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ULTIMATE GUIDE TO PROFITABLE MANUFACTURING

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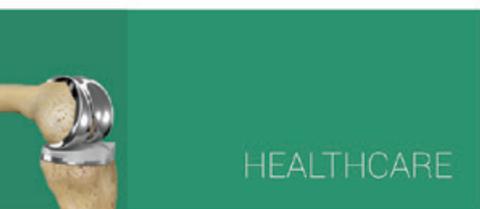
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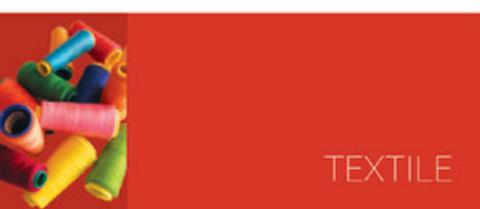
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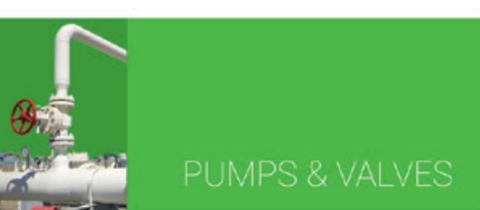
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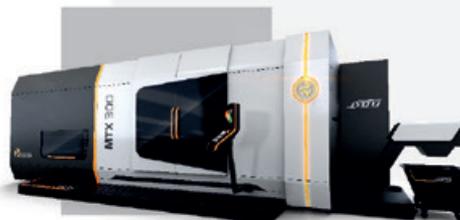
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**THANK YOU, 2020!**

It has been a year that most of us would like to forget. Some would say that they would want to wipe it off from their personal calendars. And I wouldn't blame them for thinking like this. However, as we are all set to bid farewell to this eventful year, I would actually like to say a heartfelt thank you to it.

While the year 2020 has given a new dimension to terms like crisis and challenge, I also believe that it has given us an opportunity to gather ourselves collectively at the global level. A world that stood divided by national borders and regional disputes was united by a humanitarian response to one of the worst pandemics ever.

**“THE WORLD IS NOW COMING TO TERMS WITH THE DISRUPTIVE NATURE OF THE TIMES WE LIVE IN. AND I AM THANKFUL TO THE YEAR 2020 FOR ENABLING THIS.”**

The year 2020 has brought into highlight certain professionals and made us once again aware of their contribution to the society. Professionals like doctors and nurses, truck drivers and health workers, cops and farmworkers, dairy workers and manufacturing professionals and many more have kept the ecosystem alive and running despite all the challenges. We cannot thank them enough.

While the world was already moving towards a digital transformation, the pandemic accelerated the process manifold. Whether it was something as simple as getting everybody on video calls or something as complicated as managing and maintaining manufacturing plants remotely, digitalisation has had a substantial impact on how we live and how we work. And this impact is here to stay.

A lot of things have started getting back to the old normal; a lot of things will have to live with the new normal. But the world is now coming to terms with the disruptive nature of the times we live in. And I am thankful to the year 2020 for enabling this. I am now ready for 2021.

**Editor & Chief Community Officer**

**THE MACHINIST**  
ULTIMATE GUIDE TO PROFITABLE MANUFACTURING  
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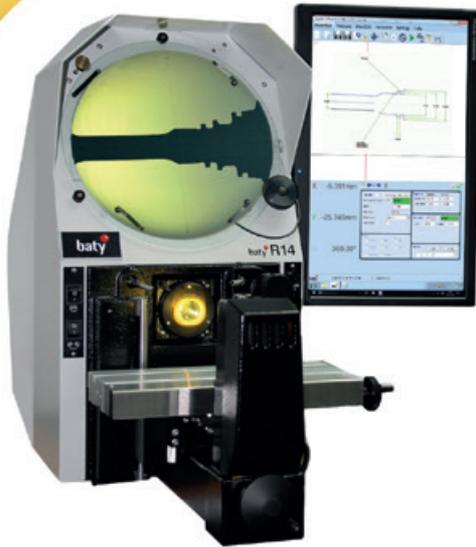
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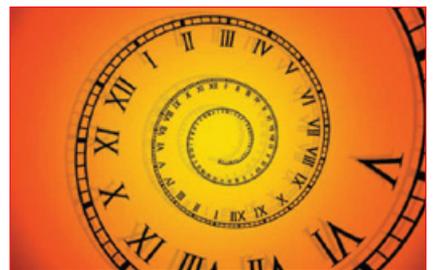
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## Manufacturing sector recovery in Q2: FICCI Survey

FICCI'S latest quarterly survey on Manufacturing points towards recovery of manufacturing sector for Q2 (July-September 2020-21) as compared to previous quarter. The percentage of respondents reporting higher production in second quarter of 2020-21 has increased vis-a-vis the Q1 of 2020-21. The proportion of respondents reporting higher output during July-September 2020 rose to 24%, as compared to 10% in Q1 of 2020-21. The percentage of respondents expecting low or same production is 74% in Q2 2020-21 which



was 90% in Q1 of 2020-21. The survey covered wide areas of relevance for manu-

facturing like exports, capacity utilization, ongoing restrictions, availability of labour/workforce and others. In many of these areas there are signs of operations inching towards normal and in coming months could see better performance. FICCI's latest quarterly survey assessed the sentiments of manufacturers for Q2 (July-September 2020-21) for twelve major sectors. Responses have been drawn from over 300 manufacturing units from both large and SME segments with a combined annual turnover of around Rs 3 lakh crore.

## JCB launches India's first dual-fuel CNG backhoe loader



JCB INDIA LIMITED has launched industry's first dual-fuel CNG backhoe loader in India. Called the JCB 3DX DFi, this new machine can operate on CNG and diesel simultaneously using the HCCI (Homogeneous Charge Compression Ignition) technology. Since the JCB 3DX DFi operates on a mixture of CNG and diesel, there is a substantial drop in particulate emission. This also leads to a reduction of proportionate CO2 emissions. The machine has been developed in India and has been tested in various operating conditions before its launch. It will be built at company's Ballabgarh factory. JCB India's CEO and MD, Deepak Shetty said "JCB has been working on this project with the inputs of its customers, dealers and suppliers. These machines have been tested at actual customer sites across various geographies and terrains and feedback has been incorporated in the development of the product."

## Hyundai announces skill development initiative 'SAKSHAM'

HYUNDAI MOTOR INDIA FOUNDATION, the CSR arm of Hyundai Motor India Ltd. has announced its Skill Development Initiative 'SAKSHAM' to boost Employment opportunities in diverse sectors. The outbreak of Covid-19 pandemic has increased the job losses adding to the stress of



certain sectors especially healthcare. To cater to the shortage of skilled manpower, 'SAKSHAM' initiative will be first carried out in healthcare sector creating more livelihood opportunities for the unemployed youth. S.S Kim, MD &CEO, Hyundai Motor India Ltd. said, "Under the aegis of our global vision of 'Progress for Humanity', Hyundai aims to alleviate the challenges faced by youth during these trying times. Our initiative 'SAKSHAM' is aimed at empowering the vulnerable sections of society to become self-reliant. 'SAKSHAM' initiative is a step towards a sustainable economic development much needed to bridge the widening employment gap created by the Covid-19 pandemic. The courses are certified by National Skill development Corporation, which will help them in their future endeavours."

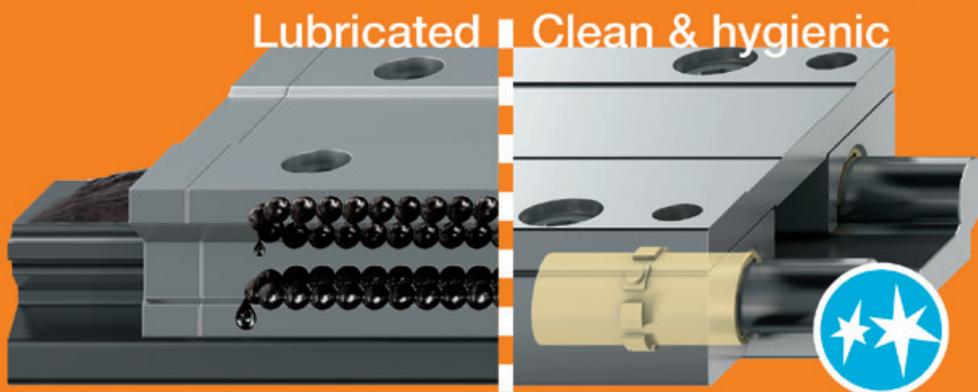
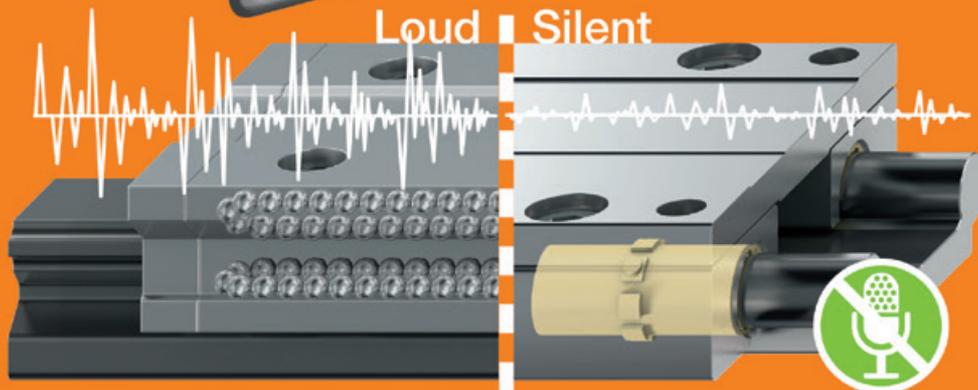
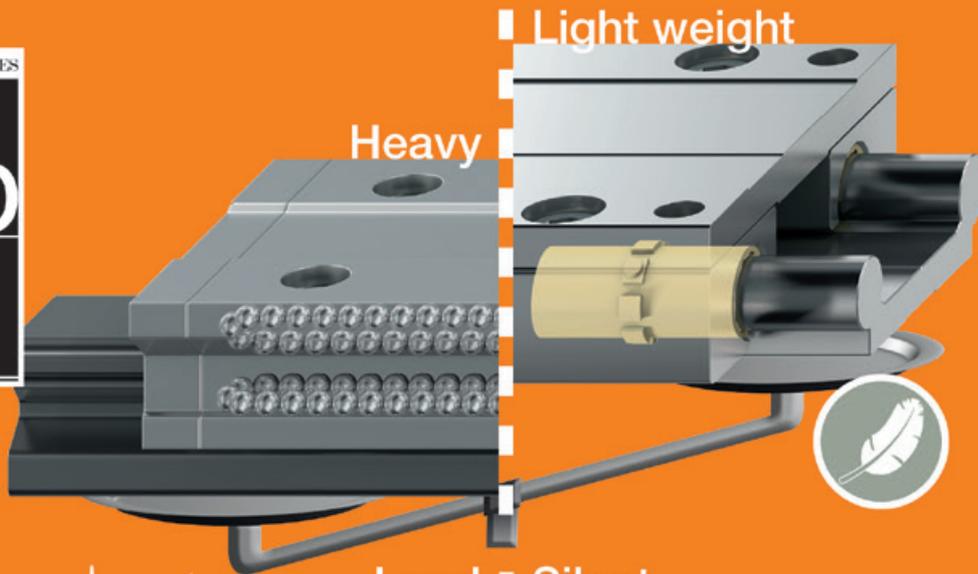
## CII enables Indian MSMEs to access global markets

WITH AN AIM to pave the way for Indian MSMEs to access global markets, CII has partnered with SAP to take the Global Bharat Program to its members. With this initiative, CII members will get access to global marketplace, support in skilling their workforce to increase their readiness and relevance in evolving environment and commence on their digital transformation journey with SAP. By providing access to over 6400 MSME direct members and over two lakh indirect membership from 298 national and regional sectoral industry

bodies, CII's purpose is to equip MSMEs with digital technologies that will further them to create demand for their products and transact globally. With the Global Bharat Program, CII members can access SAP Ariba Discovery network, register themselves as suppliers for free, get sales enquiries and sell their products worldwide. Additionally, CII members will also have the opportunity to digitally upskill their workforce through SAP India's Code Unnati by accessing more than 240 courses on Digital Financial, Soft Skills, Productivity Technologies etc.

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## IIT Kanpur starts Dept. of Sustainable Energy Engineering

**IIT KANPUR** has now taken a step towards creation of the department of Sustainable Energy Engineering with an aim of becoming a vital contributor to nation's growing clean and renewable energy sector by generating high quality scientific and technological knowhow and human resources. Dr. K Radhakrishnan, Chairman of the Board of Governors of IIT Kanpur said that "starting an academic department in this area is a vital initiative serving the edu-

cational and technology development related needs of the country. He commended the institute on achieving this milestone despite the disruptions caused by the pandemic". Prof. Abhay Karandikar, Director, IIT Kanpur mentioned that, "this initiative comes at an opportune time when the Indian government has committed to source at least 40 percent of its energy requirement from clean and renewable energy sources by 2030, as pledged in the Paris Agreement.



## Godrej & Boyce joins the EP100 global business revolution



**GODREJ & BOYCE MFG. CO. LTD.** is making an ambitious commitment to smarter energy use as part of the global EP100 initiative. EP100 is led by the Climate Group, an international non-profit organisation, in partnership with the Alliance to Save Energy. It brings together over a hundred companies with operations around the world, committed to doing more with less energy. Godrej & Boyce pledges to double its energy productivity and implement an energy management system (EnMS) by 2030 (FY-17 baseline). The company has made

continuous efforts to lower its energy use through various efficiency measures across its manufacturing plants, such as adopting energy efficient technologies, and replacing inefficient processes. Godrej & Boyce is also aiming at reducing the carbon intensity of its operations by 60% by the year 2030. Jamshyd Godrej, CMD, Godrej & Boyce, said, "Our 'Good & Green' initiative underscores our deep and abiding belief that innovation and sustainability will promote our journey to decarbonisation, energy efficiency and promotion of a circular economy."

