

THE ECONOMIC TIMES

POLYMERS

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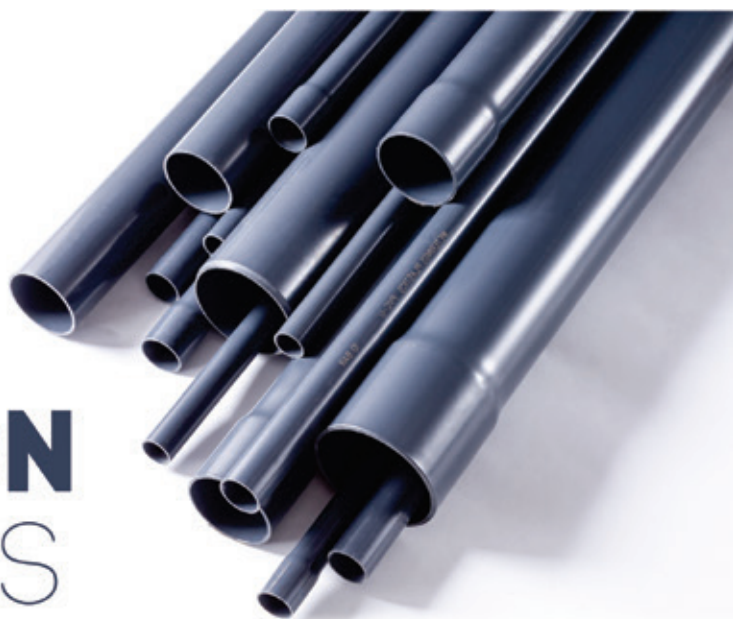
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To be or To become!

The experience of the last six months has been absolutely unique in every sense. There have been challenges and crises, but this period has probably taught us and helped us evolve like never before.

When we felicitated the best of the industry at our annual awards ceremony on February 26, 2020, little did we know that things are not going to be the same again, ever! It had been a heartening awards night to see the industry smile through bravely and celebrate its accomplishments with one of the worst economic slowdown around. And then, within a few days, came the Covid-19 pandemic, which further turned things completely topsy-turvy!

So, where do we go from here? The quest for circular economy obviously remains. So does the competition and the challenges. But as the world struggles to get its order right in the crowd of chaos, the time is just perfect to set clear goals for the future. The way I look at it, the industry has two choices – hence the title, To be or To Become. Option one – Take a proactive approach.

Consolidate and reinforce the focus on innovation, quality and sustainability. This Covid-19 crisis could be that window given to us by destiny to prove to the society that plastics are indispensable in the mission to re-build the world. Option two – Continue with the reactive approach and let other industries decide our future depending on how they use plastics! It's simple. The choice and destiny is ours!

“But as the world struggles to get its order right in the crowd of chaos, the time is just perfect to set clear goals for the future.”

Niranjan M

Editor & Chief Community Officer



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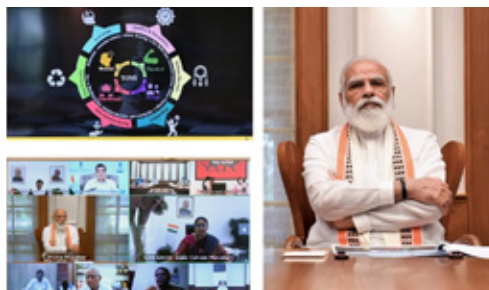


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PM urges for global standards in toys manufacturing

Prime Minister Narendra Modi recently held a meeting with senior Ministers and officials to discuss ways to boost manufacturing and global imprint of Indian toys. Prime Minister said India is home to several toy clusters and thousands of artisans who produce indigenous toys which not only have cultural connect but also helps in building life-skills and psychomotor skills among children at an early age. He said such clusters should be promoted through innovative and creative methods. It was



informed that Indian toy market has huge potential and can bring a transformative change in the industry by promoting 'Vocal for Local' under AatmaNirbhar Bharat campaign.

Prime Minister said focus should be on use of technology & innovation and also towards manufacturing quality products that meet global standards. Impact of toys on psychomotor / cognitive skills of children and how it can become a means for societal change thereby helping shape the future generation of the Nation was also discussed.

He even suggested that youth should be engaged to come up with innovative designs and toys that can instill a sense of pride towards National goals & achievements.

Bosch opens face masks production unit in India



Bosch India opened its fully-automated in-house production line at its Naganathapura location in Bengaluru. With this, the company aims to manufacture nearly 100,000 masks a day to protect its associates and contribute to the protection of the community at large in India. In doing so, Bosch is helping to relieve the burden on the market. The line was virtually inaugurated with active participation from both Central as well as State Government officials. Globally, Bosch will produce over 500,000 protective face masks per day across five fully automated production lines, including the Naganathapura plant in India. These mask production lines have been designed by Bosch's special-purpose machinery unit and will be available for usage to the workforce at Bosch in India as well. About 3,000,000 of these surgical masks will be supplied free of cost to second level COVID -19 such as healthcare workers, police, municipal corporation workers, ASHA and Anaganwadi workers as well as NGOs. The three-layered masks impede the spread of pathogens from the wearer's nose and throat with a bacterial filtration efficiency greater than 95 percent.

Clariant Chemicals' Q1 sales at Rs.128.9 crore

Clariant Chemicals (India) Limited has announced its first quarter financial results for the quarter ended June 30, 2020. The company reported profit before tax of Rs. 4.1 crore for the quarter ended June 2020, as compared to profit before tax of Rs. 10.5 crore for the quarter ended June 2019 – witnessing a drop of 61 percent caused by the impact of Covid-19 outbreak and subsequent continued nationwide lockdown. The Company reported decline in sales of 39 percent, at Rs. 128.9 crore, for the quarter ended June 2020 as against Rs. 209.8 crore for the corresponding quarter in the previous year. "We closed our offices and laboratories across the country on March 16, well before the national lockdown, as we wanted to be abundantly cautious with managing the Covid-19 risk at the workplace. Subsequently, we closed our plants as well. However, we started manufacturing gradually to bolster the essential services sectors to support the country to cope with the pandemic. The financial performance of the company was impacted in the first quarter (April – June) 2020-21 by this disruption caused by COVID-19, although there were definite signs of recovery towards the end of the Q1FY20/21," said Adnan Ahmad, VC & MD, Clariant Chemicals (India) Limited.

