldwide Media (WWM), decided to do something for the manufacturing sector, and that gave birth to The Machinist Super Shopfloor Awards, which will be completing a decade next year.”

“I congratulate the hundreds who have been associated with us and the thousands more to come. Like the Oscars, all manufacturing companies must look forward to holding these awards, not only across the country, but globally,” concluded TK Ramesh.

ENGAGING DISCUSSIONS

After the welcome note, a fireside chat was hosted. For the first time in the nine years of the history of Super Shop floor Awards, a fireside chat was hosted with none

other than the esteemed Jury members.

The panel comprising Hemant Watve, CEO and MD of Wilo Mather and Platt Pumps Private Limited; Bireswar Mitra, Former Executive Director, Sharda Motor Industries Ltd; Rajeev Mittal, Chief Information Officer (CIO), Endurance Technologies Ltd and Rahul Kamat, Editor – B2B Division, (Worldwide Media), Times of India Group took centerstage and categorically disclosed what goes into deciding the best from the rest and how the platform of Super Shopfloor Awards has evolved in these nine years. To read more, refer to page no 46.

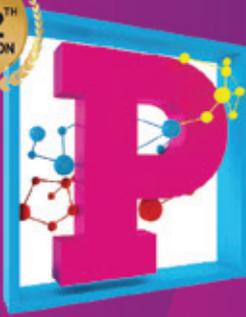
Another panel discussion revolved around Ease of Doing Business. While Ease of Doing Business has brought about efficiency and transparency in conducting businesses across the country, the panel of CEOs deliberated upon its impact on the Indian manufacturing sector. To review its growing impact - the 9th edition of The Machinist Super Shop Floor Awards 2023 hosted an engaging panel discussion on ‘Ease of Doing Business to Ease of Living: How the Manufacturing sector evolved for the Workforce.’

The panel comprising Gursaurabh Singh, Founder, Dhruv Vidyut; Harish Chavan, CEO - Swaraj Division, Mahindra & Mahindra Ltd; Dr Jairam Varadaraj, Managing Director, Elgi Equipments Ltd; Mahesh Babu, Group CEO, Switch Mobility and TK Ramesh, MD, Ace Designers Limited discussed in length about how Ease of Doing Business is transforming the manufacturing sector and also helping in creating an environment that prioritises the well-being and quality of life for the workforce. The discussion started with the moderator, Abhijeet Sinha, Programme Director, Ease of Doing Business, asking the panel about the structural reforms that happened over the last nine years and how they have, in any way, translated to the shop floors. To read more, refer to page no 49.

CONCLUSION

The 9th edition of the Super Shopfloor Awards was a resounding success, showcasing excellence and innovation within the manufacturing sector. The one-of-its kind event brought together industry leaders, professionals, and visionaries under one roof whilst providing an invaluable opportunity for professionals to exchange ideas, build partnerships, and explore new avenues for growth. The Oscars of Manufacturing concluded with a promise to return in its 10th edition, aiming to be even bigger and better, with more award categories across various segments, whilst continuing its tradition of celebrating the outstanding achievements of the sector. 

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GKN Fokker Elmo India Pvt Ltd



BEST WOMEN IN MANUFACTURING (LARGE)
S Chaitra, Wabtec Corporation- FTRTIPL, Hosur



BEST WOMEN IN MANUFACTURING (SME)
Maithili Mangesh Deshmukh, Precision Camshafts Limited, Solapur



BUSINESS LEADER OF THE YEAR
Harish Chavan, CEO - Swaraj Division, Mahindra & Mahindra Ltd



CEO OF THE YEAR
Mahesh Babu, Group CEO, Switch Mobility



CIO OF THE YEAR
Rupesh Nain, Chief Information Officer, Natural Resources-Adani Group



INNOVATOR OF THE YEAR
Gursaurabh Singh, Founder, Dhruv Vidyut



SUSTAINABLE MANUFACTURER OF THE YEAR
TDK India Pvt Ltd



INNOVATION - SME WINNER
Omega Seiki Mobility



INNOVATION - LARGE WINNER
Tata Motors Ltd, CVBU, Pune - Gear Factory



MANUFACTURING EXCELLENCE - SME WINNER
PPAP Automotive Ltd, Viramgam, Ahmedabad, Gujarat



MANUFACTURING EXCELLENCE - LARGE WINNER
Argo-Hytos Pvt Ltd



DIGITAL MANUFACTURING - SME WINNER
Continental Automotive Brake Systems India Pvt Ltd



DIGITAL MANUFACTURING - LARGE WINNER
Hyundai Motor India Limited, Chennai



QUALITY - SME WINNER
Xpro India Limited Biax Division - Barjora Unit II, West Bengal



QUALITY - LARGE WINNER
M/s Ashok Leyland Limited, Ennore



ENVIRONMENT HEALTH & SAFETY - SME WINNER
Toyoda Gosei South India Private Limited



ENVIRONMENT HEALTH & SAFETY - LARGE WINNER
M/s Ashok Leyland Limited, Hosur 3-CPPS



HUMAN RESOURCE - SME WINNER
Cooper Corporation Pvt Ltd, MIDC Satara



HUMAN RESOURCE - LARGE WINNER
Skoda Auto Volkswagen India Private Limited



CSR - SME WINNER
LM Wind Power Blades (India) Private Limited



CSR - LARGE WINNER
Bajaj Auto Limited, Chakan



SCM - SME WINNER
Supreme Treon Pvt Ltd, Sanand, Ahmedabad



SCM - LARGE WINNER
Wabtec Corporation - FTRTIPL, Hosur



SUPER SHOPFLOOR OF THE YEAR
Argo-Hytos Pvt Ltd

HERE'S WHAT THE JURY WANTS...

The distinguished panel of judges revealed the factors involved in determining the finest among the rest and discussed the evolution of the Super Shopfloor Awards platform over the past nine years.

For the first time in the nine years of the history of Super Shopfloor Awards, a fireside chat was hosted with none other than the esteemed Jury members. The panel of judges, who have been evaluating the nominations behind the scenes; this year, took centerstage and categorically disclosed what goes into deciding the best from the rest and how the platform of Super Shopfloor Awards has evolved in these nine years.

The insightful session kickstarted with Rahul Kamat, Editor – B2B Division, (Worldwide Media), Times of India Group, sharing some interesting facts on the nine editions of Super Shopfloor Awards. Throwing light on the facts, he said, “In the last nine years, we have received close to 18,000 nominations from the manufacturing sector. On an average, we have gone through 2,700 nomination forms and close to 360 companies were recognised during this duration.”

Steering the conversation further, Kamat asked the jury members to share their experiences evaluating

these nominations and their key findings. Giving his opening remarks, Bireshwar Mitra, Former Executive Director, Sharda Motor Industries Ltd said, “It was a mammoth journey and not an easy one. Scrutinising each nomination as per the fixed parameters was a huge task for the jury. Over the years, numerous categories were included such as Manufacturing, Quality, HR, CSR, EHS, Supply chain and the latest entrant to the list is digital manufacturing. As a jury, we have done our tasks in a big way, but in future we will keep streamlining it and give our best to do justice with it.”

Hemant Watve, CEO and MD of Wilo Mather and Platt Pumps Private Limited commented, “I am honoured to be a part of this prestigious jury panel for the last nine years. Initially, there were four to five categories which we evaluated. However, gradually we kept adding several categories. At first, we introduced quality and productivity, and thereafter CSR was added, followed by EHS. Later, we also introduced digital manufacturing, innovation in manufacturing.”