## PLI Scheme massive boost to Indian manufacturing

**CABINET** approval of Production-Linked Incentive (PLI) Scheme for 10 more sectors with an additional outlay of Rs 1,45,980 crore is a massive boost to India's march towards making the country a global manufacturing hub, ASSOCHAM Secretary General Deepak Sood said. "Along with the PLI Scheme already in operation, the total outlay approved for the flagship programme for making India Atmanirbhar in the global manufacturing value chain is near Rs 2 lakh crore. This would have a huge multiplier effect on economic activities, with a sizable generation of employment across different sectors such as automobiles, electronics, textiles, food products, and telecom. In sectors like pharmaceuticals, chemicals, solar equipment, the PLI would also give a big leap towards scientific research and development," Sood said. He said, the PLI Scheme, in conjunction with a slew of reforms in agriculture, defence production, infrastructure development are path-breaking measures, some of which required legislative changes.

## Fuji Electric wins prestigious India Design Mark

**FUJI ELECTRIC** has recently bagged the prestigious India Design Mark by the India Design Council for the design of its Falcon range of UPS. The award is given in recognition for excellence in product innovation and design. Through India Design Mark, the India Design Council seeks to inspire Indian manufactures to design remarkable products that enrich the lives of people in India. Speaking on the occasion, Sriram Ramakrishnan, MD, Fuji Electric India & Fuji Electric Consul Neowatt said, "We are very pleased that the India Design jury has recognized the quality of our design and development work. The awards encourage us to continuously develop our solutions to improve the user experience.

## Secondary steel sector key to achieving targets

**FAGGAN SINGH KULASTE**, MoS for Steel, Govt of India, has said that the Secondary steel sector will play an important role in achieving the 300 million tonne target of steel capacity by 2030-31, as laid out in the National Steel Policy-2017. "It is important that raw materials like iron ore, etc., should be made available to the industry to meet the target," he added. Addressing the webinar on Secondary Iron & Steel Industry: Ecosystem, Opportunities & Challenges, organized by FICCI and SRTMI, Kulaste said that India is the second largest steel producer in the world and is positioned to offer a lot of opportunities for the steel sector.

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## Continental expands capacity at the Modipuram Plant

Continental is significantly expanding its truck tyres production capacity at the Modipuram plant in Uttar Pradesh. The capacity expansion initiative will be completed in the next 18 months, further increasing the product range for 20" and 22.5" along with the existing other range of Truck and Bus Radial (TBR) tyres produced at the plant. This expansion will enable increased export volumes to the APAC region. Claude d'Gama Rose, Head of Tires Business, Continental India,



said, "Our tyre business in India is expanding, and we are committed to manufacturing world-class products for our consumers. We are moving ahead with "in the market, for the market" approach and our plant is manufacturing products suitable to the Indian road conditions. Our offerings, both in commercial and passenger, have expanded in terms of product, size, and pattern. We have scaled up our production capabilities to serve domestic and export demand."

## ELGi North America opens new headquarters

Elgi Equipments Limited recently held a grand opening ceremony for the company's new, expanded North American headquarters, located in Charlotte, NC. "2020 has been a year of change for so many companies. For ELGi, our forward momentum has never wavered and it meant spending time relocating to a facility that would allow us to further expand our air compressor business and create additional jobs in the community," said David Puck, President, ELGi North America. "ELGi has worked diligently to be at this juncture, requiring more facility and manufacturing space, even in the light of business effects the pandemic has brought to the country. We are excited to be here, on the cusp of ELGi's 60th anniversary moving into a large, expanded space where we can further facilitate the manufacture and delivery of air compressors," said Dr. Jairam Varadaraj, Managing Director, Elgi Equipments Ltd.



## M&M Zaheerabad to be hub for new K2 series

Mahindra & Mahindra Ltd.'s Farm Equipment Sector (FES) will manufacture a new tractor series called the 'K2', exclusively at the company's tractor manufacturing facility at Zaheerabad in the state of Telangana. Developed through close collaboration between the engineering teams from Mitsubishi Mahindra Agricultural Machinery of Japan and Mahindra Research Valley, India, the K2 series aims to create a light-weight tractor program for both domestic and international markets. The new series will enable Mahindra to introduce products across four new tractor platforms, in the Sub Compact, Compact, Small Utility and Large Utility tractor categories, covering 37 models across various HP points. The new series will cater to domestic as well as international markets.

## Hèrmosa sets up manufacturing plant in Rajasthan

Rajasthan based home decor Design Studio Hèrmosa has set up its state-of-the-art facility set to manufacture furniture and home decor pieces. Located 25 km from Kota, Rajasthan, it is spread 200,000 sq. ft. Commenting on the new move, Pranjal Agrawal, CEO Hèrmosa Design Studio adds, "My vision for Hèrmosa as a hundred per cent Made in India brand, has always been to give our customers in mini metros and towns premium designs with durability at affordable prices. The Hèrmosa Wonder factory was set up keeping in mind industry 4.0 so we can deliver to mass consumers without hampering the quality. The factory will help support our growth goals of Rs.75 crore to Rs.100 crore growth in the next three years from E-Comm, Exports and Co-living integration projects."



## BASF breaks ground for production plant

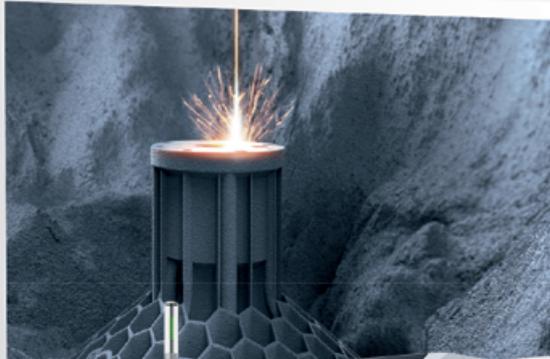
BASF has broken ground for its new cathode active materials production plant in Schwarzheide, Germany. In an online event, the company celebrated this milestone together with customers, politicians and partners. The new plant is part of BASF's multi-step investment plan in the European battery materials market and will use precursors from the company's previously announced plant in Harjavalta, Finland. Construction has already started in August in Schwarzheide and the plant is scheduled for a 2022 start-up. This new plant for cathode active materials will be equipped with world leading process technology and enable the supply of around 400,000 full electric vehicles per year with BASF battery materials.

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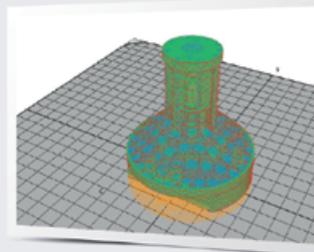


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By Hemant Sethi

## IMPORTANCE OF BEHAVIOUR-BASED SAFETY IN WORKPLACES

To improve workplace safety, organisations need to establish behavioural change.

A leading cause of accidents in the workplace is unsafe employee behaviour. To improve workplace safety, organisations need to establish behavioural change among their employees, in addition to providing them with the equipment and a safe working environment. British Safety Council's Behavioural Safety framework consists of three major parts that collectively form what is called the 'ABC model'. Let's have a look at the three elements of the model.

**ACTIVATORS:** Activators are factors that prompt employees to act/ behave in a certain manner at work. They can be a person, place, thing or an event that could affect an employee's behaviour. Activators, can be used only to prompt the desired behaviour, not enforce it.

**BEHAVIOUR:** Behaviour is the visible action of an employee at the workplace. Behaviour can be safe and unsafe. Behaviour-based safety involves observing both types of behaviours and developing solutions that encourage positive behaviour.

**CONSEQUENCES:** Consequences influence the future behaviour of the employees. They, too, can be positive or negative depending on the preceding behaviour. Behaviour-based safety aims at improving positive consequences which in turn can improve safe, positive behaviour within the organisation.

**BENEFITS OF BEHAVIOUR-BASED SAFETY?** British Safety Council's Behavioural Safety Consultancy is aimed at bringing permanent positive behavioural change in employees and developing a safe work culture. In addition to improving workplace safety, it offers various other benefits to organisations. Let's have a look at some of the benefits of behaviour-based safety.

### IMPROVES WORKPLACE SAFETY

Behavioural Safety Consultancy focuses on positive reinforcement practices that offer rewards and praise for good behaviour. Such an approach encourages employees to constantly strive and put their best behaviour forward. This results in employees being highly precautionous at work.

### ENCOURAGES EMPLOYEE COLLABORATION

Behaviour-based safety is a collective effort which involves observing the behaviour of other employees and notify others of unsafe behaviour. This also improves employee communication and collaboration. With open communication and collaboration, organisations get a clear view of what's working and what's not so they can then collectively decide the steps to be taken to improve workplace safety.

### REDUCES COSTS ASSOCIATED WITH ACCIDENTS

With Behavioural Safety Consultancy, organisations can end up saving finances related to insurance, treatment of injured employees and other workplace hazard compensations. Additionally, they can also save indirect costs such as the lost working hours and time required to hire new employees in case of workplace safety lapses.

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*The author is Country Head, British Safety Council, India*



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## Nikolai Setzer to become Continental CEO



The Supervisory Board of Continental AG has appointed Nikolai Setzer (49) as new Executive Board chairman until March 2024, effective December 1, 2020. He succeeds Dr. Elmar Degenhart (61), who, as already announced, has stepped down from his position for health reasons, with the consent of the Supervisory Board, effective November 30, 2020. "Continental is in the process of transforming into a technology and software company that, together with vehicle manufacturers, is laying the foundation for the sustainable mobility of the future. Nikolai Setzer has our utmost trust and confidence. The Supervisory Board is certain that he will push forward with and successfully shape this transformation. Key factors here are his deep, long-standing bond with Continental and its company values as well as his extensive international experience in the automotive and tire business," explained Prof. Wolfgang Reitzle, chairman

of Continental's Supervisory Board.

## Anbu Varathan assumes office as President, UFI



Anbu Varathan, Director General & CEO, Indian Machine Tool Manufacturers' Association (IMTMA) and Bangalore International Exhibition Centre (BIEC) formally assumed office as the President of UFI, the global association of the exhibition industry, for 2020 - 21. It's a historic occasion for the Indian exhibition industry as Anbu is the first Indian ever to occupy the top post of UFI in its 95 years of existence. During his tenure, Anbu would focus on UFI initiatives to revive the exhibition industry and extend all possible support to industry leaders besides urging stakeholders to be resilient to face future contingencies, adopt technology that would enhance the value of face-to-face exhibitions in future and enhance a stronger connection with communities in the exhibition space. "It is a daunting task but also an opportunity for me to enable the Indian exhibition industry to be vibrant and stronger and get its due

recognition at the global level. I also look back with pride IMTMA's journey in transforming IMTEX into a great international show, an ecosystem in itself and enabling BIEC as the best green venue and an industry infrastructure," said V. Anbu.

## Michael Hellmann to head Mercedes-Benz Düsseldorf plant



Michael Hellmann (52), currently Head of MBC Engineering & Manufacturing Beijing Benz Automotive Co., Ltd. at Daimler Greater China in Beijing, will take over management of the site and production at the Mercedes-Benz Düsseldorf plant on January 1, 2021. "We are in a comprehensive transformation and are very happy that we have been able to persuade Michael Hellmann to support us. We will benefit in particular from his experience in production control in an international environment and in cooperation with various plants," said Marcus Breitschwerdt, Head of Mercedes-Benz Vans. "In Michael Hellmann we are welcoming a very internationally experienced colleague to head our plant in Düsseldorf. His wide-ranging knowledge in the production environment and his experience from the Passenger Car unit, along with the positions he has held abroad, mean that he is perfectly qualified to develop the plant

and take it into the future," added Dr Ingo Ertischer, Head of Mercedes-Benz Vans Global Operations.

## AIFI appoints new President and Vice President



AIFI (Association of Indian Forging Industry), the General Body of the Indian Forging Industry in India has elected Vikas Bajaj as the new President for the term 2020 - 2022. He takes over from the outgoing President S. Muralishankar, who held the position from 2017 to 2020. Along with Vikas Bajaj the President, Yash Jinendra Munot was elected as the Vice President of AIFI. He is the youngest Vice President appointed at the AIFI. Prior to this, Bajaj as the Vice President has shouldered different responsibilities within the association - AIFI, Co-convenor Asiaforge Meeting 2019.

In his present role, he will be responsible for strengthening the member base, driving strategic alliances and representing AIFI with various government bodies and other stakeholders. In his personal capacity, Bajaj is MD & CEO of Bajaj Motors Limited. He manages the operations of the Company and is also associated in the operations and activities of Microtek Forgings. Yash Munot is currently the CEO at Varsha Forgings and MD at KCTR Varsha Automotive.

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## Maharashtra boy wins Volkswagen Award



The Volkswagen Group presented its 'Best Apprentice Award 2020' to honour its best apprentices from all over the world in recognition for their outstanding performance and professional competence. Avinash Taur from Maharashtra was conferred with the certificate of Best Apprentice 2020 in Mechatronics from India at the 20th edition of the annual event held virtually. The coveted award was bestowed on 51 best apprentices from 19 countries by Volkswagen Group CEO Herbert Diess, Works Council Chairman Bernd Osterloh and Group HR Director Gunnar Kilian. The apprentices were adjudged based on their performance in the Volkswagen Academy's Dual Vocational Training, excellence in their examinations as well as Social Skills.

Gurpratap Boparai, MD, Škoda Auto Volkswagen India Private Limited said, "I am very happy to see one of our apprentice win Volkswagen Group's coveted Best Apprentice Award 2020, and congratulate the graduating batch for their outstanding performance throughout the Dual Vocational training program of the Volkswagen Academy."

## Clariant appoints Conrad Keijzer as CEO

Clariant has announced that Conrad Keijzer will become Clariant's new Chief Executive Officer. The Board of Directors has appointed him in its meeting yesterday evening. Conrad Keijzer will officially join the company as of January 1, 2021. Executive Chairman ad interim Hariolf Kottmann will then return to his position as Chairman of the Board. Conrad Keijzer (52) is a Dutch citizen with a long and successful track record in the chemical industry. "With his impressive accomplishments in managing large industrial and chemical businesses, his experience in working in different regions, his proven focus on customer needs and his passion for sustainability, Conrad Keijzer is an excellent choice to guide Clariant into a successful future," said Hariolf Kottmann, Executive Chairman ad interim of Clariant.