Honeywell starts N95 mask production line in India

Honeywell has announced that it has begun production of up to two million disposable face masks monthly at its Fulgaon manufacturing facility in Pune, India. The masks will be supplied to frontline healthcare workers, emergency responders and government organizations as part of the efforts to combat COVID-19 in India. The masks are designed in alignment with India Bureau of Indian Standards and U.S. National Institute for Occupational Safety and Health (NIOSH) standards. "As a global leader in manufacturing superior quality personal protective equipment, Honeywell is proud to manufacture superior quality face masks to protect frontline healthcare workers in their fight against the global pandemic," said Akshay Bellare, president, Honeywell India.

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UFlex closes Q4 on a positive note

UFlex Ltd. has declared its earnings for Q4 (January-March) and FY2019-20. The company has had a strong quarter with a surge in consolidated Net Profit by 43.5 percent YoY to 100.6 cr for Q4 FY19-20; whereas its consolidated EBITDA rose by 6.3 percent YoY to 276.4 cr and EBITDA margin improved to 15.6 percent from 12.6 percent last year. Ashok Chaturvedi, CMD, UFlex Limited stated, "The year that went by brought its own set of challenges starting with slowdown in the economy to rising debate on plastic waste management and lastly the unexpected disruptions caused by COVID 19 pandemic. As a focused group, these challenges have formed to be a flagpole

to our innovation for tomorrow. Even during this crisis, we continued our operations such that supply chain of essential commodities like food and pharma wasn't completely interrupted and these packaged goods reached public at large." The tubes business of Uflex launched first-of-its-kind eco-friendly paper based tubes for the cosmetic and food industry. Depending on application and pack size, these tubes help reduce plastic consumption at source by upto 65 percent by replacing it with paper. The virgin kraft paper used in tubes are laden with properties of high bursting force and very low moisture absorption properties; and lend the tubes an earthy and rusty look.



Wabtec opens Additive Manufacturing Center

Wabtec Corporation, in collaboration with HP and Redington, inaugurated an Additive Manufacturing Center focused on accelerating the design and production of integrated 3D-printed components in India. This Center of Excellence (CoE), named 'Wabtec India Additive Manufacturing Center', will offer end-to-end solutions like consulting, part identification and production for locomotives, transit entities and Micro, Small, and Medium Enterprises (MSMEs). The facility is based out of Wabtec India's existing factory in Bengaluru, Karnataka. This CoE builds upon Wabtec's growing additive strategy to leverage the technology to design and prototype 25,000 production parts by 2025. This supports the company's effort to ramp-



up the production processes, save the overall cost and offer customized solutions to heavy industries, ancillary MSMEs and other manufacturing units. "The Wabtec India Additive Manufacturing Center is another step in our Industry 4.0 journey as we continue to integrate smart technologies and production systems to drive innovation and deliver cutting-edge solutions for our customers," said Gopal Madabhushi, Global Director, Wabtec Corporation.

Vikas EcoTech continues to export organotin to US

Vikas EcoTech has recently announced that despite the current COVID-19 crisis the eco-friendly 'Organotin PVC Stabilisers' to the United States of America (world's largest Organotin market) has continued unabated. The company has tied-up with one of the largest specialty chemical/Organotin stabilizer distributor in USA, having a well-established country wide distribution network. The US Company has continued placing its orders as per their earlier agreement with the company for 2020, and is eyeing a long-term association. Organotin stabilizer is a US FDA approved product and is the most sought after substitute for the health hazardous lead-based PVC Stabilizers. Organotins are recommended by most international legislations for potable water pipes and fittings and have received extensive global certifications and approvals for food contact applications. USA is the world's largest consumer of Organotin stabilisers - having banned lead and other harmful chemical based PVC stabilizers in the mid 1980's. During FY 2019-20 the Company export to USA was almost 1,000 MTs or Rs. 500 Million in Value terms.

OLL and NEC to build the MIST Cable System

Orient Link Pte. Ltd. (OLL) and NEC Corporation (NEC) announced that they have signed an agreement to build the MIST Cable System (MIST). MIST will directly connect Singapore, Malaysia, Myanmar, Thailand and India (Mumbai and Chennai) and deliver a design capacity of more than 216 terabits per second (Tbps). Construction

of the nearly 8,100-kilometer optical submarine cable is targeted to be completed by the third quarter of FY2022. The Asia region has experienced accelerated digital investment driven by data center growth, the proliferation of mobile, 5G services and business expansion of digital platforms, such as SNS, e-commerce and cloud services for enterprises.



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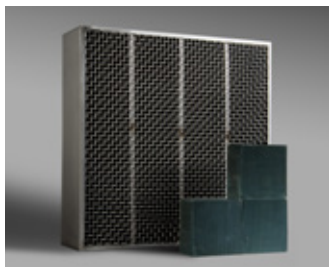
Today if the company has delivered a processing capacity of 5.1 million metric tons per annum of PP and PE for customers across 92 countries, it's only because of efficient after-sales support and optimized cost of ownership for customers. Lohia Corp continues and in the future too, will be committed to customers for great value and complete peace of mind.