Bireshwar Mitra, Former Executive Director, Sharda Motor Industries Ltd



Hemant Watve, CEO and MD of Wilo Mather and Platt Pumps Private Limited



Rajeev Mittal, Chief Information Officer (CIO), Endurance Technologies Ltd

However, “the most difficult task,” according to Watve, “is to fix the criteria for these categories and then evaluate those entries.” Adding further he said, “When you screen these entries, you need to check whether all the criteria are fulfilled. If, in case, it is not meeting our expectations, we cannot allot marks based on how many good photos are presented or in-depth essays are written. Even though the participants feel, we are doing injustice, it is not so. We go by the facts presented to us, and that’s the basic parameter we follow, when it comes to evaluating nominations.”

Sharing his perspective, Rajeev Mittal, Chief Information Officer (CIO), Endurance Technologies Ltd said, “I have been associated with this esteemed award for past eight years. When I look back to the first and second year of the Super Shopfloor Awards, I clearly remember, we received very less applications. However, as the years progressed, more categories were added and likewise there was significant increase in number of nominations.”

Adding further he said, “In the past, we received around 50-100 application, but now, we have received more than 400 applications after various levels of scrutiny. So, things are improving.” Besides, “I have also observed a lot of improvement in submission of entries and more emphasis is now given to facts and data, which has helped in identifying the key contribution of the applicant,” Mittal added.

Besides, he has suggested the applicants to avoid sending nominations which are theory based. “Sending theory-based applications will not give you any kind of edge. It only adds to our task and makes it very difficult for us to evaluate it. Instead, focus on backing your applications with substantial and valid data, trends, facts and figures,” said Mittal.

Furthermore, Watve mentioned about a nomination application which was sent by a reputed manufacturer. According to him, the manufacturer had given only one sheet filled with all good figures, but there was no backup to substantiate those figures. Commenting on this, Mitra said, “be it a large, small, or medium scale



In the last nine years, we have received close to 18,000 nominations from the manufacturing sector. On an average, we have gone through 2,700 nomination forms and close to 360 companies were recognised during this duration.

industries, or any reputed organisation, the data speaks in volume about their notable contribution to the industry.” Precisely, “the data should be backed with facts, because without the facts, it will be difficult for us to assess. You can’t evaluate a company on basis of their name. The name of the company does not matter; what matters is that your data must be substantiated with the facts and figures,” he added.

Furthermore, Watve asked the jury about the parameters they keep in mind while evaluating the participants or companies on their digital manufacturing standards. Talking about the parameters, Mittal said, “Digital Manufacturing or Smart manufacturing are current buzzwords, and it is very well received by the industry. There are couple of criteria which we have in mind while evaluating. So, the first one is what is the level of IIoT or industry 4.0 adopted by company.”

The second aspect is “how the industry/ company is taking this journey ahead and the other thing under this we evaluate are: how OE and OLE trends and how this data is benefiting the company.” He further noted that merely putting up a system doesn’t make any difference. However, “putting up a system and making it effective, creates a difference and it also reflects in the data,” Mittal added.

The other criteria, “is what is the adoption level”? For instance, “life cycle management, augmented reality, virtual reality, 3D printing may not be applicable to every industry, but may be applicable



Be it a large, small, or medium scale industries, or any reputed organisation, the data speaks in volume about their notable contribution to the industry. The data should be backed with facts, because without the facts, it will be difficult for us to assess nominations. You can't evaluate a company on basis of their name. The name of the company does not matter; what matters is that your data must be substantiated with proper facts and figures.

to some." Another latest innovation is HoloLens. "If anybody is trying to adopt HoloLens, we precisely look in what ways they are leveraging it," highlighted Mittal.

"From the augmented reality perspective, we precisely check, where it is being used; whether it is in pilot stage or in the production stage and which area it is being utilised. We also look at whether it is used in training area or in the mass production area," he added. Mittal further noted that, if any of the companies is adopting digital manufacturing practices and they are providing a suitable data for it, then these factors will surely help them to gain edge over others.

Kamat also mentioned about a key question which is mostly asked by the participants who couldn't make it. According to him, the participants usually inquire about "the factors they were judged upon and why they couldn't make it?" To which Watve said, "We basically adjudicate on the basis of parameters and weightage factors. For instance, when we talk about supplier quality - we basically look at their inward quality, process quality, customer quality and for each of these criterions, there is a weightage factor."

He further noted that each of these parameters is subdivided. For example, "When you talk about process quality, we examine the process monitoring, process audits, and the calibration frequencies. So, whosoever is making entry for nominations, should justify that they have excelled in those small areas, then obviously they get full score and with the weightage factor, they can naturally stand out from others," added Watve.

He further noted that "Objectivity has now gripped in the evaluation process.. So basically, we check these parameters along with the facts, as we can't physically go to every facility and examine it. We have to rely on these data which is coming to us and likewise we make an entry into those lock sheets and that's how the score comes. In fact, we ourselves do not know who is going to be the winner, while we are evaluating it."

Another topic which juries extensively discussed was about making the entire nomination process digital. According to Mittal, the digitisation of nominations will make the entire process hassle-free for applicants as well as for the jury. "Once the data is in digital format,

we can apply some self-scrutiny methods.. Besides, the applicant can produce some video and audio-visual proofs to back his nomination and it can increase their chance of winning. Also, the process will be faster, well-streamlined and more transparent," he added.

Kamat raised an important point about lesser representation coming in from the SME and MSME sector and he also discussed about the ways to improve their participation. According to Watve, a separate category should be created for SMEs. "I think we need to differentiate SMEs because we are mixing them with the MSMEs. Since we have criteria such as below thousand crore and above thousand crores, I think we need to add one more group there. This step will ensure that we do justice to those who are not able to compete with the Tata's and Leyland's and it will significantly help in encouraging healthy competition among the MSME's and SMEs."

Agreeing with Watve's point of view, Mitra also expressed his consensus on creating a separate category for SMEs. He said, "We must have more categories and personally I feel we should encourage more participation of SMEs. I think they are doing some exceptional work. While evaluating I came across a few companies, whose names I have never heard before. However, I was stunned to see their results. Also, more participation and encouragement of SMEs will significantly strengthen our Make in India initiative."

Before concluding the fireside chat session, Kamat quoted a dialogue from a renowned Hindi movie titled Jolly LLB, which revolved around courtroom drama. The judge while passing a judgement says, "Even before the case comes to us for analysis, we know who's the culprit or who's going to get acquitted or will be sentenced. But, we as judges can't pass a direct judgement, as we are bounded by law and that the law has its own course and procedures. However, if we receive substantial proofs, then it is very much easier for us to judge them."

Kamat noted that similar goes with the Super Shopfloor Awards as well. "If we receive substantial documents and proof, I think the chances are more, that we will get more new companies as a winner and SMEs too," he concluded. 

‘EASE OF DOING BUSINESS TO EASE OF LIVING: HOW THE MANUFACTURING SECTOR EVOLVED FOR THE WORKFORCE’

The panel deliberated on how Ease of Doing Business is impacting the manufacturing industry. They also discussed how the industry has transitioned from focusing solely on ease of doing business to prioritising ease of living for employees.

A conducive business environment is a prerequisite for fostering the economic progress of a country. And for a market and country like India, which is now emerging as a manufacturing hub in the world order with its Make in India initiative, a favourable and investor-friendly business environment, and policies, can significantly elevate its growing stature.

While Ease of Doing Business has brought about efficiency and transparency in conducting businesses across the country, it is interesting to study its impact on the Indian manufacturing sector. To review its growing impact - the 9th edition of The Machinist Super Shop Floor Awards 2023 hosted an engaging panel discussion on ‘Ease of Doing Business to Ease of Living: How the Manufacturing sector evolved for the Workforce.’