## Ampere Electric appoints Thiruppathy Srinivasan as CTO



Ampere Electric, a wholly-owned electric mobility subsidiary of Greaves Cotton Ltd. has announced that Thiruppathy Srinivasan will be joining as Chief Technology Officer (CTO) and Head of Manufacturing, with immediate effect. Prior to joining Ampere, he was working with Ather Energy. His expertise lies in technology & organizational strategy, product development and manufacturing operations to enable efficiency in businesses. He is an MS in Mechanical Engineering from Ohio State University and B.Tech from IIT- Madaras. Nagesh Basavanhalli, Group CEO and MD said, "We are delighted to have Thiruppathy Srinivasan on board with us. He brings in years of technology expertise and I am confident that his upright credentials and proficiency will benefit us immensely in our journey of empowering India in the last-mile mobility segment and

move towards the next level of business growth."

## Waters Corporation announces CFO transition

Waters Corporation has announced that Sherry Buck will step down as Chief Financial Officer, effective December 31, 2020, in order to pursue another opportunity at a privately held company. Upon her departure, Michael F. Silveira, VP and Corporate Controller of Waters, will assume the role of interim Chief Financial Officer. Buck will work alongside Silveira in order to facilitate a smooth transition. Waters has been actively working with a leading search firm to identify a permanent CFO, and the process is advancing well with several strong internal and external candidates. "On behalf of the Board and management, I want to thank Sherry for her contributions to Waters over the last four years. I am also personally grateful for her help during my transition into Waters. Our dedicated and talented finance team is extremely well positioned to continue transforming the business and delivering on our objectives. We wish Sherry all the best in her next role," commented Dr. Udit Batra, President and Chief Executive Officer of Waters Corporation.

## Cigniti appoints Ganesh Ramamoorthy as CRO



Cigniti Technologies has announced the appointment of Ganesh Ramamoorthy as their Chief Revenue Officer (CRO), responsible for Global Sales, Marketing, and Customer success. Ganesh comes with over 28 years of experience as a technology leader with a proven track record of building global digital transformation business across industry verticals. Prior to joining Cigniti, Ganesh spent 20 years at HCL, led strategic relationships with Fortune 100 enterprise clients in Financial Services and Technology verticals and developed significant revenue streams across international markets. He also led the transformation of horizontal technology services offerings to consumer industry focused on digital and platform offerings in high growth markets.



JANUARY 20-21, 2021

## WINNING STRATEGIES FOR NEW AGE MANUFACTURING

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### BACKGROUND

While the manufacturing world had already started moving towards digitisation, the Covid-19 pandemic has accelerated the adoption of Industry 4.0 technologies across sectors. Disruption has become the new normal today and digitisation is a formidable tool to deal with it. Whether it is about enhancing an organisation's agility and resilience, or whether it is about its quest for manufacturing excellence with the aim of customer delight, digitisation is the way ahead. It is in this light that The Machinist Digital Transformation Conclave 2020 (DTC 2020) will deliberate on the winning strategies for new age manufacturing.

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By Bill Butcher

## TRANSFORMING THE MACHINE BUILDING INDUSTRY

With machines becoming more sophisticated, equipment builders have the challenge to meet cost, quality, timing and functional requirements essential to their customer's needs.

Fully supporting products throughout their lifecycles necessitates having digital thread connectivity from concept to completion. Machine complexity requires a guarantee of clear, concise and valid data, with advanced business processes like simulation and virtual commissioning to validate products before building, thus reducing costs and risks during physical commissioning while also improving profitability for machine builders and customers.

### A MULTI-DISCIPLINARY DESIGN

Machinery design is determined by mechanical parts, assemblies and modern CAD tools. The energy to operate machines is provided by electrical power, with software-driven electronic system variations to govern sophisticated, changing processes. Electric motors and control devices are at the core of most modern machines due to their efficiency and sustainability. Complex machines use microprocessors and software to manage sophisticated equipment that includes controllers and sensors. Most machinery applications are configured from commercial off-the-shelf (COTS) components. Then software creates the logical and physical design using schematic diagramming with a CAD application.

Also, embedded software operates on machine controllers in real-time, interfacing and controlling the physical operation. Then desktop computers manage machine modules and production lines, providing local reporting and analysis. This process feeds data to the factory and enterprise-level applications through sensors and the internet of things (IoT).

### USING MACHINE DESIGN BUSINESS PROCESSES AND CONFIGURATION MANAGEMENT

A modular design confirms that the interface between modules is consistent for increasing the capability or capacity. The mechanical and physical domain connection points need to match; therefore, the input and output of a module must meet those connecting requirements. So, while the electrical side wiring harnesses must connect, it's also essential that the electronic signals and power conductors align. Confirming that the embedded controllers operate as a single unit across modules without adapting each installation's software



is critical.

Another essential element is configuration management (CM), which verifies that the correct part revisions are listed in the bill of materials (BOM) while also confirming the drawings delivered to manufacturing and suppliers possess matching revision levels in the parts. This process can result in design, production and operational issues.

Performing correctly the first time is always more efficient than doing it over. In CIMdata's consulting practice, they witness many errors that trace back to poorly defined and managed configurations. This scenario causes incorrect versions of parts or software, furthering failures or mistakes. Products include supply chains, operating condition variability and design complexity from non-mechanical domains, making the process more difficult for companies to understand. Therefore, configurations have many interconnections to manage and comprehend. Several hurdles common to this process include dealing with regulatory, safety and cost issues.

We live and work in a highly competitive economy, forcing product manufacturers to improve via machine and information technology implementation. Thus, machine and equipment builders struggle to address customer demand's cost, quality, timing and functionality requirements. Beyond the core multi-disciplinary design and configuration management support, there is a need for end-to-end virtual commissioning and the simulation of controllers and software necessary to support it. All these capabilities corroborate, for more time available for innovation to ensure customer satisfaction and machine builder profitability and success. 

Source: Siemens Digital Industries Software

# Are you in this list?



## The Industry

The plastics & polymers industry plays a crucial role in the growth and development of the nation through its backward and forward integration with every segment of the economy.

## The Rise of the Brands

The rise of this industry also reflects the rise of some of the major brands – both home-grown and of foreign-origin that focus on excellence, quality, innovation and service

## Recognition as 'Best Brands'

To identify and recognise the best in the crowd, The Economic Times continues to bring the Best Brands in the Plastics & Polymers industry for the year 2021 as well.

## The Process

The key players from the Plastics & Polymers have been analysed and shortlisted for their performance on the basis of their offerings, market presence and brand recall.

To learn if your company is in the list, simply give a call to

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By Niranjan Mudholkar

## MAKING A DIFFERENCE

While consolidating the number one position in South India for CLAAS, **Mrityunjaya (Jay) Singh**, MD, CLAAS Agricultural Machinery Pvt Ltd., is now aiming to acquire the top position in North India as well as in West India.



**You have been at the helm of CLAAS India since January 2014. What kind of challenge have you faced in this role and how did you deal with it?**

Let me start off with a personal challenge and then go on to corporate challenges. On the personal side, I am a mechanical engineer. I understand machines; that's my job. Therefore, understanding the new type of farm equipment from construction and mining equipment was not a challenge. It was a smooth transition.

I was hired to create a new company in India. Traditionally or rather conventionally, CLAAS operates in this internal supplier and buyer company concept they call it the Product Company and the Sales Company concept. In India, they did not have this concept for three decades, and needed somebody who could set up a new entity. For me, that was not a challenge because in my two previous organizations, there were two mergers, one acquisition, and I was a signatory to those. Therefore, I knew how to light up the midnight lamp and go through legal and board matters and such requirements. Hence it was not a speed breaker. Understanding applications etc., considering if one has a strong team around, it is easy to learn everything. Therefore, there were not any personal challenges. I worked in India, I knew the Sri Lanka market quite well, along with its adjacent countries, and worked well with people with different accents in Southeast Asia and Europe.

Corporate challenges were good. CLAAS agricul-



## //

In India, the average farm mechanisation level is 50 percent. It is higher in the South by 80 percent, around 40-45 percent in the East, and approximately 50 percent in the North.

ture machinery was devoted to selling when the entity was created, meaning selling servicing, marketing, brand promotion, machine servicing, and finding out about machine parts. When I joined the company, sales was one department along with the marketing and service teams. There was a lack of structure. We used excel sheets, faxes, and emails, etc., for the ordering system. We were not aware of customer sentiments about our machines. We were dependent on the layer of distributors that were separating us from end customers. Therefore, we needed to set up processes and systems. So I took up the challenge as a task internally. We set up a perpetual customer satisfaction survey. If you were to buy a machine from us, 30 days after purchasing a machine, a third-party company would call you to determine your buying experience. One year after the warranty period, the same company will contact you for your owning experience. The new process was via systems, called the dealer management system. The dealer management system maintained bills, records and warehouse information to record customer information. To support customers, we reached out to them to understand the renting business. We identified that

the customers had a dependence on a layer that divides them without getting coated on farm laws. There was also the case of middlemen. We understood that if they determine the destiny of our customers, then can we disrupt the process? Therefore, our team got together and we created a simple app. It works in a simple way. Once the farmer raises a request for harvesting, one of the many contractors gets it. Basically, the closest contractor takes up the request. Everything, apart from the payment, takes place on the app. We brought about ease of doing business.

This was not the real challenge though, that came from Chinese machines. These machines came at one-third of our machine price that barely lasts for one and a half to two years. On the other hand, one of our first machines was built and supplied to a customer in 1991, and that machine still works! Hence, the Chinese machines were way below the requirement of a long-term holding. For example, at the Custom Hiring Centre (CHC – This is a government-sponsored rental store where one can keep agriculture machinery suitable to a particular area. It is a rental store subsidised by the government), the minimum holding time for a machine is six years. We got similar challenges from other imported machines coming in at two-thirds of a price. These were Japanese brands with the issue of longevity. Therefore, it was a job for us to create an understandable language to owners of the machines regarding return on investment, not just in one and a half or two years but over a protracted period. This happened after I joined,

and therefore it was necessary to hold ourselves in the market.

Typically, when there is a drought, customers switch to cheap machines. When there are rains, customers prefer more expensive and lasting machines such as CLAAS brand. Hence, that was one of the challenges which we continue to fight.

Our recent challenge was posed by Covid-19. Our business is a physical contact business; we touch machines to service them and feel the machines to understand the parts that need repairing. We had to travel hundreds of kilometers and meet the customers to demonstrate and show our products. COVID-19 severely restricted this aspect. We also work through trade associa-



CLAAS runs seven Learning Centres in the country called CLAAS Academy. We target people with some understanding of operations. For example, a tractor driver can be upgraded to operate higher and sophisticated equipment like a combine harvester.

tions with the government to bring this into essential services. Farming is a crucial service, but surprisingly, farm equipment use and movement were not essential. Together with the industry, we worked with the government to allow special permission to move machines. But the questions remained on how to launch a new machine or demonstrate to the customer. Due to Covid-19, we learned that there was almost 100 percent increase in smartphone usage in rural areas. Therefore, along with our strategy team, we created a virtual launch platform to connect with customers, government parties, and universities. You can search for our launch videos on YouTube and experience the launch of a machine virtually. We have launched three to four machines virtually and have received positive feedback. The machines are now being sold to customers and are in fields.

#### **How's been the ongoing year in terms of business for CLAAS in India considering the impact of the Covid-19 pandemic?**

A grain of rice or a grain of wheat does not know what Covid-19 is! It will grow when it has to grow. Hence, such grains will continue to grow. The farmers continued to put all their efforts into growing the paddy. For

example, the paddy sowing was more than 18 percent over the previous year, hence ensuring that 18 percent more the farmer had to get it harvested. The demand increased because of higher sowing. Secondly, the flight of labour meant that the same grain of rice had to be harvested with no manual labour available. In India, the average farm mechanisation level is 50 percent. It is higher in the South by 80 percent, around 40-45 percent in the East, and approximately 50 percent in the North. Now, if there was 50 percent mechanisation, then the other 50 percent was missing. And you could not get manual labour. Hence, the only solution was to get more machines, which added fuel to the demand. Thirdly, good rains added to the demand in machines. The supply line could not keep pace with the demand all through Covid-19. But our factories are not fully utilised because of limitation of the supply chain. Look at the paradox! I cannot sell fast enough, and I cannot build fast enough. The factory has got capacity, and we can build more, but we cannot because the supply line is missing, and that is the impact of Coronavirus on the input side.

#### **What is CLAAS's market share and geographical spread in the Indian market?**

CLAAS is a specialist company; we choose a market where we know we can bring about a difference. For example, our top model range Crop Tiger is a household name with many areas. Basically, the geography and the type of machine are chosen by a specialist, not undermining generalists. If you have different business models, you can make machines at a low cost, sometimes low quality. However, we specialise in paddy harvesting; therefore, wherever there are wetlands and paddy, CLAAS comes to people's minds. Today, we are actively growing and are number one in South India. We have more than seven thousand active machines helping farmers in the south. In the east, we are not the number one, and hence have a scope of growth. East has a lot of paddy growing in many wetland areas

since it is a coastal area. Another interest area for growth is the Northeast.

**What kind of manufacturing capabilities and capacities does CLAAS India have?**

In many countries, CLAAS centres on its own and goes for an organic growth. In India, we came in through a joint venture with Escorts in the early 1990s. Hence we were headquartered in Faridabad for the longest time. At that time, the Germans learned about the country, culture, and the country's real requirements. We brought in machines from overseas and eventually started building machines. We identified that the true requirement was to offer smaller machines. At that point in time there were no mechanised harvesters. A few Punjabi farmers would buy second hand machines of CLAAS. Back in the day, nobody had seen a mechanised harvester. Hence, we pioneered the concept of mechanised harvesting with Escorts. Ten years later, we separated from the joint venture and built the Greenfield factory. This was the Faridabad factory. Then we built a second factory in Chandigarh, on the Ludhiana road, and moved the Faridabad set up there. The Faridabad factory was designed to build about a thousand units every year whereas this was double the capacity in this place called Morinda, Chandigarh. All of our manufacturing and production takes place in our factory at Morinda.