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Clariant and Jiangsu Jinneng partner

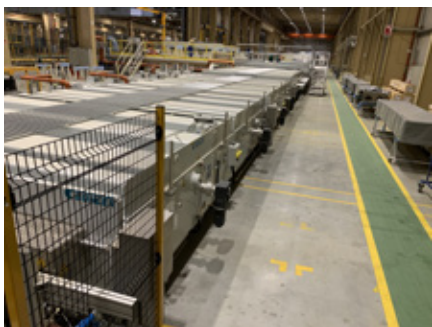
Clariant and Jiangsu Jinneng's collaboration in off-gas treatment is off to a strong start in 2020. Jiangsu Jinneng's innovative catalytic combustion unit and Clariant's highly effective EnviCat VOC catalyst have been in successful operation at the phthalic anhydride (PA) plant of Shandong Qilu Plasticizers Co. Ltd. since November 2019. The partners' advanced emission control solution is used to purify production off-gas, which contains volatile organic compounds (VOCs) and carbon monoxide (CO). Located in Zibo, Shandong province, the plant already



employs another Clariant product, the high-yield OxyMax PA 690 catalyst, to produce 70,000 metric tons of PA annually. Kevin Chan, Head of Clariant Catalysts China, stated, "We are honored to serve Shandong

Qilu Plasticizers with a tailor-made sustainable emission control solution, together with our technology partner, Jiangsu Jinneng. Thanks to the catalyst's adaptable design, and Clariant's sophisticated production capabilities, EnviCat VOC could be customized to Shandong Qilu Plasticizers' precise process requirements to ensure optimum efficiency and performance." A subsidiary of Chinese Bluesail Chemical Group, Shandong Qilu Plasticizers is the largest producer of industrial plasticizers, and one of the leading manufacturers of PA in China.

Guardian Glass launches new coater in Poland



Guardian Glass started full production on a technologically advanced new glass coater at its second facility in Czeszochowa, Poland. The state-of-the-art coater uses advanced technology for turning standard float glass into high performance, value-added glass. It will enable the plant to expand production of low-emissivity (low-E), solar control glass products for residential (Guardian ClimaGuard®) and commercial (Guardian SunGuard®) applications. These high-performance products improve a building's energy efficiency, aesthetics and comfort for its occupants. Guus Boekhoudt, Guardian Glass Executive Vice President, says: "Architects and builders are increasing their use of energy-efficient products to improve the building envelope, and we are committed to supporting our customers by providing them with leading, value-added glass products and solutions. This development provides them with an important capability in the region. Guardian's second float and coated glass manufacturing plant in Poland, being built adjacent to its existing Czeszochowa plant, will allow Guardian Glass to meet the growing demand for high performance coated and fabricated glass products in Eastern Europe.

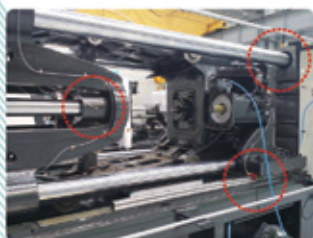
Ascend acquires Poliblend and Esseti Plast

As part of its global growth strategy, Ascend Performance Materials has completed its acquisition of Italian firms Poliblend and Esseti Plast. With this purchase, Ascend expands its portfolio into other engineered plastics, recycled resins and masterbatches. "Poliblend and Esseti Plast complement our current business exceptionally well," said John Saunders, Ascend's vice president of Europe. "Our experience as a large-scale, fully integrated polyamide 66 manufacturer coupled with Poliblend's portfolio of recycled and virgin PA66, PA6 and POM, and Esseti Plast's extensive masterbatch operations will offer our customers more choices for quality, high performance materials on a global scale." As part of the purchase, Ascend establishes its second production facility in Europe. The acquisition also includes Poliblend Deutschland, a distribution facility located in Germany. "This acquisition, coupled with our new compounding facility in China, will allow us to serve our customers locally around the globe," Phil McDivitt, Ascend's president and CEO. "We now have production, product development and testing capabilities in North America, Asia and Europe, giving us additional scale to respond to our customers."

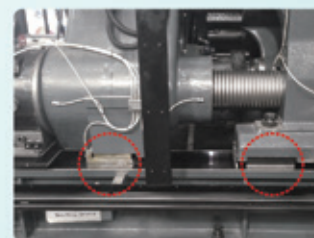
Lanxess sells reverse osmosis membrane biz to Suez

Lanxess is selling its business with reverse osmosis membranes to French group Suez, a world leader in sustainable resource management. Both companies have signed an agreement to this effect yesterday, July 15, 2020. It was agreed not to disclose the purchase price. Lanxess expects the transaction to be completed by the end of 2020. "The membrane business no longer fits in with our strategic focus on specialty chemicals," said Matthias Zachert, Chairman of the Board of Management of Lanxess. "We are convinced that under the Suez umbrella, the business has the necessary conditions to develop its full growth potential in the future."

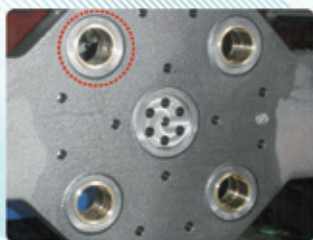
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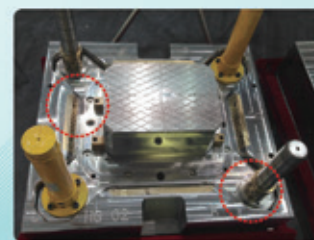
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Hitachi and Bombardier awarded contract

Hitachi Rail SpA and Bombardier Transportation have announced that they have signed a contract with Italy's primary train operator Trenitalia to supply 23 Frecciarossa 1000 very high-speed (VHS) trains for the new Intermodalidad de Levante (ILSA) rail operation, a joint venture established by Trenitalia and Operador Ferroviario de Levante SL. The contract value is 797 million euro (\$943 million US) in a partnership involving company participation of approximately 60 per cent and 40 per cent respectively. For Bombardier Transportation, this order relates to an undisclosed customer in Europe previously announced on August 6, 2020. "The ETR1000 train, widely known commercially as the Frecciarossa 1000, has transformed passenger transport on high-speed lines in Italy, setting the standard and becoming the fastest and most admired train in Europe. It is a proof of our continuous and positive collaboration with Trenitalia to the benefit of passengers and society in terms of comfort, sustainability, style, performance and low noise. We look forward to bringing the same advantages to Spain, and to contribute to the development program of high-speed railway services in this country with these new services," said Andrew Barr, Group CEO, Hitachi Rail.