The panel comprising Gursaurabh Singh, Founder, Dhruv Vidyut; Harish Chavan, CEO - Swaraj Division, Mahindra & Mahindra Ltd; Dr Jairam Varadaraj, Managing Director, Elgi Equipments Ltd; Mahesh Babu, Group CEO, Switch Mobility and TK Ramesh, MD, Ace Designers Limited discussed in length about

how Ease of Doing Business is transforming the manufacturing sector and also helping in creating an environment that prioritises the well-being and quality of life for the workforce.

The discussion started with the moderator, Abhijeet Sinha, Programme Director, Ease of Doing Business, asking the panel about the structural reforms that happened over the last nine years and how they have, in any way, translated to the shop floors.

Harish Chavan, CEO of Swaraj Division, Mahindra & Mahindra Ltd, in his opening remarks, said, “The government is making all the efforts to bring investments and ensure that the manufacturing sector is advancing and accelerating. The idea of India emerging as a manufacturing hub is taking shape. Thanks to the multinationals, which are now adopting a new strategy called China Plus. This means they want to create a backup for China, and India is well poised to take over this space, especially with the kind of reforms we have done.”

Besides, he listed three crucial reforms happening on the manufacturing shop floors. The first reform which Chavan pointed out was the advancement in





Gursaurabh Singh, Founder, Dhruv Vidyut



**Dr Jairam Varadaraj, Managing Director,
Elgi Equipments Ltd**



TK Ramesh, MD, Ace Designers Limited

manufacturing technologies. He also touched upon the process improvements and how automation is going to the next level.

The second reform, he indicated, was the creation of policies for employee well-being. According to him, "policies for employee well-being are now taking shape. Along with people-friendly policies, hygiene, health, and safety policies, are now prioritised more."

Another crucial reform Chavan mentioned was the need for an equitable workforce. He said, "The manufacturing sector is witnessing a substantial increase in the participation of women. Besides, their efforts are now getting recognised. Also, the involvement of specially-abled people is increasing. While, we are progressing in manufacturing, we are also getting into softer aspects."

When asked about the impact of reforms on shop floors, TK Ramesh, MD, Ace Designers Limited, said, "Of course, it is translating on shopfloors. Be it a business or shopfloor – we all want everything to become easier."

He also quoted an example about how easy it is to book an autorickshaw or cab through an app compared to standing on the road and trying to do it physically. So, the crux is, "the more things get easy, the more we want them to become easier," said TK Ramesh.

Besides, he highlighted that a lot of ease of doing business comes from looking at the right data points. "Since all of us are becoming connected, perhaps, the ease of doing business will get only easier and easier." Now, "is it a good thing or a bad thing? The time will tell. But I feel we need to get easier and faster," he added.

When asked about how the comfort of facilitation has translated into the EV industry, Mahesh Babu, Group CEO of Switch Mobility, said, "The EV industry is still evolving. When social media came, nobody knew how to handle it. Likewise, it is happening with EVs."

However, "The good part is, unlike 100 years of the auto industry, when many regulations were imposed, for the first time, in this evolution and transition to electric mobility, I am seeing that the government,

industry, and consumers are all working in tandem with each other. I think I've never seen this before. Today, almost 20- 25 states have EV policies," he added.

Mahesh Babu further noted that accelerating EV adoption has become more crucial for the government and country, especially from the energy security perspective. "The idea behind accelerating EV adoption is all about making India AatmaNirbhar (self-sufficient) in mobility and energy security. I think the government communicated well on the policies, worked with Industries, and co-created the policies, rather than unilaterally looking at international policies and trying to adapt them, typically the auto industry used to do for years," he added.

Commenting on EV policies and regulations, the Switch Mobility Group CEO said, "So far, the EV policies were introduced in an orderly manner. At first, they did a pilot and then kept refining it as Fame-I, later FAME-II came, and now we are talking about FAME-III policy. Today, we have PLI schemes, ACC PLI schemes and Auto PLI schemes. I think the government is playing a crucial role here in encouraging EV adoption and it is ensuring that the auto industry transitions well. This is mostly because the auto industry substantially contributes to the GDP and any wrong regulation could lead it to a wrong direction."

Sharing his perspective, Dr Jairam Varadaraj, Managing Director of Elgi Equipments Ltd, said, "typically, we keep talking about what we don't have and how regulation should improve and give us more freedom and leniencies." However, "one of the instances completely changed my perspective of doing business in India vis-à-vis any other country. We have been operating in Europe directly over the last 12 years and faced a tough situation in France. And through that situation, I realised how much easier it is to do business in India."

He further stressed on the fact that "Which country does not have problems or does not have regulations?" But "if you step back and look at it, we are not very difficult to do business anymore. We are good; I mean,



Mahesh Babu, Group CEO, Switch Mobility



**Harish Chavan, CEO - Swaraj Division,
Mahindra & Mahindra Ltd**



**Abhijeet Sinha, Programme Director,
Ease of Doing Business**

there is always room for improvement,” avers Varadaraj. As a matter of introspection, “what we need to reflect on, as people in the industry, is that regulations come because of our misbehaviour. There is a certain amount of over-regulation implemented owing to our wrong behaviour.”

However, Varadaraj believes that “If we create a more purpose-driven organisation, rather than a purely profit-led one, then there will be a certain balance in our overall context and behaviour,” adding that “this will reduce the draconian content of legislation and regulation.”

Sharing his perspective, Gursaurabh Singh, Founder, Dhruv Vidyut, said, “I feel that startup India and MSMEs have brought tremendous change and confidence that anybody can step into something complex as manufacturing. One can think about pursuing a career in this field.”

While a lot has been achieved, Singh feels that there's still little room for some improvement. In his opinion, the current emphasis is primarily placed on revenue when it comes to various aspects such as MSMEs, startup valuations, and evaluations. Unfortunately, the significance of research appears to be greatly overlooked.

Singh also agreed to the fact that China plus strategy is the need of the hour and shared an interesting observation. “I have seen that China has always dictated us. If you ask anybody here, which was the first electric vehicle they sat in? I am sure, it would be a Chinese e-rickshaw.” Adding further he said, “the e-rickshaws came and took everything by storm, and everybody else had to follow what they were doing. I saw that happening again with the LED batteries. They got LED batteries, and everybody else had to like it, as they were dictating.”

Furthermore, Singh also highlighted that we are only looking at the revenue aspect rather than research. “We are letting other people research for us. If we have an upper hand on research, it could bring tremendous amount of change,” he added.

Commenting on a question based on Ease of Living,

Chavan said, “The vision of Amrit kaal is to create a tech driven knowledge-based economy, which has got strong public finances and financial support. Now for realising this, we will have to mature, create growth in employment and at the same time, dive into the aspects of what is needed to get into the ease of living.”

Further, he noted that there's always a debate of regulators v/s facilitators. “I think we are moving towards facilitators than regulators. There is enough decriminalisation and digitalisation which is happening and to an extent it is helping,” added Chavan.

He also quoted an example from his own industry. According to Chavan, to sell any tractor, one needs to get a government certification, which ideally takes 8-9 months. However, he also mentioned that people are now looking at it differently and are willing to self-certify themselves. “I think it's a big switch from regulation to facilitators. And this shows we are responsible enough to handle this change,” he added.