**What is the rate of localisation of the equipment manufactured in India?**

I would say close to 95 percent. We import only sub-

//

What CLAAS does is that it creates these manufacturing centres of excellence where a certain machine model is produced for the whole world. If you take Crop Tiger as an example, we are the only country that produces Crop Tiger.

components; for example, a gearbox, to drive the machine, the rubber chain attached to the machine, is made by an Italian company, which has got a factory here in Chennai. So, the five percent of imported sub-components are part of assemblies.

**How do you perceive the role of India as farm & agricultural equipment market in CLAAS' overall global scheme of things?**

We are minuscule in terms of the share of revenue, as per what we do in India. But CLAAS does not go to a country from only a revenue point of view. Otherwise, they probably would have operated in France, Germany, and then done with it. What it does is that it creates these manufacturing centres of excellence where a certain machine model is produced for the whole world. If you take Crop Tiger as an example, we are the only country that produces Crop Tiger. So, the made in India Crop Tiger 30 and Crop Tiger 40 go to Southeast Asia, Middle East, Africa, Central and South America. The other example is this small machine - Jaguar 25. We are again the only centre that produces Jaguar 25 here. This is a good strategy because the centre of excellence

means that the economies of scale are met for that factory. For example, the German factory is meant to build bigger machines and be their own excellence centres. So, the big machines like Jaguar 850 costing two and a half crore or so are only made at one factory in Germany, near our headquarter. For example, there are other machines we have, an acquired Chinese company that produces specific machines that are only made there. You will find our machines working in Punjab or Maharashtra in a big way, which is the straw baler which bales straws and compacts and keeps it in a square shape. This is only made in the Chinese factory. Therefore, its significance is very different. If you look at the financial side and look at it from a grand manufacturing plan, these are very different perspectives.

**A few global players operating in India are also building India as a manufactur-**





"Today, we are actively growing and are number one in South India. We have more than seven thousand active machines helping farmers in the south. In the east, we are not the number one, and hence have a scope of growth."

**ing hub for exports. Do you see that happening for CLAAS as well?**

Along with a joint strategy group, we studied the Myanmar market and found out that the application, the average land holding, the structure of farming, crops that they were growing was quite like West Bengal or Orissa. And we understand these markets very well. Although I am not accountable for the business, I have taken up the responsibility because I feel there is a potential for selling more than a hundred machines there. Currently, we sell about 15 or so. So, I am supporting a different country in a different part of the world to understand their applications to make machines and sell to them. That is part of a smorgasbord, a mixture of talents and best practices; basically, it is about understanding of a particular machine that you can apply anywhere. When we wanted to launch the Jaguar 850, we had a German team from a different territory to study the market for us and tell us the right and wrong, and then we took further steps. So, the short answer, yes. We are keen on pushing exports to a high level!

**Farm mechanisation will play a key role in helping India meet its agricultural production requirements. But how would you analyse the socio-economic impact of increased mechanisation in the view of abundant farm labour supply available in India? Also, Indian agriculture continues to be dominated by small farmers, whose smaller landholding and**

**weaker economic status is a big hurdle to ownership of high-value agricultural machinery.**

I will start by making one small correction; the farming sector is facing severe shortage of manpower. It's an inverted pyramid – meaning there is a big shortage of operators, technicians, then coming down to the semi-skilled people (who support the activity of milling but are not specialists) and then, there are the unskilled (who can only be used for certain activities). Hence, if you start from a shortage, you already have created a natural pull for mechanisation. But since you used the term socio-economic impact, it is the social part that is creating the pull. Economy too fits into the whole jigsaw puzzle, especially when the farmer has a small farm holding, the problem of cash flows, etc. On the social aspect, labour is not the only problem. The average age of farmers is also going up. A farmer's son today does not want to become a farmer. Today, Uber drivers, liftmen, taxi drivers in Mumbai, most of them come from a farmer family background. In fact, smaller farms have a higher average age for farmers. The educated farmers would want to further study ahead. The drudgery here is about standing in the hot sun at 46 degrees temperature, with one's feet and head burning, physically bending down all day, and working in chopping. This is creating a societal pull. General people may not understand the realities of such farmers. The government initially tried to help with subsidies but it discovered that it does not help to subsidise the machine because a farmer is not interested in buying a big machine only for a week's activity. They found out that it actually helps to finance the layer, which is the key to driving the farm mechanisation – the contractor. A contractor is a farmer, a little more enterprising. He becomes a farmer and a machine owner, and rents out to those farmers in need. This process increased farm mechanisation. Especially in the South, it increased to 85 percent. But it was not increasing in other parts of India because buying a harvester was becoming an issue, so the government came up with the concept of Custom Hiring Centre (CHC). They came to understand that if you fund an individual farmer or individual contractor, he can change for sure, but not a quantum leap. Therefore they built some 18,000 CHCs. It is called 'custom' because the equipment selection kept in this rental store is selected by a group of local people like the owner, the Deputy Commissioner, etc. They select based on suitability in the area. They make a selection, and the government gives 45 percent or 50 percent average subsidy to them for three years. That is a rental store, like a ration shop, which has a list of machines, rates listed by the government. This led to a big change in the country. Today, we own 35 stores operated by a franchise, our own dealer who operates. Hence, the

big change that the government has brought about is through these sponsored rental stores. We are currently trying to implement the same with the government of Bangladesh and the government of Sri Lanka, which are, several years behind India in terms of mechanisation.

With regards to the training, we train the semi-skilled via learning centres. CLAAS runs seven Learning Centres in the country called CLAAS Academy. We target people with some understanding of operations. For example, a tractor driver can be upgraded to operate higher and sophisticated equipment like a combine harvester. Our tie-up is with six universities. The arrangement is that the university gives the premises, and we furnish our cut sections of motors to explain how to repair. We have a wall chart, an electrical diagram, and a hydraulic diagram. We teach the students as well as the faculty. We are also allowed to train people from outside, operators, technicians and our own dealers. Hence, we contribute in that way in terms of peo-



**CLAAS is already part of the Atmanirbhar Bharat campaign. It is a German company that is completely Atmanirbhar in India. Even the most sophisticated machines that we have are managed by us.**

ple's skill development through these academies. Last month, we inaugurated a brand new Academy of our own at Tumkur, about 70 km from Bengaluru.

**What are your expectations from the Government here? Do you see real merit in campaigns like 'Make in India' and 'Atmanirbhar Bharat Abhiyaan'?**

I think the government is playing its role as an enabler very well. However, there could be some room for improvement. There could be uniformity in how agriculture is treated by different state governments. Agriculture is a state subject; so the government only creates the models and a model law or model rule like CHC. But the state government is free to make changes. For example, in the first year of investment by an investor in its centre, Andhra Pradesh gives 45 or 50 percent subsidy. Karnataka gave 75 percent in the first year, but the uniform part would actually help equipment manufacturers more because then we understand how things function well.

When it comes to a farmer of Andhra Pradesh or Karnataka, or Punjab, it does not matter because he is getting what he's been given by the state government. The program of subsidy is one good example of why this uniformity is required in certain things. There is

no national repository where we can put our machines, register our machines under a subsidy registration called subsidy enlistment, and the state government recognises it.

Other areas where we could see an improvement from the government is in testing and equipment. When you want to participate in a government tender or participate in a subsidy program such as the CHC, enlistment is required. The number of testing centres in India is low, and the queue is long. It can take a minimum of six months to one year to get equipment tested, but the government is taking action to resolve it because there is an increased number of testing centres. The demand for testing centres is also increasing. In many cases, the state government and central government work well. Despite politically different ideologies, when it comes to farming, it is important for both governments to work together.

CLAAS is already part of the Atmanirbhar Bharat campaign. It is a German company that is completely Atmanirbhar in India. Even the most sophisticated machines that we have are managed by us. There's nothing that an Indian cannot do there, but there are certain limitations that it brings about, bringing in new technology into the country. If you are Atmanirbhar and have made the machine in India, there is a certain investment that you have made in India. There is a period by which you will recover your investment. If we focus on bringing new technology, either made in India or elsewhere, it will not matter if it benefits the farming community or a farmer. We must proceed with such technologies.

**Where would you like to see CLAAS three years from now?**

In terms of market position, we would still like to proudly say that we choose a market where we can make a difference. We currently have not made a difference to western and northern India. My ambition is to be recognised in these regions. In South India, we have been striving to hold on to a brand perception of number one. It is not just about market share, but it makes a lot of difference. We have turned villages from poverty into economically independent entities because of how we have worked with them and supported them and machines. Operators are now machine owners; these people are now field owners. Therefore we would like to continue to hold this position of brand number one. Today, we are not number one in north and west India. We are still recognised in those areas at the moment. So, in three years put them together, I would like to see CLAAS as the number one brand in these regions. A few more turns are required to be able to get a very even colour and even surface. 

By Niranjana Mudholkar

## DRIVEN BY SUSTAINABILITY!

Next generation entrepreneurs – **Naivedya Agarwal** - Founder & CEO Runaya Metsource & **Annanya Agarwal** - CEO Runaya Refining – explain their journey as well as the importance of technology and innovation in the modern-day resources and manufacturing space to The Machinist.

### **Runaya is a very poetic name. What does it mean and why this name?**

Thank You. Runaya includes the initials of all the members of our family including my mother Ruchira, father Navin, brother Annanya, and mine Naivedya. Coincidentally according to Kabalarian Philosophy the name of Runaya also brings opportunities for success in business and financial accumulation.

### **What was the vision behind starting Runaya? Do you think you have been able to do justice to that vision in the last three years since its inception?**

Runaya was founded in 2017 with the vision to deploy cutting edge technology in the manufacturing space in India. This, coupled with our passion to conserve the environment and create sustainable solutions, made us realise the importance of technology and innovation in the modern-day resources and manufacturing space.

The process used for identification of the businesses was broad criteria around the space in which we wanted to operate (stay in manufacturing) and then we used filters like global alliances and partnerships with the best partners available, broad investment criteria, B-2-B supply chain, value-added manufacturing instead of commodity products, and operations that have the highest standards of sustainability and the environment.

Today, if we look back at the past, the three years that have gone by since the inception of Runaya have been exciting. We are pioneering most of our projects for the first time in the country and therefore playing our small role in the country's call for an "Atmanirbhar



Bharat" and to "Make in India". We have already started to make a significant difference in the way in which aluminium dross is managed and have prevented over 20,000 MT of hazardous waste from going into landfills already. The other thing that we are really proud of is that five all our projects have been executed with strict adherence to project timelines, budgets, best in class project execution partners including Tata Projects, Deloitte and KMF from Austria.

### **What has been the business logic behind having two organisations, Runaya Refining and Runaya Met-source?**

Runaya Metsource is into manufacturing of high-technology products of Runaya and is headed by Naivedya, while Runaya Refining, which is helmed by Annanya, is for projects and businesses in the sustainability space being championed by Runaya. The logic was to create a clear distinction between the two main businesses of Runaya and to keep them separate so that there is a focussed approach and individual attention for each.

### **Tell us something about Runaya's actual operations. How many sites do you have?**

We currently have four active project sites with another



**"We identified businesses where we are not only value adding but also providing our customers with an end-to-end solution."**

**- Annanya Agarwal**



**“A key learning for us as leaders has been the importance of not trying to do everything ourselves and to rely on the right partners to help us achieve our vision.” - Naivedya Agarwal**

three are in the pipeline where technology partnerships are being tied up.

The 4 projects are:

1. A sustainability and metal recovery project which is currently already operating in Orissa where 100 percent of Aluminium Dross is processed.
2. Runaya's Joint Venture with Minova, which is part of AUD 6 billion Orica group.
3. Recovery of Minor Metal such as Cadmium, Antimony, Bismuth which are found in the mining supply chain of Copper, Silver, Zinc.
4. High technology product of Fiber Reinforced Plastic rods which find applications in the telecommunication industry including Fiber Optic Cables.

Recently, Runaya has also signed a joint venture (JV) pact with Minova, a wholly owned division of Australia-based Orica.

#### **Tell us about this JV and what role will Runaya play in it.**

Our joint venture with Minova, which is called Minova-Runaya Private Limited (MRPL), combines Runaya's project and manufacturing capabilities with Minova's technical expertise and global reach, to manufacture and supply ground support products and bring cutting-edge technology solutions to Indian and international mining and infrastructure sectors.

It will manufacture products including rock bolts, resin capsules, injection chemicals, wire mesh and high-quality ventilation systems. These ground support products will deliver transformational enhancements in safety standards across mining, infrastructure and tunnelling applications. We are coming up with a plant in Bhilwara, Rajasthan, and the project is in its final stages with expected commissioning in January 2021.

#### **How did the Covid-19 pandemic impact Runaya and how have you been dealing the same?**

The entire situation around the pandemic has truly been unprecedented and something that nobody could have foreseen, affecting not only a particular sector or business but all of humanity at large. The impact for us has been a delay in commissioning of our projects by a few months. We were able to manage our cash flows where we postponed our investment in our JV with Minova and our FRP Business from March to June so

that cash was not locked in while we were unable to go ahead with work on our project sites. Both of these are now on track to be commissioned in January instead of being commissioned earlier this year.

#### **How much revenue are you expecting for the ongoing fiscal?**

For the current year, the revenue estimates are Rs. 150 crore (operating only part of the year).

#### **What kind of growth targets have you set for the next fiscal and what will be the driving force behind that growth?**

The estimates for FY 21/22 are Rs. 425 crore based on current operations and projects that are under execution and commissioning.