BASF & Toyota to work lightweighting 2021 Sienna

BASF and Toyota Motor North America Research & Development achieved lightweighting success with the new 2021 Toyota Sienna. The vehicle, scheduled to launch later this year, just won the prestigious Altair Enlighten Award for achievements in vehicle weight savings for reduced mass of the third row seat. In the previous model, the third-row seat was comprised of 15 different steel components, making it very heavy. Toyota wanted the 2021 Sienna's third seat to be lighter and cost competitive while exceeding all performance criteria. Toyota turned to BASF to help them achieve their lightweighting goal. "Lightweighting doesn't always have to be more expensive," said Todd Muck, from the Toyota Technical Strategic Planning Office at the Toyota R&D Center in Saline, Michigan. "We were able to meet our cost objective and saved 15% compared to the prior generation. The seat is 30% lighter compared to the previous model. We had some great partnerships that helped us achieve these targets, one of which was BASF."

BASF installs EOR polymer injection plants

Recently, BASF's high molecular weight polymer and polymer injection technologies for EOR were selected to extend the life of a major oilfield in Argentina. The design, supply, installation and commissioning of five modular polymer injection units were previously successfully completed in close collaboration with the operator. These units can minimize mechanical degradation of the polymer used in the EOR process and are part of chemical flooding projects to help increase oil recovery rates. BASF combines standard and high-performance polymers



and surfactants into EOR formulations which are tailored to specific field conditions. "A key success factor for chemical EOR projects is the multifaceted partnership with the operator throughout the life of the project," said Damien Caby, Senior

Vice President, Oilfield Chemicals and Mining Solutions, BASF. "This is where our lab-to-well chemical solutions make a difference." Lab-to-well means that BASF supports its customers along the entire product development and implementation process, starting in the lab. During the design phase, BASF Enhanced Oil Recovery customizes the chemical solution to reservoir conditions through modelling and laboratory testing. The well operating conditions are considered to ensure the product is easy to implement in the field.

Lanxess introduces bio-based prepolymer line



Specialty chemicals company Lanxess has developed a new range of MDI polyether prepolymers containing renewable, bio-based raw materials. Marketed under the brand name Adiprene Green, the products are suitable as replacement for existing fossil based polyether prepolymers to manufacture highly durable polyurethane (PU) elastomers. The overall objective to develop Adiprene Green was to create a range of bio-based prepolymers which allow the PU processor to produce components with a reduced CO₂ footprint. Depending on the system, a reduction of CO₂ between 20 to 30 percent is possible compared to fossil-based prepolymers due to the use of polyether polyols based on starch. The share of bio-based raw materials varies between 30 to 90 percent dependent on the targeted system hardness. At the same time the existing PU processing capabilities would remain applicable and the properties of the final polyurethane elastomer would be similar to established elastomers based on fossil based polyether or even better. Dr. Markus Eckert, head of the Lanxess Urethane Systems business unit, says: "At Lanxess, we have a clear sustainability strategy."

HP & 3M collaborate globally

3M and HP Inc have jointly announced a new global collaboration to share large format graphics for commercial signage applications, in June this year. This collaboration enables anyone to download these signage templates from HP's resource library. These can be easily downloaded, printed and displayed in relevant spaces across retail outlets, commercial buildings, industrial parks, airports, etc. where awareness on covid-19 safety measures needs to be enhanced. The library has a repository of templates, design elements and poster artwork with guidance on social distancing, signage for wayfinding, and public health awareness. The content can be accessed through HP PrintOS or HP Applications Center. HP has onboarded over 100 print partners who are currently engaging with customers across various industries. Vitesh Sharma, Country Manager, Large Format Production Business, HP India said "As the world adapts to the new reality and resumes activities, there is a need to create an atmosphere of safety, trust and reassurance. In such a scenario, having access to the right information is vital. Signage is crucial to communicate social distancing and health and safety messages in public spaces."

Continental, aft automotive sign JV

Continental and system supplier aft automotive are setting up a joint venture to manufacture couplings made of high-performance plastics for the future of mobility. The partners have signed a relevant agreement to create a 50/50 joint venture. The two companies have already been jointly developing special couplings that connect the cooling circuit or the turbocharger/charge-air cooler with units in the engine compartment since 2016. This successful development partnership is now being further expanded by setting up a joint venture. "No lines, no hoses, no future mobility. Our lines and connectors remain vital lifelines in cars – both for hybrid and electric vehicles and for IC engines," said Philip Nelles, head of the Mobile Fluid Systems business unit and therefore responsible for automotive lines and hoses at Continental. He adds: "The close collaborative partnership with aft automotive will enhance our skills as a system supplier."



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DOW INDIA APPOINTS NEW COUNTRY PRESIDENT

Dow Chemical International Pvt. Ltd (Dow India) has announced the appointment of Chandrakant Nayak as the company's new Country President, effective from September 1, 2020. He will oversee the next phase of expansion and growth of the leading material sciences company. He will uptake this additional responsibility along with his current role as Commercial Director – Polyurethanes for India and India Sub-Continent. Nayak has been with the company for over 25 years and has held several key leadership positions across multiple business units and regions. Closely associated with the rapid growth in India, he has played a key role in establishing Dow India's business partnerships across major industries including packaging, telecom, automotive, and consumer markets through local business models and innovative product solutions. Nayak joined Dow in 1995 in Mumbai as Business Manager for the Polyethylene business and has had extensive experience in key growth economies in Asia, the Middle East, and Africa. Passionate about community initiatives, he was instrumental in the development and launch of the company's signature CSR program – the Polyurethanes Jaipur Foot Project – which has received international acclaim.