When asked about a change or support that EV industry needs, to which Mahesh Babu said, “We will have to switch gears both in Industry and government and collectively need to think beyond India. You can't be growing only by domestic consumption; we need to focus on exporting as well. We need to tell the world that I am part of the supply chain of auto industry and have a unique value contribution to make. It is essential for us to inculcate a mindset of beyond India, beyond Indian requirements to the group.”

Dr Jairam Varadaraj shared an interesting insight on role of government in creating equity. According to him, whether it's regulation or facilitation, the government's core intent is to propel and transform India as a developed nation. “One of the crucial aspects of being a developed nation is not just the size of the GDP; it is how equitable the GDP is.” He further noted that the government cannot play a very legislative role in creating equity. “It is our responsibility to pursue equity as we pursue profit. If we want to facilitate equity and wealth for everyone, we need to see how one can become agnostic of India,” he concluded. 

“FUELBUDDY IS TRANSITIONING FROM BEING A FUEL-AS-A-SERVICE COMPANY TO AN ENERGY-AS-A-SERVICE COMPANY”

Gautam Malhotra, Managing Director, FuelBuddy, shares insights about their mobile fuel delivery service and how this new-age facility is transforming traditional fuel purchasing methods. He also spoke about their transition from being a Fuel-as-a-service to an Energy-as-a-service company in an interview with **Nisha Shukla**.

From schools and hospitals to fleets and cars, all of these require diesel supply. How does FuelBuddy tailor its services to meet the unique needs and demands of varied sectors?

Each sector has unique requirements, and at FuelBuddy, we understand that. To cater to diverse needs, we offer a range of solutions, from 24/7 generator refuelling to



Gautam Malhotra, Managing Director, FuelBuddy,

convenient Buddy Cans. With FuelBuddy, consumers enjoy the ease and flexibility of ordering fuel right to their doorstep or job site, eliminating the need to travel to the nearest petrol pump.

We prioritise safety by addressing common concerns, such as pilferage, adulteration, and leakage, through advanced IoT technologies. Our approach is centered around cutting-edge technology, providing customers with intelligent and efficient fuel management solutions tailored to their sectors and requirements.

For instance, commercial and residential complexes rely on power generators for uninterrupted electricity supply. Traditionally, users would have to transport jerry cans or barrels to procure diesel from nearby fuel stations, which can be unsafe. FuelBuddy revolutionises this process by allowing users to order diesel anytime and from anywhere, ensuring a hassle-free and secure experience.

With FuelBuddy, we aim to empower customers to focus on their core operations while leaving their fuel requirements in our capable hands. Our goal is to provide intelligent, reliable, and safe fuel solutions that enhance productivity and peace of mind across various industries.

As the on-demand economy grows, customers are increasingly seeking convenience and efficiency. How does FuelBuddy's mobile fuel delivery service cater to these customer demands, and what advantages does it offer over traditional fuel purchasing methods?

The trend towards mobile fuel delivery is gaining momentum. The market for mobile fuel delivery is appraising at US \$4.8 billion in 2022 and likely to garner a revenue of US \$4.8 billion by 2032. It is poised to attain a CAGR of 6.8 per cent during the



forecast period (2022-2032).

It provides immense convenience to customers who no longer have to leave their business locations to refuel their assets, allowing them to concentrate on their core business activities. Furthermore, mobile fuel delivery is a safer option as it minimises the risk of accidents and can address issues such as pilferage and spillage during transportation.

FuelBuddy offers doorstep diesel delivery services through its mobile app, ensuring all safety protocols are followed during the delivery process. With a strong foothold in sectors such as hospitality, construction, mining, and heavy machinery, FuelBuddy has established itself as a leading Energy-as-a-Service provider.

Consumers enjoy unparalleled convenience as fuel is delivered directly from our app to their location, eliminating the need to visit a physical gas station. This saves valuable time and effort, particularly for businesses, industries, especially in remote areas. Our service also provides enhanced safety and reliability through real-time tracking, ensuring secure deliveries and transparent updates on the fuel delivery status.

How do you ensure the safety of fuel transportation and delivery while adhering to relevant regulations and maintaining high standards in this aspect?

We adhere to the relevant regulations and maintain a level of standard in all aspects of our operations. Our team undergoes a rigorous training regime to ensure they are well-versed in the safety protocols and procedures. We use high-end technological advancements such as GPS tracking, real-time monitoring, Geo-tagging, Geo-fencing, and IoT sensors to ensure there are no safety-related issues during the entire delivery process.

Additionally, we conduct regular maintenance and inspections of our vehicles, so that they are in optimal condition. Safety is at the core of our business, and we continuously strive to uphold the standards for our

customers and stakeholders.

Our operators are Hazmat trained, in addition to being extensively trained in the safe handling of fuel. Our refuellers are designed and fabricated as per guidelines in the Petroleum Act and Rules by PESO (Petroleum Explosive Safety Organization of India). Additionally, they are equipped with spill containment kits, fire extinguishers, and first aid to ensure complete compliance and safety.

Tell us in detail about the company and its transition from being a Fuel-as-a-service company to an Energy-as-a-service company. Kindly shed light on the factors that enabled this transition.

We want to become a one-stop solution for all our customer's energy needs. We plan to leverage our existing infrastructure and customer base to expand into the energy space. By venturing into new areas, we are confident of capitalising on the growing demand for clean energy solutions and continue maintaining our position as the market leader in the energy-as-a-service market.

Along with the delivery of clean energy, we are also developing mobile EV charging stations for consumers. These charging stations will follow an onsite charging system, which is to be managed by our central tech team. This service will reduce the range anxiety among EV users and significantly boost the EV charging infrastructure of the country.

How do you ensure continuous fuel availability, and how does it handle unexpected spikes in demand or unforeseen circumstances that may impact the supply chain?

Robust Planning: Our extensive experience in the industry allows us to predict fuel demand with a high degree of accuracy. Through diligent planning and analysis, we ensure that a continuous fuel supply is available to meet customer needs.

Diversification Strategies: We are implementing robust hedging strategies to handle unexpected spikes in demand or unforeseen circumstances. We maintain partnerships with multiple standby fuel suppliers, enabling us to procure additional fuel when needed. By doing this, we ensure that we can swiftly respond to unexpected surges in demand and maintain a continuous fuel supply.

Collaborative Delivery Partners: We have established strong collaborations with reliable delivery partners. In case of emergencies or unforeseen circumstances that may impact our supply chain, we work closely with these partners to coordinate alternative delivery routes or prioritise urgent fuel requirements. This collaborative approach helps us minimise disruptions and maintain uninterrupted fuel availability.

Effective Communication: We believe in transparent and proactive communication with our customers. In case of potential delays or supply chain disruptions, we promptly inform our customers and provide them with the necessary updates and alternative solutions. With this, we ensure that our customers are well-informed and can make necessary adjustments based on the circumstances.

By combining meticulous planning, hedging strategies, collaborative partnerships, and effective communication, we ensure a continuous fuel supply and efficiently handle unexpected spikes in demand or unforeseen circumstances that may impact the supply chain. We aim to maintain uninterrupted diesel availability and provide a reliable service to our valued customers.

Partnering with established players like HPCL and IOCL can provide valuable resources. How does FuelBuddy plan to leverage these partnerships to accelerate its growth in the lubricant sector?

Our strategic partnerships with Indian Oil Corporation Limited (IOCL) and Hindustan Petroleum Corporation Limited (HPCL) enable us to provide doorstep delivery of lubricants to our customers. These partnerships allow FuelBuddy to expand its range of services beyond fuel delivery and tap into the growing demand for lubricants in the country.