#### **As nextgen entrepreneurs, what legacy have you inherited and what is it that you wish to do differently?**

The key learnings that we have gotten as a next-gen entrepreneurs are:

- a) **Importance of having the right team to scale:** We have built a key management team with the right mix of industry veterans along with high-quality young talent from the best technical and financial institutes. We have also on-boarded several global experts for each of our businesses enabling us to gain access to the latest developments and innovations globally.
- b) **The importance of execution and not just having a vision.**
- c) **Key to lock in the right partners and people:** A key learning for us as leaders has been the importance of not trying to do everything ourselves and to rely on the right partners to help us achieve our vision. In other words, how it's more important to be the jockey and find the right horse to run the race with rather than trying to run the race by ourselves!
- d) **Focus on Costs:** As a commodity manufacturer, Vedanta has existed in a scenario where the selling price is by and large determined by Global Indices. So, the only way to ensure being profitable was to have a laser-like focus on costs. We have tried to build the same culture at Runaya even though we aren't a commodity manufacturer.

This also leads us to something we have tried to do differently. Having seen this struggle, we identified businesses where we are not only value adding but also providing our customers with an end-to-end solution. This gives us greater flexibility around our pricing strategy and we are able to drive pricing based on the value we have created for our customers rather than work on a cost-plus model. 

By Niranjana Mudholkar

## ALL PUMPED UP!

Sloan is working towards designing and making products at our manufacturing and assembling unit at the Gurgaon facility, says **Anup Tripathi**, General Manager, Sloan India

### **Sloan entered into the Indian market in 2016. How's been the journey so far?**

Sloan Valve Company, one of the leading players in the US commercial plumbing market, ventured into India in 2016. So far, we have expanded our presence in most of the tier-1/tier-2 cities PAN India. This year, keeping in line with the PM's vision of Make in India, we established our very first assembling facility in Gurgaon to build solutions for India and the world. As an Indian Green Building Council Member, Sloan strives to help build a greener India. We have already been exporting our products manufactured and designed in India to Middle East, Asia and other countries.

### **How important is the India market in Sloan's global scheme of things?**

India is one of the most important markets for Sloan global as it's one of the top emerging markets and the plumbing and smart restrooms have been growing exceptionally here. Also, Sloan's smart and water saving solutions meets best to the need of Indian market. Sloan has been in India for more than three years and has launched products such as the TruFlush Flushometer that helps address the water crisis several states are facing. This product is designed and developed for India centric requirements and bad quality water. This is our flagship product for this market, and we have already been able to sell this to more than 500 high end customers including large tech companies, hotel, offices, airports, malls, hospitals, automobile showrooms, restaurant chains and housing projects.



**"Five things that are very important to build a self-reliant India are intent, inclusion, investment, infrastructure, and innovation. This mainly covers the dimension of increasing the global competitiveness of Indian production and building connections to global value chains."**

### **What are the three differentiating factors that you bring to this market?**

As the world's leading manufacturer of commercial plumbing systems, Sloan has been deploying innovation in transforming the plumbing industry through more than a century of smart, water-saving, and safe commercial restroom solutions. Thus, water conservation, sustainability and touchless functions are three core areas Sloan is focusing on here in India.

### **How has the Covid-19 pandemic affected Sloan India's business and operations?**

COVID-19 has completely changed the way everyday lives functioned. Without a doubt, the biggest problem facing all of us right now is the uncertainty it brings in. But Sloan's goal is to continue working and developing sustainable and sensor activated or touch free products through this unpredictable time. The COVID-19 crisis has, however, made sustainability crucial as hygiene norms such as repeated handwashing have led to a sudden surge in water usage. Thus, our focus is on touchless technology by bringing in touchless, sustainable and water-efficient products.

Although the pandemic has caused almost all major industries to evaluate how they operate, the construction industry in particular has got a unique opportunity to reform and innovate. This will help in creating the right solution required for any commercial environment.

### **How's been the business for Sloan India in the ongoing fiscal? Do you see things improving in 2021?**

Sloan India anticipates 40 percent to 50 percent growth in next financial year. Our key customers include leading IT companies, Hospitality, Institutes, Schools, Clubs, Airports, High-end housing projects etc. Most of the customers are facing manpower crisis due to pandemic and that will improve in 2021. Also, customers in India have also seen soaring aspirations regarding the look of their bathrooms and plumbing fixtures. There was already a perceptible shift towards sleek, sustainable, smart solutions in bathrooms and restrooms. But the COVID-19 pandemic has accelerated this trend



due to high morbidity and mortality rates.

The importance of smart systems with touchless plumbing solutions has gained overnight attention as people seek to avoid touching faucets and other bathroom fittings in minimising their chances of contracting coronavirus. As a result, going forward customers in India are seeking touch-free fixtures.

**Tell us about Sloan India's manufacturing infrastructure and capabilities. Are you manufacturing all your products (sold in India) in India at present?**

Our facility is basically an assembly unit; we source parts from India and a small percentage from globally and assemble them in India. We are working towards creating 100 percent Made in India products. So far, we are producing manual and Sensor activated Flushometer, AER-DEC® Integrated Sink System, Sensor Faucets and many more products will be available as Made in India by next year.

**Tell us about your endeavours in terms of design & engineering to create products that are relevant and appealing to the Indian customers.**

We have a team of experienced engineers who design the products for the Indian market, with same Sloan global standards. Customers in India need a product which has a good aesthetic look, best in functionality and price effectiveness. At the same time, installation and working conditions in commercial environment are quite tough, and product needs to be robust in terms of built and performance. As our focus is water efficiency and sustainability, that is also kept in mind while designing a product for this market.

**Are you planning to introduce any new products in the near future?**

In the coming future, we are planning to introduce ceramic fixtures such as water closets, washbasins and urinals and also planning to launch hybrid urinals which were earlier launched as a pilot project. All these solutions would be available PAN India for our customers

and upcoming projects. We have other toilet product designs as well, that we intend to launch later for the Indian market. We are working on designing products such as flush valves that will work with only four litres of water, sensor-activated urinal flush valves that will use 500 ml water and sensor faucets using only 250 ml of water.

With the current pandemic situation, everyone has realised the need of water saving touchless taps and thus we are also looking forward to expand our already existing faucet line with more variants.

**What kind of growth plans do you have for the India market?**

Sloan is working towards designing and making products at our manufacturing and assembling unit at the Gurgaon facility. By 2021, our efforts are to design and manufacture as many Made in India products as possible at our Indian facility. Sloan will be supporting the mission towards a self-reliant India by manufacturing products domestically, designed for the Indian market. We are also planning to extend our export operations to the Middle East, Asia, South America and the Mexican markets. We are also looking to expand our operations in India by tying up with smart cities, airports, luxury real estate developers, government agencies or authorities in the country. In long term, we are eyeing India as the manufacturing hub for International markets.

**What is your take on PM Modi's vision for 'Atmanirbhar Bharat' in the context of your industry?**

Five things that are very important to build a self-reliant India are intent, inclusion, investment, infrastructure, and innovation. This mainly covers the dimension of increasing the global competitiveness of Indian production and building connections to global value chains. As the real estate in India is booming, people are spending more and more on bathroom fittings and luxuries than their drawing rooms. Everyone needs smart and innovative solutions which are safer and hygienic at the same time. Also, India is facing water crisis for some time; making solutions specifically catering to the need of the hour is very important. Our PM's vision for Atmanirbhar Bharat is giving the plumbing industry an opportunity to expand and design solutions that can save water and maintain best hygiene practices in any restroom environment. By 2021, our efforts are to design and manufacture as many Made in India products as possible at the Indian facility. Sloan will be supporting the mission towards a self-reliant India by manufacturing products domestically, designed for the Indian market. 

## SMARTER MANUFACTURING

3D printing is helping Honda Cars India Ltd. to stay ahead on multiple fronts.

**F**ounded in 1995, Honda Cars India Ltd. is a world-leading automaker that provides a wide range of cars, from the budget passenger hatchbacks like the Jazz, WRV and BRV to popular sedans like Amaze, City, Civic, and the luxurious CRV SUV. Headquartered in Gautam Budh Nagar, Honda Cars India has two manufacturing plants and serves over 2.5 million customers all over the country. Honda City, an iconic sedan launched twenty years ago, is still the best seller in its segment.

### A NEED FOR MORE EFFICIENT AND ERGONOMIC TOOLING

Innovation being its hallmark, Honda Cars India never stops introducing new technologies. For instance, its inspection jigs were made with fabricated hollow metal pipe structures and CEBA (ceramic backing). Fabricated metal pipes provided the necessary strength and



The lighter, more ergonomic 3D printed taillight inspection fixture.

of operation, manpower and maintenance. Therefore, when Navid S. Talib – Operations Head (Manufacturing), Honda Cars India Ltd. thought about introducing new technologies to solve these problems, he was always cautious. “We cannot simply copy and paste what Europe, America, and Japan are doing, as we would lose the cost edge” was his thought. But the need to reduce lead time and improve quality was urgent. In addition, Honda Cars India always places a high value on its employees and had introduced programs like New Honda Circle to encourage associates to experiment with their creative ideas. So in an effort to balance cost-effectiveness and efficiency, Talib started to look for new technologies and turned to 3D printing for a solution.

### SOLVING BIG PROBLEMS WITH A BIG PRINTER

That solution came in the form of the Stratasys Fortus 900mc. The Fortus 900mc has been the perfect answer because it's built for manufacturing and heavy industries. It has the largest build size of any FDM system and can handle the most demanding manufacturing needs.

In its collaboration with Honda Cars India, Stratasys uses the Fortus 900mc to print inspection jigs with ABS-M30, a material known for its tensile strength, tensile modulus, high-temperature resistance and impact toughness. Once the company began 3D printing the inspection jigs, the improvement was immediate. Because the jigs are printed directly from CAD data, the desired accuracy was easily achieved. The once lengthy process was shortened by 40-60 percent, which



3D printing has opened up new opportunities for production, factory maintenance and R&D.

**Navid S. Talib** – Operations Head (Manufacturing), Honda Cars India Ltd.

CEBA provided the smooth finish and complex shapes on the peripheries. However, machining accuracy was challenging and the costs, both in terms of raw materials and manpower, were significant. The lead time for the whole process could be as long as two months and significantly delay delivery. Furthermore, the jigs were quite heavy, increasing the associate's fatigue and negatively impacting their morale.

Along with this, one of the key factors behind Honda Cars India's success is its cost-effectiveness in terms



The heavy, conventional windshield inspection jig.

means a project that used to take two months can now be completed within 15 days. This not only means a much faster delivery, but also gives designers more iteration opportunities, increasing prototype quality.

With thermoplastics replacing metal and CEBA, the jigs are no longer easily damaged, and their weight has been reduced approximately by half. This means

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Honda Cars India is hopeful that 3D printing will eventually be able to produce production parts for them and take over the R&D and maintenance sectors for production.

lifting of much lighter jigs for the associates, which greatly reduces fatigue. Even more surprising is that with all these improvements, the total cost of jigs and fixtures has been cut by approximately 50 percent.



The new windshield inspection jig, optimized with 3D printing.

### 3D PRINTING IS HERE TO STAY

After this successful collaboration, Honda Cars India has ordered an F370 from Stratasy's to train the associates in using the printer and the GrabCAD Print software, and there are plans to introduce more machines in the future. Talib said, "3D printing has opened up new opportunities for production, factory maintenance and R&D." Honda Cars India is hopeful that 3D printing will eventually be able to produce production parts for them and take over the R&D and maintenance sectors for production. 

Source: Stratasy's

## POSITIVE PROSPECTS

We see a lot of potential and growth for hygiene, agriculture and water treatment application, says **Kaushik Shetty**, Area Manager-India, Sri Lanka & Nepal, Dosatron

By Niranjan Mudholkar

### Give us a brief overview about Dosatron India's business operations.

Dosatron is world leader in non-electric dosing technology. We cater to very niche applications. We have a good market share in livestock, agriculture, industrial, hygiene and water treatment applications. We sell about 1000 pumps every year and we see a growing potential for our products.

### How has Dosatron India adapted to the New Normal? Is it business as usual or have you had to make some drastic changes?

We had a slowdown for industry requirements (for applications like cutting oil dosing, washing machine applications, die cast applications) as clients categorise our products in capital budget and hence most projects were on hold. However, we saw a rise in our irrigation segment and now in last two months we see enquiries for the industry segment as well. Yes, our customer interaction has been limited through online tools, which is the new normal for now.

### How has been the ongoing fiscal for Dosatron India in terms of business numbers?

We have managed to keep our business at par with last

year's business.

### Which are the key sectors that you are catering to with water-powered dosing pumps?

Our key sectors are livestock, agriculture, industrial, hygiene and water treatment applications.

### Where does Dosatron stand in the overall water-powered dosing pump market in India?

As said, we cater to niche applications and we enjoy a good share in this segment.

### What is your view about initiatives like 'Make in India'?

As for now we do not intend to have any production facility in India. The pumps will be manufactured in France.

### Where do you see Dosatron India in the next two years?

We see a lot of potential and growth for hygiene, agriculture and water treatment application. We expect it to double in the next two years, and we foresee that our growth in industrial segment would be on a constant rise. 

By Niranjan Mudholkar

## POWERING DREAMS!

Fuelled by the agriculture growth, the company's products have been in high demand and contributed significantly to the business, says **Takahiro Ueda**, President, CEO & Managing Director, Honda India Power Products Ltd.

**Honda India Power Products Limited (HIPP) was established in September 1985. Briefly describe the evolution of the company since then.**

Honda India Power Products Limited (HIPP) is a subsidiary of Honda Motor Co. Japan. Since its inception, HIPP has been the leader in the power products industry, manufacturing and marketing a diverse portfolio of power products at its state-of-the-art manufacturing facility at Greater Noida.

For the last 35 years, HIPP has been the preferred choice of customers worldwide and has powered the dreams of over five million satisfied users by 'Empowering them to do better'. HIPP has consciously made efforts to facilitate mechanisation in agriculture and construction domains by introducing Honda's legendary 4-stroke technology-based products like portable water pumps, power tillers, brush cutters and Honda overhead valve (OHV) engines for concrete mixer, vibrator, concrete cutter, surface leveller, soil compactor and stone breaker applications for optimal work efficiency.