RAHUL TIKOO IS MD FOR HUNTSMAN INDIAN SUBCONTINENT

Huntsman Corporation has appointed Rahul Tikoo as Managing Director of both the corporation's business in the Indian Subcontinent and its Polyurethanes division in India, effective July 1. In his dual role, Rahul is responsible for driving corporate growth strategy and accelerating Polyurethanes division business in India. He reports to Rohit Aggarwal, president of Huntsman's Textile Effects division, for the Huntsman India corporate business and to Steen Weien Hansen, VP of Huntsman's Polyurethanes – Europe, Africa, Middle East and India, for the Polyurethanes business. Huntsman's presence in the Indian Subcontinent encompasses the textile effects, advanced materials and polyurethanes divisions, two manufacturing sites, corporate shared services and a major research and development facility serving the region. Rohit Aggarwal said: "We are pleased to welcome Rahul to Huntsman and are confident that his business acumen and diverse industry experience will lead Huntsman to our next phase of growth." Steen Weien Hansen added: "The Indian Subcontinent is a very important emerging market for our Polyurethanes business. Our customers respect innovation. Under Rahul's leadership, we will strengthen our innovation and customer-centric approach." Rahul joins Huntsman from BYK, where he was managing director of its South Asia region. Prior to BYK, he held various roles with Agfa and AkzoNobel.



INEOS STYROLUTION APPOINTS NEW CEO

Kevin McQuade, who has led the company as Chief Executive Officer since January 1, 2015 has been appointed as Chairman of INEOS Styrolution. Steve Harrington, currently President Global Styrene Monomer and Asia-Pacific for INEOS Styrolution, has been appointed as CEO reporting to Kevin. The change will be effective from July 1, 2020. Harrington has a 30-year career in the chemical industry, the last 19 years working for INEOS in commercial and senior management roles. Steve also has prior experience with ICI and Unilever. He holds a degree in chemistry from Hull University in England.

BIRLA CARBON BRINGS ORGANISATIONAL CHANGES

Birla Carbon has announced organisational changes to drive closer connection to its customers, focus on market driven innovation, and leverage its global capabilities. The company will transition to a global functional organisation from one which previously operated in five global geographic regions having responsibility for all business operations. John Davidson, currently the President of the Europe and Africa Region, will become the Chief Sales and Marketing Officer and will continue to report to Loudermilk. Sanjeev Sood, currently the President of the South Asia Region, will become the Chief Manufacturing Officer for Asia and Dale Clark, currently Chief Technology Officer, will become the Chief Manufacturing Officer for Americas, Europe, and Africa. Both Sood and Clark will continue to report to Loudermilk and will have responsibility for all manufacturing and supply chain activities in their respective regions along with joint accountability for Global Quality and Engineering Services.



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COVESTRO CEO IS THE NEW PRESIDENT OF PLASTICSEUROPE

Covestro CEO Dr. Markus Steilemann is the new President of PlasticsEurope, the association of plastics manufacturers in Europe. The 50-year-old manager was appointed to the position recently for three years. He succeeds Javier Constante of Dow Chemical, who oversaw a fundamental reorganisation of PlasticsEurope. Mr. Steilemann wants to focus the work of the association even more on promoting sustainability and in particular the circular economy. "Given the many global challenges, plastics are vital to create a truly sustainable future and to make the circular economy the new guiding principle," said Steilemann. "In this context, it is important to use end-of-life materials and waste as a resource for new products. Under no circumstances should they continue to enter the environment uncontrolled. In addition, plastics as particularly sustainable material must be used in as many areas as possible. This is how our industry can and will help Europe move towards sustainability." In addition to his new position at PlasticsEurope, Steilemann has also recently been elected as vice-president of the German Association of Chemical Industries (VCI). He is also a member of the European Chemical Industry Council (Cefic) and Chairman of SusChem, the European Technology Platform for Sustainable Chemistry.



ZHOU TAO (JOE) IS THE NEW DSM CHINA PRESIDENT

Royal DSM has appointed Zhou Tao (Joe) as President of DSM China effective July 1, 2020. Joe Zhou succeeds Dr. Jiang Weiming, who has helmed DSM China since 2007. Dr. Jiang Weiming will continue to serve at DSM as Special Advisor to the Global Co-CEOs. Joe Zhou's responsibility includes driving DSM's growth in China, focusing on innovation and sustainability, and reinforcing a talent pool of capable and skilled workforce. He will also spearhead DSM's purpose-led, performance-driven strategy and align this with the sustainability goals of China's 13th Five-Year Plan, and the 'Healthy China 2030' blueprint. Joe Zhou joined DSM China in January 2020 and has since worked closely with Dr. Jiang Weiming to ensure a smooth transition and efficient onboarding, including spending time at DSM's headquarters in the Netherlands and deepening understanding of DSM's diversified portfolio of businesses. Geraldine Matchett and Dimitri de Vreeze, Co-CEOs of Royal DSM, said, "Joe Zhou's rich experience and successful track record running multinationals in this market make him the ideal person to lead DSM in China. He has all the strengths and capabilities to deliver on our commitment of creating a brighter world for all to the local market."



PERSTORP GROUP APPOINTS ULF BERGHULT AS NEW CFO

Ulf Berghult has been appointed new CFO at Perstorp Holding AB as of mid-February. Ulf is a senior executive with a very solid background, most recently he comes from the position as CFO at Trelleborg, a position he has held since 2012. Previous experience includes similar positions at companies like Thule Group, Dometic and Oriflame.