Firstly, it saves the consumers time and effort, as they no longer will have to visit a physical store to purchase lubricants. Through these partnerships, our customers receive genuine and high-quality lubricants at competitive prices.

Recently, the company has received substantial funding of \$20 MN. What are the key areas of development you will be focusing on now? Are there any specific innovation or expansion plans in the pipeline?

FuelBuddy is transitioning from being a Fuel-as-a-

service company to an Energy-as-a-service company. The recent funding of \$20 million will further bolster the expansion of our portfolio, enabling our vision of providing energy services to users across the globe. We are working to start operations in the UAE market and are now close to launching our offerings in the region, replicating the success we have seen in India. We are also looking at tapping newer opportunities in India, with aggressive growth targets across key geographies - India, MENA, and Southeast Asia.

Expanding into new cities comes with challenges such as logistics, regulatory compliance, and establishing a local presence. How is the company planning to deal with these challenges and ensure a smooth entry into new markets? Tell us in detail about your growth and expansion plans.

Our expansion efforts are already underway in crucial growth markets, including the UAE and Mozambique, and we remain committed to expanding into more cities across India. By the end of 2023, we anticipate adding 50 more cities in India. (Currently, we are in 180+ cities). Furthermore, we aim to broaden our range of energy-related services beyond our current offerings and explore opportunities to provide EV charging stations to our customers.

In mobile fuel delivery, real-time tracking and visibility are paramount. How are you utilising technology to provide customers with real-time updates on their fuel delivery status to track the progress of their orders?

At FuelBuddy, we understand the importance of real-time tracking and visibility in mobile fuel delivery. We utilise technology to provide customers with seamless updates on their fuel delivery status, allowing them to track the progress of their orders in real-time.

Through our mobile application and online platform, customers can conveniently access their accounts and view the real-time status of their fuel delivery. We leverage GPS tracking technology to track the location of our delivery vehicles, enabling customers to see the live movement of their orders on a map. This feature provides transparency and peace of mind, as customers can monitor the progress of their delivery and get clarity on when the fuel will arrive.

Additionally, our technology enables automated notifications and alerts at various stages of the delivery process. Customers receive updates when their order is confirmed, when the fuel vehicle is en route, and when the fuel is successfully delivered. One can browse these notifications through the mobile app, email, or SMS based on their preferences. 

MAXIMISING UPTIME: EICHER TRUCKS' REAL-TIME MONITORING AND REMOTE SUPPORT

The long-haul trucking industry has been undergoing rapid transformation since the setback of the pandemic. An Interview with **Gagandeep Singh Gandhok**, SVP - HD Trucks Business, VECV, highlighted the increase in demand for long-haul trucks driven by infrastructure development, consumer spending, and the growth of e-commerce with **Dipika Lalwani**. The interaction further discusses the role of technology in improving uptime and the company's long-term vision.

How has the long-haul trucking industry transformed since the setback of the pandemic? Could you provide an overview of the industry at present?

The challenging pandemic years have ended with

the return of consumer confidence and an increased priority to infrastructure development. We are seeing a noticeable increase in the demand for long-haul trucks to transport essential building materials like cement and steel. Furthermore, an increase in consumer



Gagandeep Singh Gandhok, SVP - HD Trucks Business, VECV



Continued economic growth is expected to drive increased demand for goods and commodities, resulting in higher volumes of long-haul freight transportation. As the Indian economy expands and global trade flourishes, the reliance on HDTs for the efficient movement of goods across regions and countries will see strong growth.

spending and the growth of e-commerce is translating into demand for not only long-haul trucks but also efficient long-haul logistics services.

At Eicher, we have seen significant traction in the long-haul segment. Our customers appreciate our modern trucks which are backed by our commitment to Uptime. For the past three years, all Eicher vehicles have been equipped with connected telematics, enabling us to deliver uptime to our customers.

Looking ahead, we are confident that several factors will drive the demand for long-haul transportation services. These factors include the robust economic recovery of the country, substantial investments in infrastructure, the implementation of the Logistics Policy and Gati-Shakti, and continued emphasis on initiatives such as 'Make in India'.

The Eicher Truck Sales Report March 2023 has observed a sales growth of 18.72 percent. What are the contributing factors resulting in this increase?

We sincerely appreciate the trust placed on us by Eicher customers. Our growth has been achieved thanks to our industry-leading products and differentiated services. Eicher is setting new benchmarks in providing a superior uptime experience with our suite of connected services, competent manpower, and an ever-expanding network across the country. All of Eicher's long-haul trucks are 100 per cent connected and supported by an industry-first Uptime Centre offering remote and predictive diagnostic services.

At a macro level, the increase in infrastructure spending and road construction projects has been a major driver for the long-haul trucking segment. Large accounts involved in road and infrastructure projects have been in a buying mode, creating a surge in demand. Prominent projects like the Ganga Expressway and Gati Shakti, along with construction work on major national and state highways, have fuelled the growth of long-haul trucks. It is anticipated that the construction of national highways will substantially improve in FY24.

Since the pandemic, e-commerce has become a way of life for many of us. With high volumes of goods

being transported, truck owners in this sector have a higher demand for truck replacements, often within 3-4 years. This ongoing cycle of fleet renewal and expansion has led to increased demand for long-haul trucks in the market.

These trends are reflected in Eicher's growth. At Eicher, we outpaced the market and increased our market share. With 18,965 units sold, we set a record for HD Truck sales in FY23 and captured a 7.7 per cent market share marking a growth of 74 per cent.

By 2050, HDTs' demand share of road freight travel is expected to increase to 83 per cent and it is expected to be carrying nearly 8.4 trillion tonne-km of long-haul freight. What, according to you, will be the drivers of this growth?

Continued economic growth is expected to drive increased demand for goods and commodities, resulting in higher volumes of long-haul freight transportation. As the Indian economy expands and global trade flourishes, the reliance on HDTs for the efficient movement of goods across regions and countries will see strong growth.

Infrastructure investments in roads, highways, and logistics hubs will drive an increase in efficient long-haul freight transportation. The improved infrastructure connectivity will enhance the efficiency and accessibility of HDT operations, driving the demand for their services. The rise of e-commerce and changing consumer behaviour, with an increasing preference for online shopping and doorstep deliveries, will also contribute significantly to HDT demand.

What are some of the key features of Eicher long-haul trucks that make them well-suited for long hours of travel, and how do these features help to improve efficiency and safety?

As a part of VE Commercial Vehicles, a Volvo Group joint venture, Eicher's long-haul trucks have access to the latest technologies and advanced cabins, engines, and transmissions. Eicher trucks come equipped with efficient powertrain systems that combine industry-



Through the MyEicher app, Eicher provides fleet management software that integrates with telematics systems. This allows fleet managers to analyse data collected from the trucks and gain insights into fuel consumption, engine health, maintenance schedules, and driver behaviour.

leading powerful engines with advanced transmission technology. These powertrains are designed to provide optimal fuel efficiency, ensuring that the trucks can cover long distances while maximising fuel economy. Additionally, Eicher prioritises driver comfort and well-being while designing its long-haul trucks. Eicher truck cabins are designed to provide a comfortable working environment for drivers. Features such as adjustable seats, ample legroom, ergonomic controls, and optimised driver ergonomics reduce driver fatigue and improve overall comfort, in turn driving productivity and safety.

Eicher long-haul trucks come equipped with telematics systems and connectivity features. An innovative and intelligent telematics system delivered through a convenient MyEicher app supports Eicher owners and drivers to keep track of fuel consumption, maintenance needs, and fleet monitoring.