**How has the Covid-19 pandemic affected your business and operations? How are you dealing with the same?**

The ongoing COVID-19 pandemic has affected normal way of doing business. Taking cognisance of this, we at HIPP have reviewed all business operations starting from manufacturing to our sales and service network. Manufacturing operations have started with

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HIPP has an installed production capacity of 3.5 lakh units per annum. To cater for the increasing demand, we regularly evaluate the need for capacity augmentation.

complete sanitisation of our manufacturing, head office and field sales office facilities at regular intervals. Mandatory temperature checks along with convenient placement of hand sanitizing machines has been done to minimise the spread of infection. Administrative and sales staff has been encouraged to work from home thereby maintaining adequate social distancing in daily operations. Daily business discussions have shifted to online platforms ensuring coordinated seamless flow of information. All our dealerships are maintaining social hygiene norms for safety of our valued customers.

**Tell us something about your overall manufacturing capabilities and capacities in India.**

HIPP is an ISO 9001 & 14001 certified manufacturing facility at Greater Noida producing a wide range of power products for domestic as well as overseas markets. HIPP employs state-of-the-art manufacturing technology in various stages of its manufacturing like in-house pressure die casting facility, conveyerized



paint shop, tri-generation power unit having co-generation capabilities powering various utilities like boiler and plant air conditioning. As a responsible manufacturer, HIPP places highest priority to the safety of its associates and environment. Accordingly, HIPP has invested in cost efficient customised automation systems leading to achievement of zero effluent water discharge manufacturing plant.

HIPP has an installed production capacity of 3.5 lakh units per annum. To cater for the increasing demand, we regularly evaluate the need for capacity augmentation.

**HIPP has a fairly diversified product portfolio. Which product segments are giving you better revenues?**

Traditionally, portable generators and water pumps have been the major revenue contributor. However, with increasing mechanisation in agriculture and construction segments, products like power tiller, brush cutter, general purpose engine for powering stationary and backpack sprayers, concrete mixer, vibrator, soil compactor etc. have started to contribute significantly to the overall business.

**In terms of market trends, do you see the above product segments continue to do better in the next six months?**

Yes, agriculture has been the only sector to have grown during the COVID 19 pandemic. We expect this situation to persist as also borne out by the increasing sowing acreage during the ongoing Rabi season. Con-

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We have consciously made efforts to indigenise critical components vide technology transfer, skill upgradation of local supply chain, manpower thereby making us self-reliant and improve cost competitiveness.

struction industry is also showing signs of revival and we anticipate positive growth in this segment as well.

**How's been the business for HIPP so far in this financial year?**

Fuelled by the agriculture growth, our products like water pumps, power tillers, brush cutters and general-purpose engine for stationary and backpack sprayers and compact crop harvester application have been in high demand and contributed significantly to our business.

**In September this year, you launched backpack brush cutter. How has been the response for**



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HIPP today exports 'Made in India' products to over 60 countries including the developed markets of US, Europe and Japan. This is a testimony to our commitment to the vision of the Hon'ble Prime Minister of India.

**the same?**

We introduced our 4-stroke backpack brush cutter range UMR435T in the Indian market in Sept 20'. The response has been encouraging and the product has been well accepted throughout the country. With this successful launch, HIPP has further consolidated its position as the industry leader offering a wide range of brush cutter models suitable for weed removal and crop harvesting.

**How large is the Indian brush cutter market and what is HIPP's share?**

In our estimate, the annual organised Indian brush cutter market is about 80K units and we enjoy a leading share.

**What is your take on PM Modi's 'Atmanirbhar Bharat'?**

HIPP has been making technologically advanced and environment friendly products for our valued customers for the last 35 years. We have consciously made efforts to indigenise critical components vide technology transfer, skill upgradation of local supply chain, manpower thereby making us self-reliant and improve cost competitiveness. The average indigenous content is nearly 70 percent for the products manufactured at our Greater Noida plant. HIPP today exports 'Made in India' products to over 60 countries including the developed markets of US, Europe and Japan. This is a testimony to our commitment to the vision of the Hon'ble Prime Minister of India. 🇮🇳

By Vinay Hegde

## COVID-19 AND LESSONS FOR THE FUTURE

The ongoing Covid-19 pandemic will trigger an overhaul of the power generation sector and will redefine the way electricity is generated, controlled, distributed, and consumed.

The year 2020 was unlike anything before in recent history. COVID-19 was declared as a global pandemic and it presented new unforeseen challenges for economies all around the world. Industries came to a standstill, transportation ceased, small and medium businesses wound up their operations. Moreover, the weak capital flows which were further aggravated by the global boycott of China and Chinese products spelt gloom for the world economy. Governments around the world responded with guidance to manage this crisis, but the economic fallout of this pandemic, as we all know, is extensive.

However, there was one key sector that worked ceaselessly in the middle of this turmoil – the energy sector. Power generating facilities along with other critical infrastructure around the world kept electricity flowing to homes, hospitals, grocery stores, data centres, and other essential businesses.

### COVID-19'S IMPACT ON THE POWER SECTOR

Energy is a crucial facilitator of economic growth, and the stability of global energy markets is essential to sustain and nurture modern business establishments and society. However, the lockdown measures that were imposed in response to the pandemic ended up curbing the demand for power. Electricity requirements across the world dropped under lockdown, with significant reductions in the commercial sector. The power industry partially managed to break even, thanks to the higher residential use.

In most countries around the world, power generation companies grappled with a drop in power consumption, an increase in bad debts, and disruptions in the supply chain. The containment measures imposed to curb the virus spread hit some companies harder than others because the sharply reduced consumption left many companies with excess capacity.

The electricity generated and supplied on any given day is planned based on the forecast for demand. In India, during the first two months of this year, we saw an increase of seven percent in power supply as



“Our country’s plans for a centralised energy monitoring system will keep tabs on all demand and consumption data generated from all forms of energy (renewable and non-renewable), which can be used by researchers and government agencies alike.”

compared to 2019. But in March, power supply saw a decrease of about 25 percent. The story is pretty much true for every other Power and Utility company around the world as they all experienced similar challenges – a steep decline in production and profitability. As a result of the collapsing finances, some companies had to sell the surplus power back to the market, thereby incurring significant losses and eroding years of profits in just a few months.

It won’t be far from the truth when I say that the power generation sector and all support industries are struggling to make sense of a post-Covid19 world. Lockdowns have significantly reduced power demand, thereby negatively affecting the companies that produce and supply it.

When the lockdown was first relaxed in some EU countries earlier this year, power demand showed the first signs of recovery. This trend was soon confirmed when more countries, including India, softened lockdown measures. In June and July, the power demand was roughly 10 percent below the 2019 level for the same months – except India, where the recovery was more prominent, thanks to Unlock 1.0.

In India, recovery seemed faster and stronger when compared to western countries due to higher demand in industrial and commercial sectors, along with increased irrigation requirements compared to 2019. As of October, India seems back on track with energy requirements reaching pre-Covid19 levels.

It’s worth mentioning that the power and utility sector has weathered similar shocks before. And, like always, I’m optimistic that they will respond positively by rethinking their business models, developing new

technologies, and by venturing into newer markets. Every crisis has a way of creating or accelerating transformational change, and this pandemic might just make way for that.

#### A DECADE OF CHANGE?

Covid-19 made a strong case to countries around the world to shift their energy production to renewable sources and thereby focus on low-carbon emission sources. The renewable energy sector still holds a stronger share in the energy sector compared to pre-Covid19 times, but in many regions around the world, including India, this changing trend is mainly due to seasonal effects.

In India, the gap between power generated from fossil fuels and renewables has considerably narrowed after the first lockdown measures were implemented. And since then, the share of fossil fuels in power generation has consistently stayed under 70 percent, compared to 75 percent before the lockdown period. In the second half of July this year, energy demand was higher than in 2019 for the first time since the beginning of the lockdown, and this trend continued consecutively for the next five weeks. However, in August, the share of power generated by renewable sources rose again above 30 percent - an increment that was driven by strong wind and hydroelectric power generation.



**In India, the gap between power generated from fossil fuels and renewables has considerably narrowed after the first lockdown measures were implemented. And since then, the share of fossil fuels in power generation has consistently stayed under 70 percent, compared to 75 percent before the lockdown period.**

This shift in power generation reflects seasonal trends, which is why I believe it's too early for the world to entirely depend on renewables for power generation. Power generation using fossil fuels is here to stay at least till the end of this decade and a few years into the next one.

#### WHAT DOES THE FUTURE HOLD FOR US?

It's safe to assume that the ongoing Covid-19 pandemic will trigger an overhaul of the power generation sector and will redefine the way electricity is generated, controlled, distributed, and consumed. Sustainability,



and reliability being the main pillars, the industry will see increased momentum in the production of electricity made available through sustainable solutions.

The Indian government took the first step in this direction when it tasked its official think-tank, the NITI Aayog, to work on a roadmap to improve the energy data management system of the country. Our country's plans for a centralised energy monitoring system will keep tabs on all demand and consumption data generated from all forms of energy (renewable and non-renewable), which can be used by researchers and government agencies alike.

It's worth noting that we are at the crossroads of a paradigm shift when it comes to power generation. This Covid-19 pandemic is a golden opportunity for world leaders to convene, discuss and implement long-pending structural changes needed in the power sector. Without these amendments, the power sector will continue to struggle, even after the pandemic is over, and will remain vulnerable to future setbacks — ultimately endangering energy access, economic growth, and transition to sustainable energy sources.

Furthermore, I would also like to take this opportunity to thank all the personnel working at power generation companies around the world, and in the field at customer sites maintaining numerous turbine generators and grid networks that deliver electricity for individuals, families and businesses. This essential work to ensure that the power stays on in these unprecedented times needs to be acknowledged more often.

And to everyone else, I wish you good luck, good health, and good fortune. The worst is surely behind us. 🙏

*The author is the Global Head of Sales & Marketing at TD Power Systems, an Indian enterprise that is one of the world's largest manufacturers of AC generators.*

By Pragun Jindal Khaitan

## THE KEY TO ATMANIRBHAR BHARAT!

The downstream aluminium industry has all along been a champion sector.

**T**he Indian downstream aluminium industry has aligned itself to support the Government of India's push for 'Atmanirbhar Bharat'. It comes from the vision of being a country that is independent and self-reliant when it comes to manufacturing aluminium products to meet its aluminium material requirements.

The right focus on reducing our heavy dependency on imports, well-thought government vision and industry strength, can together write the story of 'Atmanirbhara' (self-reliance) in aluminium for India.

The per capita aluminium consumption of India at 2.5 kg is significantly lower than the global average consumption of 11 kg. With a progressive infrastructure push, there is a massive possibility for an upsurge in aluminium consumption in our country from the prevailing level of approximately four million tonnes. But the sufficient downstream capacity of aluminium available within India has not stopped us from importing aluminium downstream products like extrusions, rolled products, foils and other products from China and nearby countries. The rising imports of downstream aluminium products need to be restricted to promote domestic production and reflect the spirit of 'Atmanirbhar Bharat'. The import duty on downstream aluminium products in India is only 7.5 percent which is not sufficient against the huge incentives given for exports by China. Many nearby Southeast Asian nations having free trade agreements (FTAs) with India also continue the unabated dumping of downstream aluminium. Take for example the Indian aluminium foil industry. After the imposition of anti-dumping duty on Chinese aluminium foils, the industry has seen a resurgence. With existing mills running at full capacity and a whole host of new projects commissioned since the time of the duty imposition, the country has seen a significant amount of investment, talent building and market-building efforts that will yield huge dividends for the economy in the long run. Before that, the foil industry was choked between high input costs of primary aluminium and cheap imports from China.

At 4.1 million tonnes per annum primary capacity and a downstream processing capacity of 3.9 million



**The Indian aluminium sector has a ready platform to scale up to support the growth trajectory of India.**

tonnes, the Indian aluminium sector has a ready platform to scale up to support the growth trajectory of India. Like the 'Make in India' initiative, this vision of being a country whose industry is independent and self-reliant will need aluminium

products to meet the various end-user requirements. But for this, the downstream aluminium sector needs to be known within the aluminium frame of the country. Its growth story is dependent on the two key points – independent recognition (distinct from primary aluminium) and support derived in the form of government policy. It would be prudent for the government to consider the demands of the industry and protect the downstream segment by doing away with import duty on primary aluminium. Thus, making it affordable and increasing domestic consumption of the domestically produced aluminium. Paying a global premium for Indian produced aluminium has to stop. Removing import tariffs on primary aluminium and increasing import duties on downstream aluminium could be a practical solution to this issue, which will incentivize value addition to aluminium within India itself. Immediate attention to this can safeguard lakhs of livelihood associated with the sector.

The sheer wide range of applications in aerospace, defence, high-speed rails, and other infrastructure projects is an indicator of the reach the downstream aluminium industry has. As per a Niti Ayog report, India's downstream segment comprises of 150+ companies including both large and mid-sized, and a much bigger base of smaller and unorganised players that strongly needs an export policy for the downstream aluminium industry. In the global market, the Indian MSMEs can be competitive only when downstream aluminium is offered a differential status in India, giving it price parity through focused government policies. The downstream aluminium industry has all along been a champion sector and a visible symbol of progress. Having extensive forward and backward linkages to the economy, policy reforms will see it reduce import dependency and make strides facilitating the way ahead for an 'Atmanirbhar Bharat'. 

*The author is Vice-chairman and Managing Director at Jindal Aluminium Limited*

## Faurecia Automotive Seating starts new facility in Pune

Faurecia Automotive Seating (FAS) has started the new manufacturing facility in Pune. The new plant is strategically located at the industrial hub of Chakan offering technologies for a safe, smart and comfortable on-board experience in complete seat, ventilation system and seat structure for front and rear seats. This is the third manufacturing facility of FAS in addition to plants at Chennai and Manesar. The New FAS plant is equipped with a state-of-the-art shopfloor 5600 sq m having the latest technologies like tube end forming and laser welding. This facility will integrate the mechanisms produced at FAS Manesar and deliver the seat frames; manual & power; to customers like Volkswagen, Skoda, Jeep and Ford. The plant is having production capacity to support an annual volume of 300,000 cars for the domestic market. Sandeep Waykole, FAS Business Unit Director addressed the team during the ceremony and said that it is a new beginning for



FAS which is now capable of supporting customers with the all upcoming market demands in India.