"I am excited to join Perstorp, which is a successful company with a long history and leading market positions in the specialty chemicals industry. I have been impressed by the professional and open spirit I have met, and I look very much forward to be part of the team and contribute with my experience", says Ulf Berghult.

"It is very important that we can secure continuity in the CFO office, especially in these uncertain times. I am therefore very pleased to welcome Ulf Berghult, with his vast experience, to join us during this period. Ulf has relevant industrial experience and a proven track record of successfully having managed businesses in various stages, ownership and

level of complexity. He will bring valuable and fresh perspectives from his previous positions", says Jan Secher, President & CEO at Perstorp. Johan Ryrberg, who temporarily holds up the CFO position after Magnus Heimburg left to become CEO at Preem, will secure continuity at the CFO office until Ulf Berghult is in place. Ulf holds a BSc in Business Administration from Lund University, Sweden and will be based at Perstorp's head office in Malmö.

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WATERS CORPORATION NAMES UDIT BATRA PRESIDENT & CEO

Waters Corporation has announced that Dr. Udit Batra has been named the Company's President and CEO, effective September 1, 2020. He will also join Waters' Board of Directors at that time. Dr. Batra succeeds Christopher O'Connell who will remain in his current roles as President and CEO, and as a member of the Board until September 1, 2020. As previously announced, O'Connell will also remain with Waters as an advisor until the end of this year to support the transition. Dr. Batra brings to Waters more than two decades of leadership and operational expertise in the healthcare and life sciences industry, including a proven track record of driving results at the top of the industry and successfully managing a global organization. Most recently, Dr. Batra served as Chief Executive Officer of the \$7.7 billion Life Science business of publicly traded Merck KGaA, Darmstadt, Germany, which operates as Millipore Sigma in the United States and Canada. In this role, he led the business' successful integration of Sigma-Aldrich, which was acquired

in 2015, resulting in the creation of Millipore Sigma.



THOMAS SCHÄFER TAKES OVER AS CHAIRMAN OF ŠKODA AUTO A.S.

Thomas Schäfer takes over as Chairman of the Board at Škoda Auto with immediate effect. In this position, he succeeds Bernhard Maier, who is handing over the office to his successor after almost five years at the helm. Thomas Schäfer has assumed the role of Chairman of the Board at Škoda Auto on August 3, 2020. The qualified mechanical engineer began his career in the automotive industry at Daimler AG in 1991. He held various management positions in the areas of production and quality management in Germany, the USA and South Africa until 2002. From 2002 to 2005, he was a founding member of DaimlerChrysler Malaysia as Board Member for Technology, where he expanded and restructured the company's sales, production, and supplier base. Throughout his five-year tenure, he consistently promoted the expansion of the sales network, increased dealer profitability and led the Group brands Volkswagen, Audi and VW Commercial Vehicles

to the current record market share of 23.5 per cent. Under the leadership of Thomas Schäfer, the Volkswagen Group has significantly developed and strengthened its position in sub-Saharan Africa.

DR. ANDREW PALMER CMG JOINS OPTARE BOARD

Ashok Leyland's subsidiary, Optare Plc, has announced that after more than a decade of association with Optare Plc, John Fickling is stepping down as Chairman due to personal reasons. In his place, Optare is delighted to announce the appointment of Dr Andrew Palmer as Non-executive Chairman. Commenting on the developments, Dheeraj Hinduja, Chairman, Ashok Leyland, said, "To help guide in our mission to become a global leader in this segment, I am happy to announce that Dr Andrew Palmer will be taking the position of Non-Executive Chairman. With his impressive wealth of experience and innovative approach, I am confident that under Andy's Chairmanship we will see Optare moving to a higher growth trajectory soon." John Fickling, shared his thoughts, "I am delighted that Andy is joining Optare as non-executive Chairman. He has all the skills required to build Optare into a global leader in alternate propulsion. I am very proud of my association with the company thus far and am happy that it is now in the safest of hands."



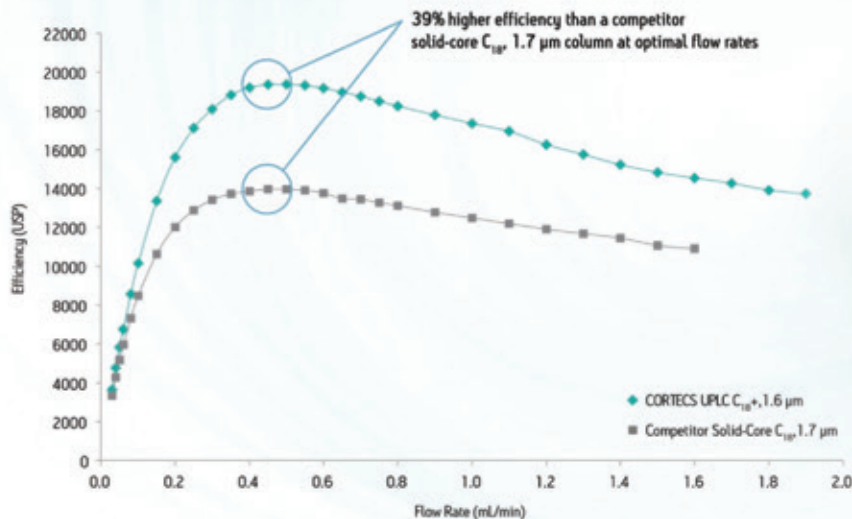
SPX FLOW APPOINTS SIMON PHILLIPS

SPX Flow, Inc. has appointed Simon Phillips as vice president and head of its commercial business in Europe, the Middle East & Africa (EMEA). Based in the UK, he will lead all sales and customer relationship operations for SPX Flow in the region. Phillips joins the company with more than three decades of experience, including 20 years with GE in a wide range of commercial, regional and general management roles. Most recently, he led digital solutions for the European region of Baker Hughes, the former GE Oil and Gas business. "With about thirty percent of our total revenue coming from the EMEA region, we are excited to have Simon bring his wealth of experience, expertise and innovation across the industrial sector to our commercial leadership team," said Dwight Gibson, chief commercial officer at SPX Flow.