Technologies like Eicher's MBooster+ allow the driver to drive in different modes of load and gradient to achieve best-in-class fuel efficiency and the cruise control maintains speed/rpm without pressing ABC control pedals which leads to fatigue-free driving and higher fuel economy. Fuel coaching personally guides the driver towards the right selection of gear and rpm to help achieve higher fuel economy.

What are the facilities that Eicher trucks entail, which enable real-time monitoring of a fleet of trucks and maximise uptime?

Through the industry-leading MyEicher app, Eicher provides fleet management software that integrates with telematics systems. This allows fleet managers to analyse data collected from the trucks and gain insights into fuel consumption, engine health, maintenance schedules, and driver behavior.

Eicher trucks also feature remote diagnostic capabilities. Through Eicher's telematics systems, trucks can transmit relevant diagnostic data to a central platform. Fleet managers or service teams can remotely access this data to monitor the health of the vehicles, identify potential issues, and proactively schedule maintenance or repairs. This helps in reducing downtime and maximising uptime.

Our trucks also utilise predictive maintenance

systems that leverage Artificial Intelligence and Machine Learning tools to process data collected from the telematics systems and onboard sensors. By analysing the data, these systems can predict potential maintenance needs or failures before they occur. Fleet managers can receive alerts or notifications indicating when specific components require attention, enabling proactive maintenance planning and minimising unplanned breakdowns.

Eicher today is setting new benchmarks in providing a superior uptime experience through an ever-expanding service network. The company offers onsite repair, training, and prompt part delivery as part of its end-to-end truck support. Both small and large fleet owners can take advantage of Eicher's competitive annual maintenance contracts.

The company has also introduced Eicher Site Support, through which it provides support on sites that are located remotely. This is especially useful for mining and construction customers who often need hassle-free support 24X7 to ensure their projects run smoothly and on time.

The government is heavily investing in infrastructure development with initiatives like the Bharatmala Project, which will lead to higher demand for steel and cement and is expected to further increase the demand for long-haul trucks. How does Eicher aim to keep up with the increasing demand while ensuring efficiency and avoiding the overloading of trucks?

Eicher trucks and buses have always ensured to provide best-in-class products backed by innovative solutions such as superior Uptime. We have a robust product portfolio in the light, medium and heavy-duty range, starting from 4.9T to 55T catering to the varied needs of customers. Massive projects currently ongoing in India are timebound and hence Uptime has become an important pillar for infrastructure development. Eicher is setting new benchmarks in providing a superior uptime experience on the back of connected services, competent manpower, and an ever-expanding network across the country.

Eicher provides a wide range of trucks. Which trucks



We believe that to achieve our ambition of sustainable mobility we will need more than one alternative fuel technology and therefore are ready with solutions like LNG, Hydrogen Fuel Cell as well as Hydrogen ICE.

are experiencing the highest sales at present? What features are currently compelling to the customers?

Eicher has a robust product portfolio in the heavy-duty range; starting from 18.5T to 55T and Pro 3019, Pro 6028T, Pro 6028TM, Pro 6048, and 8035XM are some of our best-performing models in this segment. These trucks are equipped with Volvo Group technology-based VEDX 5&8L and Eicher's own E494 engines, offering from 210HP to 350HP output power and a world-class Engine Management System (EMS) based on Volvo group's global platform, and reinforced chassis make our trucks the most reliable products in their class. All our trucks are 100 per cent connected, delivering built-to-last superior uptime. Additional features like cruise control, modern and premium cabin design, fuel coaching, Mbooster+, and an intelligent Engine Protection System (EPS) make the Eicher HD Trucks a preferred choice.

What role do you see technology playing in improving uptime in infrastructure development, and what innovations are you working on in this area?

Technology plays a key role in the development of various sectors including the automotive. CV and fleet owners today expect more visibility on the status of their vehicles and respective parts and what services are required. Eicher was the first CV player to introduce a 100 per cent connected vehicles portfolio in the country. It was one of the first manufacturers that introduced advanced telematics in the industry called 'Eicher Live'. Today, Eicher Live and the MyEicher app are India's most comprehensive telematics solutions for enhanced productivity and increased profitability, available as a standard fitment across the HD portfolio. The company was the first to set up its Uptime Centre, a technologically enabled facility dedicated to Uptime situated at Pithampur, that works around the clock in order to remotely detect the faults in the trucks running anywhere in India and provide them the required support thereby consistently ensuring superior uptime to customers. It has invested heavily in improving the Uptime of Eicher vehicles by shifting from a reactive to a proactive to a predictive approach towards vehicle upkeep with real-time information sharing. Going

forward technology will evolve even more, and we will continue to improvise and adapt to offer the best experience for our customers.

What initiatives is Eicher taking towards transforming its trucks into Zero emission trucks and reducing the carbon footprint?

Eicher is one of the few leading players in the industry offering all powertrain technologies to meet our customer demands a diesel, CNG, and now Electric as well.

The Eicher brand is leading our foray into electric vehicles. We have already launched Eicher Skyline Pro E, a 9-meter indigenously built electric bus with a perfect blend of Eicher's in-house EV technology and robust body design. In February 2022, we were awarded a tender to supply 40 electric buses to Chandigarh Transport which are now being successfully operated by us under the GCC model. We believe that to achieve our ambition of sustainable mobility we will need more than one alternative fuel technology and therefore are ready with solutions like LNG, Hydrogen Fuel Cell as well as Hydrogen ICE.

Through Smart Manufacturing, we are addressing our environmental impact and reducing the carbon footprint through sustainable manufacturing processes. The focus is on optimising resource use, incorporating innovative utility management systems and energy efficiency measures.

Our Smart Support Solutions provide a bouquet of services throughout the vehicle's lifecycle that ensure higher productivity and efficiency of not only the vehicles but also the drivers, further reducing their collective carbon footprint.

Finally, can you discuss the company's long-term vision for its long-haul offerings and growth in this market?

With the continuous advancement in the infrastructure segment, we expect a large part of the CV industry to shift to long-haul trucks over the coming years. In addition to already delivering a range of clean diesel and CNG today, Eicher is preparing for the future with advanced programs ongoing in alternate fuels for the long-haul segment be it LNG, EVs, Hydrogen ICE, or Hydrogen fuel cell. 

TRELLEBORG EXPANDS PRESENCE IN INDIA WITH ACQUISITION OF AUTOMOTIVE BOOTS OPERATION

Trelleborg Group has, through its business area Trelleborg Industrial Solutions, signed an agreement to acquire an operation specialising in automotive boots for the fast-growing Indian light vehicles market. This operation is part of the India-based privately owned company Injectoplast. Through this acquisition Trelleborg further strengthens its global market position in automotive boots. The company has its head office and manufacturing in Kanpur, in the north of India, close to a light vehicle manufacturing cluster, and has annual sales of approximately SEK 70 M.

“We note a highly favorable sales trend for our automotive boots, and at the same time, we have had a relatively low presence and sales in the Indian market. As our business successes are based on proximity to our customers, this acquisition is strategically important and enables us to better support our global customers. The acquired operation produces high quality products in a state-of-the-art facility for the attractive Indian market,” says Jean-Paul Mindermann, President of the Trelleborg



Industrial Solutions business area.

Automotive boots comprise a dynamic sealing system, manufactured from thermoplastic elastomers, which seal vehicle

drive shafts and prevent the ingress of contaminants such as salt, water, or dust particles. Boots are found in all passenger cars, including hybrid and electric cars.