## Piaggio India to manufacture the Aprilia SXR 160 soon



Piaggio India will soon commence the production of Aprilia SXR 160 at its Baramati plant, with the aim to launch the new premium scooter in the Indian market. The Aprilia SXR 160 was first unveiled at the Auto Expo 2020. Designed in Italy for India, SXR 160 incorporates Aprilia's latest global design language and will offer high premium experience. With its launch, the SXR 160 is set to create a new category in the premium scooter market. It is equipped with

a high performance 160 CC BSVI, three valve Fuel Injection clean emission engine technology, that produces high power and torque to provide a great riding experience. Diego Graffi, Chairman and Managing Director, Piaggio India said, "As promised at the Auto Expo 2020, we are gearing up for the production of Aprilia SXR 160 in India and unfolding a new chapter for the scooter industry. With its highly innovative design, the SXR 160 is set to create a new unmatched experience of premium style, high comfort and best in class performance."

## Tata Nexon EV crosses 2000 sales milestone

The Tata Nexon EV has surpassed the 2000 sales milestone. In over 10 months, since launch, the sales of the Nexon EV reached 2200 units as of November 2020, indicating the rapid demand for the EVs in the personal



car segment. After rolling out its 1000th Nexon EV in August this year, the car clocked in another 1000 sales units in a record time of three months (Sept-Nov 2020). Currently, Tata Motors is leading the EV segment with a 74 percent market share. Shailesh Chandra, President – Passenger Vehicle Business Unit, Tata Motors, said, "This is a moment of great pride for us and those working with us in our journey to accelerate the adoption of EVs in India. This growing demand is on the back of increased awareness, growing charging infrastructure, encouraging government incentives, breaking myths that surrounds EVs, and most importantly the undisputed benefits that it offers i.e. lower operating cost. Further, with the continued support from the government in terms of incentives such as benefits on registration and road tax, we hope that EVs will soon become the most desirable and a mainstream choice for the customers in India."

## Maxxis Tyres eyes 5% market share in Tamil Nadu

Maxxis India plans to earn five percent market share in Tamil Nadu by 2021. Tamil Nadu is one of the fastest growing two-wheeler market for Maxxis in India. Commenting on the business plan, Bing-Lin Wu, Marketing Head, Maxxis India said, "The year 2020 marks five years of Maxxis in India. We are happy with the progress we've made so far. It is time for us to take the next leap. We plan to capture five percent of the tyre market in Tamil Nadu by 2021. To achieve this vision, we are aiming to add 200 premium dealerships under Maxxis portfolio in the region by next year." Maxxis India is target-

ing to capture a market share of at least 15 percent of India's two-wheeler tyre market by 2023. India market is touted to play a vital role in achieving Maxxis's global vision to become one of the top five tyre manufactures in the world by 2026. Apart from catering to the domestic tyre market, the product portfolio from the Sanand facility will be exported to South Asia and will further expand to Africa and Middle East countries in the coming years. The company also has plans to set up five more plants in India which will also cater to the 4-wheeler tyres market.

## Mahindra Thar scores four star rating in safety

The Mahindra Thar has achieved an encouraging four star rating for both adult and child occupants in Global NCAP's new round of #SaferCars-ForIndia crash tests. The recently launched Mahindra Thar was tested in its basic safety specification, two air-bags, and reached four stars for adult and child occupants. The Thar also meets the side impact UN 95 regulation. Global NCAP tested Thar's ESC according to UN regulation. ESC is not fitted as standard on the Thar and although the model met minimum regulatory requirements, the car showed an unstable dynamic behaviour. Global NCAP recommends a



review and improvement. Alejandro Furas, Secretary General of Global NCAP said, "Mahindra's commitment to safer cars is once again displayed for consumers and shows that it is possible to offer good safety performance in the Indian market. It is encouraging to see manufacturers that also offer high levels of protection for children traveling in their vehicles."

David Ward, President of the Towards Zero Foundation said, "Another good result for Mahindra which shows the manufacturer's commitment to safety. It is very satisfying to see this growing vehicle safety trend in the Indian car market."

## Continental India collaborates with Universities



Continental is engaging with top engineering institutions in India for cutting-edge research and to build competencies on niche ADAS functionalities that paves

the way towards automated driving. In the last few years, Continental has forged partnerships with several academic institutions, including Indian Institute of Technology Delhi (IIT-D), Indian Institute of Technology Madras (IIT-M), International Institute of Information Technology Bangalore (IIIT-B), Indraprastha Institute of Information Technology Delhi (IIIT-D), among others, for collaboration in this rapidly evolving technology area. Continental India is currently conducting pioneering research in scenario perception (especially enhancing safety towards pedestrians, bicycles, and animals) with on-road protection from pothole and speed bumps. Typically, an ADAS application amalgamates multiple sensor inputs (radar, camera, and lidar) to increase safety and comfort through assistance in driver actions such as monitoring the surroundings, steering, braking, and parking.

## Toyota Kirloskar Motor launches new Innova Crysta

Toyota Kirloskar Motor (TKM) has launched the new Innova Crysta. Speaking about the launch, Naveen Soni, Senior Vice President, Sales and Service, TKM, said, "The Innova redefined the segment when it was introduced in India more than 15 years ago as a premium MPV. Over the years, we have strived to make the Innova even better by imbibing the advanced technologies and features and launching improved versions regularly. The new and bolder Innova Crysta continues that legacy in accordance with our tradition of customer-first approach. We are confident



that the customers will look forward to the latest avatar of the iconic Innova. Further, we would like to thank our loyal customers for their relentless trust that has made Innova the best-selling MPV in the country. Innova Crysta continues its unrivaled dominance with 43 percent of segment share," he added.

## Optare Group Ltd renamed as Switch Mobility

Ashok Leyland Ltd has announced that Optare Group Ltd (Optare), its majority-owned UK subsidiary, has been renamed Switch Mobility Ltd ("Switch") as part of its drive towards electrification and new mobility services. Dheeraj Hinduja, Chairman of Ashok Leyland Limited, said: "Optare is adopting a new identity and logo as "Switch", which signals our strategic ambitions in Electric and Green Mobility. Towards this, Ashok Leyland is examining various options to bring the entire EV initiatives of Ashok Leyland under Switch Mobility Ltd. "This

strategy reflects the clear growth opportunities in the global LCV & Bus EV market, which is projected to grow at a Compounded Annual Growth Rate of more than 25% and to be worth in the region of US\$ 50bn by 2030. To capture part of that market, we are considering EV initiatives through Switch that could include financial participation and strategic tie-ups." Switch will build on the success of Optare in the UK, where it is a leading player in electric buses with more than 150 of them currently operating successfully in its home market.

## Hyundai Motor Company and INEOS to cooperate

Hyundai Motor Company and INEOS have announced the signing of a memorandum of understanding to explore new opportunities to accelerate the global hydrogen economy. Hyundai and INEOS will jointly investigate opportunities for the production and supply of hydrogen as well as the worldwide deployment of hydrogen applications and technologies. Both companies will initially seek to facilitate public and private sector projects focused on the devel-



opment of a hydrogen value chain in Europe. The agreement also includes the evaluation of Hyundai's proprietary fuel cell system for the recently announced INEOS Grenadier 4x4 vehicle. This cooperation represents an important step in INEOS' efforts to diversify its powertrain options at an early stage. Hyundai's proprietary modular fuel cell system, which evaluation vehicles will use, has already proven reliable and effective in the Hyundai NEXO SUV.

## Daimler Truck AG and Foton start joint production



Daimler Truck AG and Beiqi Foton Motor Co., Ltd. jointly announced that both partners will produce and distribute Mercedes-Benz tractors for an advanced market segment in China. Based on Daimler Trucks' global platform strategy, the companies' joint venture Beijing Foton Daimler Automotive Co., Ltd. (BFDA) will localize new heavy-duty tractor models "Made in China for China", fully adapted to Chinese customers' requirements. The vehicles will get state-of-the-art Daimler Trucks technology. Start of production of the heavy-duty tractor models is scheduled in two years from now in a new truck plant in Huairou (Beijing) owned by BFDA. The joint venture invests of more than 3.8 billion RMB (over 485 million euros) for the acquisition of the plant and the set-up of new infrastructure and production lines. At the same time Daimler Truck will continue to import and sell other models of its Mercedes-Benz portfolio both through the existing dealer network and direct wholesale to answer the customers need for top-of-the-line trucks for special applications.

## Lotus Engineering to launch Project BattCon

Lotus Engineering is launching a pilot containerised battery testing facility to assess energy storage solutions for the booming EV sector. It will allow Lotus Engineering to carry out various battery cell, module and pack characterisation tests, performance evaluations, and component and lifetime testing under controlled conditions. Early feasibility study support and validation of mature designs for implementation into new vehicles will also be available. The project has been named BattCon, an abbreviation of Battery Containerised Test Facility. The 'containers' are individual walk-in laboratories and will be in operation at Lotus HQ in Hethel, Norfolk, as well as the new Lotus Advanced Technology Centre in Wellesbourne, West Midlands.

## JBM Auto Q2FY21 net profit increases by 1.44 percent

JBM Auto Limited (BSE: 532605 & NSE Code: JBMA) has announced its consolidated results for the quarter ended 30th Sept 2020 and have shown 1.44 percent increase in net profit to Rs.20.52 crore in Q2FY21 as compared to Rs.20.22 crore in Q2FY20. Sales including other operating income stood at Rs 517.35 crore compared to Rs 484.09 crore last year, an increase of 6.87 percent. The company recorded a profit before tax of Rs 31.51 crore in Q2FY20 as compared to Rs. 30.80 crore in the corresponding quarter last year, an increase of 2.30 percent. EBIDTA decreased by 0.79 percent at Rs. 64.21 crore compared to Rs.64.72 crore in Q2FY20. Earnings per share (EPS) stood at Rs 4.33, compared to Rs. 4.24 in Q2FY20.

## Nexteer opens APAC Nexteer Production System Academy

Nexteer Automotive has opened its APAC Nexteer Production System (NPS) Academy recently. This marks the establishment of Nexteer's comprehensive Core Engineering, Intelligent Manufacturing and Lean Production program in the APAC region to more efficiently provide improved products, service and quality for customers in the APAC region and around the world.

Nexteer began implementing lean production in China in 2015. NPS is Nexteer's unique lean production system that leverages support from Toyota Production System Master and Nexteer's global leadership team. The opening of APAC NPS Academy represents years of continuous improvement, experience, curriculum planning and more.

By Niranjana Mudholkar

## ADAPTING TO THE NEW NORMAL

Improved demand will help Indian manufacturers to secure new orders, says **Sreeramachandra Murthy K**, President, Lakshmi Machine Works Limited (LMW)

### **Give us a brief overview of LMW's overall business.**

Lakshmi Machine Works Limited (LMW) is a leading textile machinery manufacturer in India and one among the three in the world to produce the entire range of spinning machinery. In 1962, LMW started with the textile machinery division and is over five decades old now manufacturing the entire range of spinning machinery. The company plays a very important role in the global textile market and is the leader in India with an enviable market share. Customers see great value in LMW products.

LMW diversified into CNC Machine Tools and is a brand leader in manufacturing customised products. In 1988, LMW started its Machine Tool Division in collaboration with Mori Seiki of Japan, which is the first of its kind plant in India that manufactures CNC Turning Centres, Machining Centres and Turnmill Centres. LMW Machine tool products provide end users with an opportunity to manufacture components that are cost effective. Our manufacturing facility comprises of mother machines from global best brands which in turn ensure that all our products are built with high level of accuracy. A clean and temperature controlled atmosphere is dedicated for critical assembly that ensures total quality control.

LMW Foundry makes precision castings for industries world over. LMW started its foundry division in 1993, which caters to OEMs in global and domestic market with niche products. Castings are supplied in unmachined, pre-machined and fully machined condition. Facilities are in place to supply pressure tested and painted castings as per the customer requirement. The end users are in the emerging market segments of railways, traction motors, pumps & valves, machine



The Indian machine tool market has grown steadily over the last few months, with surge in demand from major drivers like automotive, capital goods and others.

tools, compressors, power & energy segments, marine transmissions etc., in domestic and export markets.

LMW has started the Advanced Technology Centre to manufacture components for the aerospace industry in 2010. The ATC is a one stop solution for the aerospace customers, which produces critical components and sub-assemblies for the aerospace industry. It has tied up for important projects with major OEMs and Tier 1s in the US, Europe as well as with the various divisions of Hindustan Aeronautics Limited and with the Defence Research Development Organization in India.

### **How has the Covid-19 pandemic affected LMW's business and operations?**

Initially, we had a problem in supply chain but we are practicing the 'Theory of Constraints' principles in our operations. With that we can manage the situation without affecting our customer commitment. Thereafter, there was a surge in consumption driven by all segments primarily auto components. In addition to that infrastructure and products developed in last four years will support the present surge.

As a change of strategy, we had to accelerate the customer connect programs through digital platform like webinars, telecalling and social media for various industrial segments. In addition to that, we also have started participating in virtual exhibitions.

### **LMW's Machine Tool Division started its journey in 1988. Briefly describe the evolution of this division.**

In 1988, LMW established its Machine Tool Division (MTD) in collaboration with Mori Seiki of Japan. We introduced the world-renowned LMW MV junior VMC which set new standards for machine tool industry. As the need for speed and productivity increased, we introduced the Kodi series. In the 21st century, with the phenomenal growth in the manufacturing sector, especially the auto industry, we launched LV series machining centre with higher cutting speed and accuracy as well as low maintenance, to cater to the increasing demands.

Decades of research and development and commitment to deliver the best products, led to the development of a new technology in VMC with the JV series



that brought phenomenal changes in spindle, structure and tool changer mechanism.

Later on, we launched the moving column segment of VMC, larger Lathe, VMC, HMC, Turn Mill centres and five Axis simultaneous machining centre.

Today, we offer a host of value added engineering services and customised solutions to optimise cycle time and cost per component with maximum utilisation of resource. We make robust, efficient and finest range of CNC Machines.