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Looking at future in Ultra HD

In the next two years, we will be more of a technology company. I feel there will be more innovation in software than hardware, says **Avneet Singh Marwah**, Director and CEO, Super Plastronics Pvt Ltd

By Niranjan Mudholkar

You have recently announced that you will be investing more than INR 500 crore in a fully automated TV manufacturing plant in Hapur, Uttar Pradesh, over the next three years. What is driving this expansion plan?

The new Kodak TV India manufacturing plant will develop and test more Android TV products within India thereby reducing dependency on other countries. With this, Kodak TV India aims to be one of the first Indian companies to make such a huge investment towards TV manufacturing within the country and strengthen its position as one of the leading manufacturers in the affordable smart TV segment.

When will this plant be operational, and what will its capacity be?

We are aiming to produce a million TV sets annually. The new facility will be equipped with two fully automated, AI-enabled manufacturing lines to facilitate near-contactless production. The plant should be operational in 2021, depending on how the pandemic pans out.

What is your current manufacturing capacity?

The current capacity is around half a million units.

How has the Covid-19 outbreak affected your business, and how are you dealing with it?

Like most businesses, SPPL also shut its factories in the wake of Covid-19, which had severe repercussions on business and workforce, and led to a huge revenue loss. By following

“TODAY, WE (KODAK) ARE THE SECOND LARGEST TV BRAND MANUFACTURER IN THE COUNTRY AND WITH OUR LATEST INVESTMENT WE WILL BE ABLE TO REDUCE DEPENDENCY ON IMPORTS, WHETHER IT’S FOR THE PRODUCT DEVELOPMENT OR THE AFTER-SALES SERVICE.”



the safety precautions and standards, we resumed work mandating social distancing and regular temperature checks.

What is the situation after the unlocking has started?

We saw that people have started shifting to OTT apps, and a big TV screen only enhanced the experience of watching content over smaller screens like laptop, phones, etc. We saw an increase in the rating of viewership's in India, which broke all the records. The demand for smart TVs grew and as malls and shopping complexes are closed, ecommerce played an important role and offered huge discounts to further support sales.

The growing demand for Made in India products further fueled this demand and there was a lot of pent up demand from the lockdown period. We were the first TV manufacturing plant to open after the lockdown and had a ready inventory to meet this demand and continued to serve over 15000 pincodes in India. We have already achieved our 100 percent production capacity and invested in further expansion.

How would you analyse the evolution of the Kodak TV brand in India in the last few years?

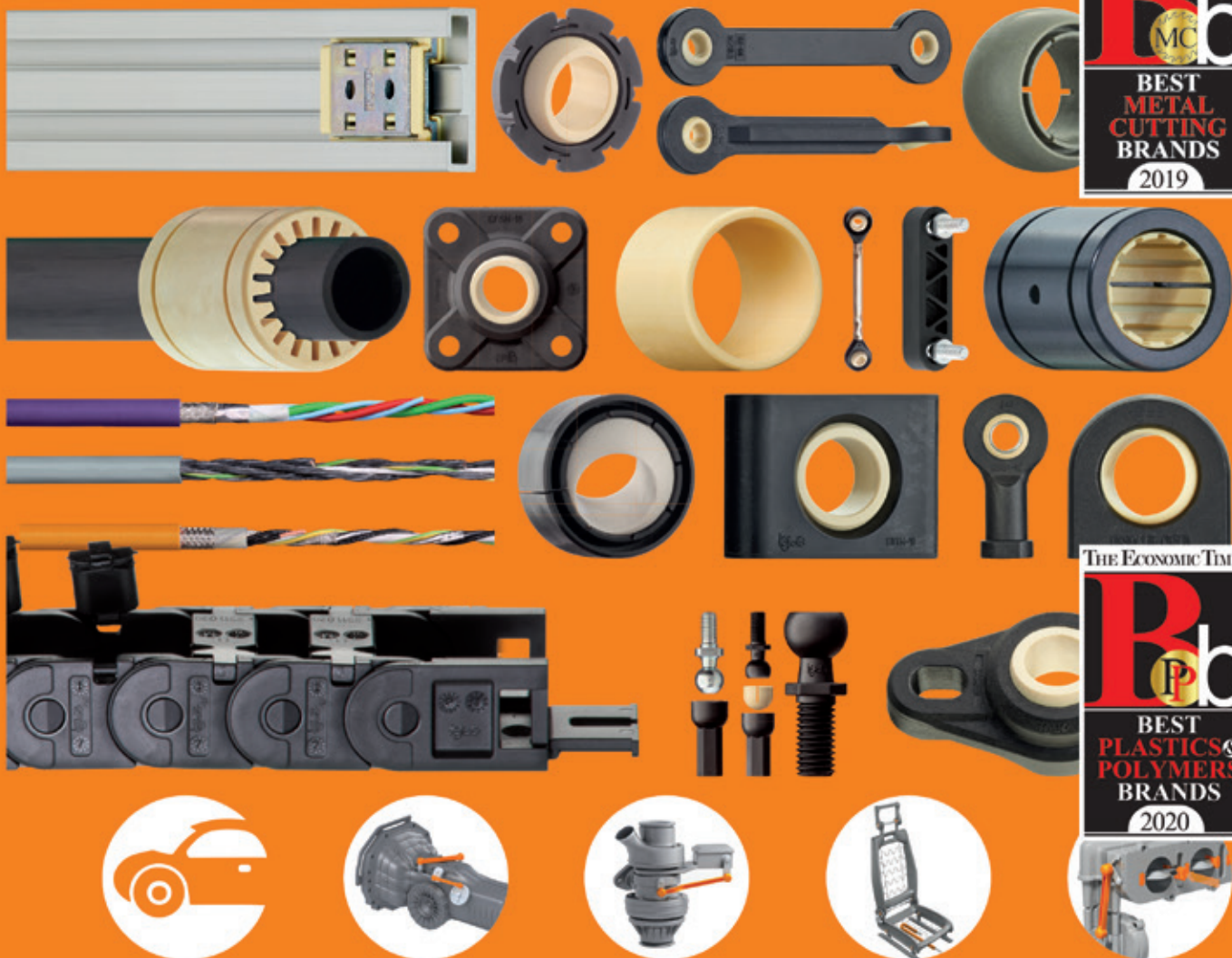
We launched Kodak in 2016 and since then have developed products that are aligned to the needs of Indian customers. We have had back to back successful product launches such as with our XPRO series in December 2019, CA series in March 2020 and the recent extension of XPRO series with 7 new variants. These recent models focus on assisting consumer demands of cinematic screen experience, work from home requirements and affordable prices.