“UNLEASH YOUR ENGINEERING POWER WITH PLAY” IGUS REVOLUTIONISES ENGINEERING WITH NEW PRODUCTS

Igus, a leading provider of motion plastics, has announced the launch of 190 new physical and digital products in 2023. The products include a low-cost robot operated via a VR headset, Spare parts identified and ordered in seconds using AI on a smartphone, and a mobile app that immediately identifies potential applications for lubrication-free parts on an excavator. These offerings aim to revolutionise engineering practices, enhance user experience, reduce costs, and promote sustainability. By providing easy access to the right motion plastics products, igus empowers engineers to enjoy their work while minimising carbon footprint and plastic waste.

Visitors to the 2023 Hannover Messe can experience the new possibilities of a virtual parallel world at the igus exhibition stand in Hall 17, where they can use VR glasses and control a robot arm in virtual reality. The

highlight is a robot that can mirror their exact movements. A bridge has been built between VR and reality; an insight of what will be possible in the future in the so-called igiverse, the igus metaverse.

The igiverse makes collaboration easy and fun

In the igiverse, engineers, material experts, and project planners can collaborate and build 3D models of machines, systems, and assemblies on a 1:1 scale. This eliminates the need for lengthy meetings and expensive travel, resulting in faster, sustainable, and cost-effective product development. The digital twin within the igiverse can also be used for training purposes.

“The possibilities of virtual reality for mechanical engineering design are absolutely fascinating. We want to be a part of this

technology right from the start,” shared igus CEO Frank Blase. “We want to develop new solutions that even small companies with limited budgets can easily use.” For example, igus plans to open igiverse in the future; companies can then benefit from this platform, which is fully managed by igus, with no development outlay. Also new for 2023; a cloud-based app called igusGO. The user takes a photo of a machine, for example an excavator, and artificial intelligence analyses where lubrication-free parts from igus could be used cost-effectively.

Voice control system, ‘superwise’ and ‘kopla’ - new services for Industry 4.0

The igus range of low-cost robotics, intended to promote automation in SME’s, is also growing. A new, smaller robot - the ReBeL KID - will be available from May 2023 for only 3,999 euros, and has optional voice control. The online marketplace RBTX, showcases



over 350 automation projects, all of which can be copied for similar applications. 98 percent of these complete solutions are already available with prices ranging from 1,974 to 12,000 euros.

In addition to low-cost robotics, igus has expanded the range of smart plastics. These are standard parts such as energy chains and plain bearings, equipped with sensors and integrated into IoT networks. This allows SME's to implement Industry 4.0 trends, such as condition monitoring and predictive maintenance. The smart plastics can be expanded with a new service called 'superwise', a digital product which links to igus field service team. A completely new service is the igus managed platform 'kopla'. This allows companies to create their own online expert systems and calculation tools. It is aimed specifically at medium-sized companies who operate internationally and would like to explain their products online.

igus continues to expand - on the way to the millionth customer

Despite the challenges of recent years, igus remains on a path of growth. With over 188,000 customers, igus employs 5,000 professionals across 31 global locations. In 2022, the company achieved annual sales exceeding €1 billion for the first time. Now, igus sets its sights on acquiring one million active customers by 2030.

To get there igus is investing in the development of motion plastics and in fast local logistics. They aim to make all moving applications in the world maintenance-free and long-lasting. Many online tools help engineers to calculate the life of igus products, giving a reliable and sustainable solution.

Environmental Sustainability

"Unleashing your engineering power with play" is green. The company presents a new solution for reusing factory energy, aimed at achieving carbon neutrality in the igus factory by the end of 2025. This innovative system uses spent coolant water from injection moulding machines to heat the facility, effectively driving gas consumption to zero. By sharing this energy solution under the name Machine Heat Recovery System (MHRS), igus aims to assist other industrial

companies in their environmental endeavors. Furthermore, igus has been actively improving the environmental balance of plastics for years, with a particular focus on recycling. The popular "Chainge" recycling program, which previously collected and reprocessed disused energy chains, now encompasses all technical plastics. From polyamide to PEEK, customers can participate in the Chainge program and receive credit vouchers. In August, igus plans to launch the igus:bike made from recycled ocean waste, further showcasing its commitment to sustainability and resource conservation.

"It is imperative that our growth aligns with the sustainable use of resources," remarks Frank Blase. He expresses his admiration and motivation for working with the creative and energetic igus team, expressing excitement for the future.

ACHIEVING TITANIC PERFORMANCE

Milling with large tool overhangs is practiced in diverse manufacturing processes and is influenced by tool configuration or work holding fixtures. Milling deep cavities characterised by shoulders, steep walls, wide edges, and undercuts are typical applications that require tools with large overhangs. An increased tool overhang reduces tool rigidity which affects machining stability. The outcome is pronounced by vibrations, poor surface finish, and decreased tool life.

The integral-body design of a long-reach tool provides maximum rigidity solutions. This design concept has found limited applications due to significant production costs and a high risk of functional loss. For example, insert breakage can cause damage to the tool body, which may cause great loss when using expensive tools.

Tool design assemblies are common and used to avoid possible tool breakage. A long-reach tool comprises a regular-sized milling cutter and a toolholder that mounts the cutter. If need be, the toolholder itself is a modular assembly and includes standard elements, such as a base unit for machine spindles, extensions, reducers, and more. The assembly tool principle has important advantages such as versatility, optimised tool configuration, and effective customisation. If the cutter is damaged, it can be replaced easily, while other assembly elements remain in their working state.



The assembly leads to a loss of tool rigidity, which may influence the tool's dynamic performance compared to an integral body. The assembly principle enables using tool holders with vibration-dampening capabilities that significantly improve the assembly's dynamic response. In this case, the cutting conditions should often be reduced to eliminate vibration and noise that causes decreased productivity.

The performance of indexable milling is improved by factors such as chip-splitting cutting edges, unequal angular pitches, and a different cutting-edge inclination. These attributes relate to cutting geometry and are associated with the tool itself.

Reducing the weight of the cutter body contributes to better dynamic stability. However, weight reduction should not impair the strength characteristics of the tool. Steel is the traditional material from which tools are made. Titanium can be used to replace steel and possesses lower density, yet is characterised by high strength. Titanium also features excellent corrosion resistance with anti-wear properties being an important factor for the prolonged tool life of the cutter body. Compared to steel, titanium is characterised by poor machinability, which inevitably leads to increased manufacturing costs. A tool body design with

cavities will reduce the mass of the cutter yet will increase its manufacturing costs.

Modern production technologies enable solutions to overcome these obstacles. Additive manufacturing (AM) provides an effective method to achieve the complex configuration of a cutter body while minimising machining operations. 3D printing facilitates the production of titanium made tools while assuring sustainability. Leading cutting tool manufacturers have adopted AM processes to produce milling cutters intended for machining with large overhangs. It is becoming more common to design lightweight indexable mills with titanium bodies using additive manufacturing. One of the new shell mill designs was recently introduced by ISCAR. The mills expand the product range of HELI2000 90° milling cutters where indexable inserts with helical cutting edges are mounted. The implementation of lightweight titanium body cutters with helical-edged inserts is symbolic of ISCAR, renowned for its original and innovative milling solutions.

The shell mill body is shaped by the use of selective

laser melting (SLM) techniques, being one of the 3D printing techniques. As a result, tool body elements such as chip gullets and weight-reduction cavities feature sophisticated forms, uncommon for machining metals. Additive manufacturing technologies enable maximum use of computational fluid dynamics for optimising the profile of inner channels to ensure efficient pinpointed coolant through the cutter body. Traditional machining processes have limitations in shaping the channels, while AM capabilities provide endless options.