#### **Which are the key industry sectors that LMW Machine Tool Division caters to?**

We have supplied more than 20,000 CNC Lathes and Vertical Machining Centres to a wide customer base belonging to various segments like automobile, general engineering, medical, oil & gas, agri & earth mover, pump & valve, aerospace & defence, industrial machinery as well as die & mould. Also, our MTD caters to various segments with a product range over 50 products and 88 variants in turning centres (Horizontal & Vertical Lathes), Turnmill Center (Horizontal & Vertical Turnmill) and Machining Center (VMC & HMC).

#### **What kind of manufacturing capabilities and capacities does LMW have?**

Today, LMW Machine Tool products provide the customers with an opportunity to manufacture components that are cost effective. Our manufacturing facility comprises of Mother Machines sourced from world's best brands which in turn ensure all our products are built with highest level of accuracy. We are practising lean manufacturing and TQM in our plant, which result in a clean and temperature controlled atmosphere. This is dedicated for critical parts machining and assembly thus ensuring the total quality control.

We have a wide range of advanced equipment and methods to ensure maximum accuracy and precision machine assembly. Our quality assurance has all the latest system and instruments for testing and inspection.

#### **Tell us about LMW's focus on Industry 4.0 solutions.**

LMW manufactures and supplies machines with In-

dustrial 4.0 compatibility. It gives more opportunity to develop, real time monitoring and enhance productivity. All our facilities are connected with IOT for production monitoring and machine condition monitoring to ensure effective utilisation of resources.

With this knowledge, we also develop our IOT products for textile machinery and machine tool to benefit our customers. We are continuously evolving machine learning and Artificial Intelligence in our facilities which will be further extended to customers. IOT also helps us to practice predictive and autonomous maintenance in a digitised way.

#### **How would you analyse the overall health of the Indian machine tools market in the New Normal?**

The Indian machine tool market has grown steadily over the last few months, with surge in demand from major drivers like automotive, capital goods, aerospace, medical, general engineering, agri & earth movers, industrial machinery and others. All these sectors provide immense opportunities for growth. Machine tool manufacturing companies will need to adapt from their existing process into new technologies going forward to maintain their competitive edge.

#### **Tell us something about your exports business.**

We have been extending our export business to overseas countries like Vietnam, China, Bangladesh, Russia, UAE, Saudi Arabia, Kuwait and Kenya. Now, we are focusing more on markets like Malaysia, Indonesia, Sri Lanka, Brazil and Italy catering mostly to sectors like auto components, die & mould, oil & gas and so on.

#### **Last year, LMW started making vertical machining centres (CMX 600 Vi VMC) for DMG Mori for the Indian market. Is this collaboration still on?**

Yes, we are making machines for DMG Mori. These machines are of the same standards as machines made in Japan or Germany. These machines cater to different customer segments. So far, we have supplied a significant number of machines and all customers are satisfied with the build quality and performance of the machines.

#### **Has the Indian economy started to bounce back?**

Yes, the Indian economy is set to bounce back and emerge stronger than many other countries. The Purchasing Managers Index for manufacturing sectors has recovered from 56.8 and 58.9 respectively in September to October 2020. The ongoing relaxation of Covid-19 restriction, better market condition and improved demand will help Indian manufacturers to secure new orders. The outputs will be sustained in coming months. 

## LVD LAUNCHES NEW LARGE-FORMAT LASER CUTTING MACHINE

**L**VD launches Taurus FL, a new large-format gantry-style fiber laser cutting machine engineered for extra-large sheet metal cutting capacity. A unique modular design, the machine size begins at a 12-meter bed length and can be expanded in increments of 2 meters to a maximum bed length of 40 meters to suit user needs. The large format allows a diverse range of parts to be cut and efficiently nested, increasing productivity and optimizing material usage.

**Large-Scale Advantages:** Taurus FL delivers the flexibility to process extra-large sheets or multiple sheets, cut a range ensure high machine dynamics of jobs in varying batch sizes, shapes and material types accommodating workpieces up to 3.3 meters wide and up to 30 mm thick. Large parts can be processed without repositioning while multiple smaller workpieces can be positioned on the cutting table and processed in continuous fashion, without interruption. Parts can be cut on one section of the table, while loaded/offloaded on another, keeping downtime to an absolute minimum. Taurus FL is designed for easy access. Only the gantry features an enclosure, not the complete machine. The mechanical design and drive system ensure high machine dynamics in large-format cutting. The operator has use of two touch panels for convenient access to the control at all times. A handheld control unit enables the operator to safely move all axes in manual mode for machine setup or to load the nozzle changer. A camera located inside the cutting zone and a monitor on the operator console allow continuous monitoring of the cutting process. The



cutting zone has a detachable front panel, providing access for maintenance. No special foundation is required for the machine.

**Expanded Machine Scope:**

Taurus FL also provides the option of beveling cutting or 2.5D cutting up to 45°. The fiber laser is an ideal tool for reliably producing high-quality bevel cuts in a large-format cutting platform. The bevel cutting option offers a fast and cost-effective way to prepare material for subsequent welding operations or to create geometrical shapes.

The Taurus FL bevel head uses two direct-drive motors. The direct-drive principle uses no transmission components resulting in the highest possible accuracy and a fast responding system. As a result, consistently

precise bevel cutting is assured.

The bevel head is able to cut on a horizontal surface as well as cut shapes in pre-formed parts or cut under angle within the limits of the Z-axis and +/- 45°.

An optional automatic nozzle changer increases machine uptime and throughput. The unit has storage for 30 nozzles in a turret-style holder positioned close to the cutting head. The nozzle changer features an integrated camera that checks nozzle alignment, size and condition. It offers automatic calibration of the capacitive height sensing and nozzle cleaning after a preset number of piercings.

Optional CADMAN®-L software includes automated functions to simplify programming and offers advanced nesting, collision avoidance, On-the-Fly Piercing and Cutting, and process parameter tables to realize the full potential of Taurus FL. For bevel cutting, an optional plug-in is available for SolidWorks, Solid Edge and Inventor.

Taurus FL is offered with a 6-, 8- or 10-kW fiber laser source, which boasts an industry-leading wall-plug efficiency of more than 40 percent.

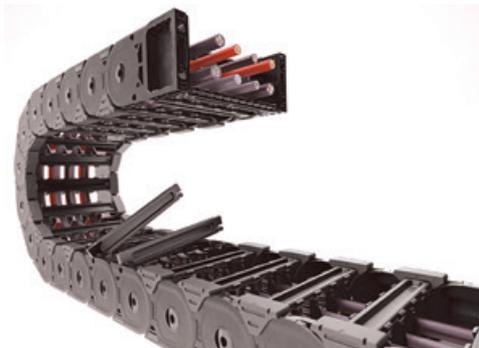
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## UA1775 | ALLROUNDER IN NEW SIZE

1. Smallest bending radius for cable carriers of this size
2. Connections made of high-strength plastic for direct screw connection
3. Wear-monitored glide shoes available for ALL stay variants

In addition to more generous dimensions, the UA1775 convinces with its particularly smooth running and its long service life. The low-distortion design ensures for stable chain bodies and thus less wear.

**A bonus for the environment: Kableschlepp manufactures this cable carrier with up to 35 percent of regrind!**



Proven and popular - the well-known quick-opening system. Kableschlepp has retained this

feature for the new size. It allows quick, easy and time-saving cable laying. Merely two movements and a screwdriver – that is all you need. Particularly convenient: Even when open, the crossbar remains attached to the chain link. And if necessary, it can easily be removed by unscrewing.

For more info, contact:

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## CABLES WEIGHING TONS GUIDED BY QUICKLY MOUNTED IGUS ENERGY CHAIN

Harnessed and tested e-loop energy supply system increases safety and reduces procurement and installation time

**I**t guides cables safely at a defined bend radius and even withstands shocks and impacts: the e-loop. The energy chain system is specifically designed for hanging applications, such as in deep drilling rigs and is already replacing service loops worldwide. In order to offer users a complete ready-to-connect system from a single source that operates safely even in extreme application scenarios, such as in explosion zones, igus now offers its energy chains with special connectors and cables as tested readychains.

To guide cables safely in hanging applications, igus has developed the e-loop as an alternative to the service loop. This is because the service loop often causes a number of problems: the cables have no guide, have no defined bend radius, cannot move and, in the worst case, break. When servicing or repairing the service loop, the complete system must be replaced, as the cables are sealed together. "With the e-loop we have developed an alternative to the service loop. The three-dimensional energy supply system combines the advantages of a polymer energy chain with a high strength pull rope. The rope absorbs the tensile forces inside the chain and transmits them to the mounting brackets. This means that the cables remain completely strain-relieved," says Tim Schneebek, Industry Manager Oil & Gas at igus GmbH. The modular e-chain made of high-performance polymer offers a defined bend radius at all times and withstands vibrations and shocks thanks to PU protectors.

### Save procurement time and costs

The e-loop successfully replaces the service loop, especially in deep drilling rigs. But the e-loop is also used in shore power supply or open-cast mining: "We have already won many projects. Customers often wanted a complete energy supply system with the appropriate essential tests in accordance with VDE and IEC," says Schneebek. "For low voltage cables, for example for top drive systems, we were able to supply a completely tested readychain system with chainflex cables right from the start. We now have the right partners on board for high-voltage cables and special connectors," says Markus Hüffel, Product Manager readychain & readycable at igus GmbH. All e-loops can now also be provided by

"THE ROPE ABSORBS THE TENSILE FORCES INSIDE THE CHAIN AND TRANSMITS THEM TO THE MOUNTING BRACKETS. THIS MEANS THAT THE CABLES REMAIN COMPLETELY STRAIN-RELIEVED."

**TIM SCHNEEBECK**, Industry Manager Oil & Gas at igus GmbH.



igus now offers the e-loop with special connectors and cables as a tested and ready-to-connect readychain.

"FOR LOW VOLTAGE CABLES, FOR EXAMPLE FOR TOP DRIVE SYSTEMS, WE WERE ABLE TO SUPPLY A COMPLETELY TESTED READYCHAIN SYSTEM WITH CHAINFLEX CABLES RIGHT FROM THE START. WE NOW HAVE THE RIGHT PARTNERS ON BOARD FOR HIGH-VOLTAGE CABLES AND SPECIAL CONNECTORS."

**MARKUS HÜFFEL**, Product Manager readychain & readycable at igus GmbH.

igus with special cables and special connectors for shore power supply and explosive zones as a finished system. The energy supply system is harnessed by igus and tested with a Megger VLF Sinus 34kV. The readychain system saves the user almost 90 percent procurement time and 68 percent of the assembly time. In addition, igus gives a guarantee of up to 36 months depending on the configuration of the e-loop.

### e-loop series also expanded for stationary applications

Due to the success of the system, igus has now expanded the e-loop series to include a version with crossbars every 2nd link. The new version has been specifically developed for stationary

applications, for example in shore power supply, for the energy supply from the mast to the power container; it is lightweight and cost-effective. The e-loop is also available with rollers and handle modules so that it can be easily moved from A to B over the floor at quay facilities. When the machine and system reaches the end of their service life and is no longer in use, igus will take it back and guarantee pure recycling. In return, the user receives a credit note based on the net weight.

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# Are you in this list?



## The Industry

The metal cutting and metal forming industries play an extremely important role in the growth and development of the Indian manufacturing sector.

## The Rise of the Brands

With focus on quality, technology, innovation and service, the metal cutting and metal forming brands working in India are rising to greater heights of progress.

## Recognition as 'Best Brands'

To help Indian manufacturers choose the right metal cutting and metal forming partners, The Economic Times brings out the 'Best Brands' every year.

## The Process

The key players are analyzed and shortlisted for their performance on the basis of their offerings, innovation, market reach, service and brand recall.

To learn if your company is in the list, simply give a call to

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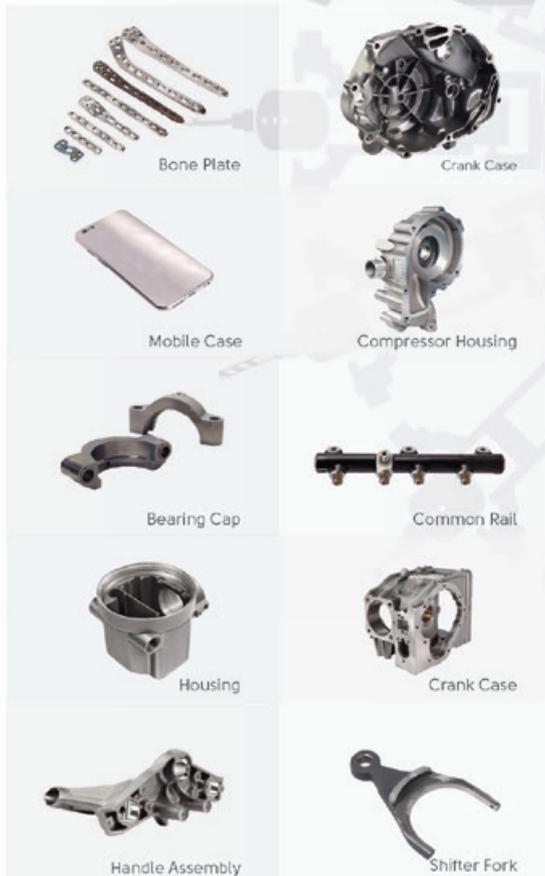
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# High Speed Drill Tap Centre

**DTC 400-XL**  
**DTC 400L-XL**



## The Advantage

The drill tap machining center DTC-400 XL / DTC-400L XL designed specifically for high speed drill tap application along with full milling capabilities. It's a compact and powerful DTC, loaded with BT-30/BBT-30 spindles.

- Chip to chip time: 1.7 s (1.5 s\*)
- Axes rapid rate: 60/60/48 m/min (DTC-400XL)  
(X/Y/Z) 50/50/48 m/min (DTC-400L XL)

## Machine Highlights

- ◆ Faster Front - Pocket Tilting ATC
- ◆ Enhanced Z-axis acceleration: 1.3 G
- ◆ Spindle Speed - 10,000rpm/20,000rpm\*
- ◆ Roller guide ways
- ◆ Rigid Structure
- ◆ Compact Foot-Print

### ACE MANUFACTURING SYSTEMS LTD.

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