The mill design concept also uses the unequal angular pitch principle to improve the vibra-

tion resistance of the cutter.

The new design based on the combination of untypical body material with AM advantages has brought robust lightweight indexable shell mills intended for long-reach machining applications. The new tool provides stable cutting with high overhangs, which ensures increased productivity and tool life. At the initial stage, ISCAR introduces titanium-body shell mills in diameters of 50 and 63 mm (metric product line), or 2.00 inches. To improve results and to achieve an excellent surface finish, it is recommended to mount the milling cutter on tool holders with an anti-vibration mechanism, such as ISCAR's WHISPER LINE adaptors.

LMW'S MACHINE TOOL DIVISION: INNOVATING CNC SOLUTIONS FOR DIVERSE INDUSTRIES

The engineering conglomerate, Lakshmi Machine Works Limited started its value driven machine tool division in 1988 to produce India's finest range of CNC Machines. The journey of LMW was established in 1962 to provide Indian textile industry with the latest spinning technologies. LMW is a leading textile machine manufacturer in India and one among the top three in the world to produce the entire range of textile spinning machinery. LMW's foundry makes precision castings for industries worldwide. In 2010, the company has added an Advanced Technology Center to manufacture components for the Aerospace industry.

The machine tool division has the total own capability to design and manufacture world class CNC turning, milling and turnmill centers. The high precision mother machines coupled with skilled people produce high quality products. With investments in manufacturing facilities, which bring technological competence that address the global market the R&D team possesses an understanding of customer demands and excels in developing cutting-edge CNC machines that precisely address those requirements. They are offering about 55 models and about 88 variants, and ensuring that our cutting edge CNC machines precisely cater to the specific requirements of our valued customers.

LMW claims to focus on major demanding factors in the market 1) Accuracy & long lasting repeatability 2) Reliability 3) Reduction in cycle time 4) Low cost per



component 5) High productivity.

Latest machines and solutions have been showcased at ACMEE 2023 show held at Chennai from 15th to 19th June. The exhibited lineup comprised a range of cutting-edge machines that truly epitomise innovation and technological excellence.

S turn I, The next generation turning centre:

This machine comes with maximum diameter of 320 mm and maximum length of 400 mm. It has 8 station hydraulic turret, allowing for efficient and precise tool changes during operations. Additionally, the spindle speed

of 4500 rpm and spindle power of 5.5/7.5 kW allow for fast and powerful cutting operations. Making it suitable for a wide range of applications, from high volume production runs to precision machining of complex parts. The improved axis rigidity ensures the positional accuracy and repeatability. The enhanced structure for chip evacuation also contributes to the machine's high level of performance by effectively removing chips. This machine is an excellent choice for high quality, reliable turning capabilities. The machine is suitable for Automobile, Fittings, Pumps and Valves, General Engineering, etc.

Gigatum I, An optimal large dia turning centre:

This state-of-the art machine equipped with distinctive features to enhance the turning operations. With a maximum turning diameter of 510 mm and a turning length of 590 mm, this machine can handle a variety of turning operations with ease. The machine is equipped with A2-11 spindle and 18 inch chuck, making it

ideal for working with large workpieces. With spindle power ranges from 15 kW to 30 kW, this machine can handle even the toughest of materials and produce high quality finished products.

12-station hydraulic turret provides stable cutting, ensuring efficient and precise results. This machine also boasts roller LM guide ways on all axes, delivering exceptional accuracy. Gigaturn offer enhanced chip disposal capacity in addition to the powerful cutting capacity.

JD 1, High Speed Drill Tap Centre:

JD1 has stroke capabilities of 500 mm on the X-axis, 400 mm on the Y-axis and 320 mm on the Z-axis. It also boasts a spacious pallet size of 650 mm X 400 mm, allowing for efficient handling of the materials, this machine is designed to deliver superior performance and precision. The high speed drill tap center features a rigid structure that provides a wider working area, allowing for greater flexibility and precision.

With a direct drive BBT 30 high speed spindle upto 24,000 rpm, this machine is capable of delivering unparalleled performance and accuracy. The high speed pocket tilting automatic tool changer ensures smooth and seamless tool changes, while the high rapid transverse rates of 48 m/min enable efficient and speedy movements of the machine.

Its advanced design ensures exceptional precision and efficiency in the production of high-quality components

for Automobile, Electric Vehicle, Die and Mould and Electronic segments.

J6, Vertical Machining Centre:

J Series machines have high demand in the market for its exceptional reliability, performance and precision. These machines has wide working area and boasts spindle power ranging from 7.5 to 22 kW, with direct drive spindle speeds of upto 12,000 rpm. The machines features a direct drive BT 40 spindle as well as the option of a BT 50 spindle.

In addition, the J series machines are equipped with a 24 tool ARM type automatic tool changer (ATC) that facilitates rapid and efficient tool changes, taking less than 2 seconds. The machines feature precision linear guide ways on the X, Y and Z axes, ensuring accuracy and stability during operation. Rotary Automatic Pallet Changer (RAPC) is available in the

selected models of J Series as an optional feature.

J Series machines can be easily configured to handle different materials like steel, aluminum, brass, die steel, inconel and titanium. These machines are highly versatile and caters to major industries like Automobile, Die and Mould, Pumps and Valves, Forging and General Engineering.

The company has established a pan India network of sales and services that cater to every industrial city in India. Machine tool division provides integrated solutions for various industrial needs in Automobile, Aerospace, Die and Mould, Defence, Pumps and Valves, Railways, Medical Equipment, Forging, General Engineering, etc. LMW also provides automation solutions such as auto loaders, Gantry systems, and Robots that are tailored to meet the customer requirements.

IMTMA AND LANDESMESSE STUTTGART GMBH JOIN HANDS TO LAUNCH MOLDEX AND FASTNEX

IMTMA and Landesmesse Stuttgart GmbH (Messe Stuttgart) have announced a partnership to organise MOLDEX India and FASTNEX. Both these shows will be held at Bangalore International Exhibition Centre in Bengaluru along with IMTEX FORMING, Tooltech, Digital Manufacturing, and WELDEXPO (organized in association with the Indian Institute of Welding), which takes place from 19 - 23 January 2024.

This remarkable move would strengthen the Indian metal forming machine tool sector as it would bring the key profiles of molding technology and fastening and fixing solutions. With this expansion, the combined shows will offer visitors cutting-edge technologies and solutions that would propel the growth of the manufacturing industry, consolidate cross-industry learning, spark innovation, and fuel collaborative partnerships.

MOLDEX and FASTNEX together with IMTEX FORMING, Tooltech, Digital Manufacturing and WELDEXPO will provide comprehensive coverage on the entire metal forming and digital manufacturing technologies which are widely used in various industry



sectors such as automotive, aerospace, medical, consumer durables, construction, defence and many more. The shows will be able to attract a good number of visitors who can find solutions to their everyday manufacturing needs in one place.

Jibak Dasgupta, Director General and CEO, IMTMA said, "Indian metal forming sector which recovered post the pandemic is expected to grow further. The machine tool industry needs to tap the rising demand and develop new technologies to meet the requirements of the user sectors. IMTEX FORMING has always played a catalytic role in bringing technologies and with the addition of the new shows the metal forming industry would get a boost and visitors will be able to source all the allied technologies in the industry in one place."

Bernhard Müller, Executive Vice President and Member of the Management Board of Landesmesse Stuttgart GmbH stated, "The integration of MOLDEX India and FASTNEX with IMTEX FORMING will strengthen the synergy between various industries and create a comprehensive platform for participants to explore the latest trends and technologies."

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