Over the years, we have also strengthened our after sales service to provide 100 percent customer satisfaction. Our service network has increased from 220 service points to 550 service points in India.

An important aspect behind this success is our manufacturing strength that we have established since 2016. Today, we are the second largest TV brand manufacturer in the country and with our latest investment we will be able to reduce dependency on imports, whether it's for the product development or the after-sales service. By next year,

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we want to expand our presence to over 17000 pin codes and are already investing in creating the ecosystem. The best part about Kodak has been its brand equity and the nostalgic sentiment associated with the name. Kodak is the world's fifth-most recalled brand.

I think everyone in India has used Kodak products in their life and that legacy plays a role in the success of all our TV models.

Do you think that the lockdown has been a blessing in disguise to push consumers towards smart TVs?

Yes, the lockdown led to behavioural changes in the customers which increased the likelihood of them purchasing a smart TV. As mentioned above, we saw an increase in content consumption over OTT apps which led to increased demand for Smart and Android TVs. There was also an emerging demand for a complete work from home and entertainment solution. A large screen Android TV offering cinematic experience in affordable prices was an ideal fit for such requirements. As a result, the TV ceased to be a non-essential commodity in the traditional sense.

What are your plans with brand Kodak and its growth in the Indian market?

We were the first partners for Google-certified Android TVs in India. We recently launched seven new TV variants under our XPRO and CA series. The 7XPRO Android TVs are available in six variants- 32-inch (HD), 40-inch (Full HD), 43-inch (Full HD & Ultra HD), 50-inch (Ultra HD) and 55-inch (Ultra HD); and a new 75-inch model under the CA series which was launched in March. All our products are available



on Amazon and Flipkart.

Currently, Indian TV manufacturing industry depends on imports of raw materials from various countries and has a value addition of 10-15 percent. Our investments, in the new manufacturing plant, are a step towards the long term vision of self reliance or Atmanirbharta in the TV manufacturing industry. With this plant, we will not only increase our value addition to 50-60 percent but also elevate India as an exporter of TVs to other Android markets across the world.

We are very excited about the success of our latest models in India- The XPRO variants. They have been successful because of the latest features and technology such as RM Cortex-A53 Quad-core processor, Android 9.0 interface, and multiple connectivity options with USB 2.0, HDMI ARC/CEC. The Bluetooth v. 4.1 comes with a user friendly remote and has been designed in India. It has dedicated hotkeys for Netflix, Amazon Prime Video, YouTube and Google Play Store to provide a premium entertainment experience to our customers.

Tell us about the R&D activities of Super Plastronics.

We are the first Indian TV brand to get the Android license for manufacturing and developing Android TVs under Make in India. We are proud

to announce that all our Android TVs will be completely developed in our R&D centre in Bengaluru. It will benefit Indian customers as we are currently manufacturing for the Indian ecosystem. From the content of the TV to sound, we have done extensive customisation.


The speed of technology disruption is phenomenal in today's times.

How are you preparing Super Plastronics to navigate this technologically disruptive era?

I think the way technology is moving, one needs to be ahead all the time. We started working with the Google Android team two years back. Today, we are competing with the leading brands of the world in terms of innovation in a smart TV. Currently, our new Android TV can be cast with more than 1000 Applications. It includes TVs from 32 to 75 inches. We have started making a software ecosystem in India. We have collaborated with the world's top R&D firm in Bengaluru for testing. Now, Kodak Android TV can be connected to 85,000 smart home devices, which are available in India.

Apart from that, we are investing in the voice command feature in Smart Television. All our Android TVs are enabled with Google Assistant. In the next two years, we aim to offer nine local Indian languages.

Where do you see Super Plastronics two years down the line?

In the next two years, we will be more of a technology company. I feel there will be more innovation in software than hardware. We will now be focusing on exports, and we want to increase the global market share for Kodak. Out of every 10 TV sets manufactured in India, one should be from SPPL. 



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Breaking new ground in interior design

The interior of the Škoda Enyaq iV is modelled on modern living environments and uses natural, sustainably produced and recycled materials, explains **Norbert Weber**, Head of Interior Design at Škoda

What changes has Škoda made to the interior design of this entirely new vehicle compared to a model with a combustion engine?

The Enyaq iV benefits from the MEB platform's long wheelbase, which – in relation to the body dimensions – offers an exceptionally spacious interior. The flat floor, which lacks the central tunnel we find in vehicles with combustion engines, also contributes to this. We have used this conceptual feature to make the interior visually even airier and to create a feeling of even more space. This can be seen, for example, on the new dashboard, which is arranged over several levels.

You are talking about a new interior design concept for the Enyaq iV. Could you describe this in greater detail?

The new design concept of the Enyaq iV combines spaciousness and a 'lounge feeling'. Instead of the usual equipment lines and numerous additional options, we are offering our new Design Selections in the Enyaq iV for the first time. These are reminiscent of modern living environments, featuring perfectly coordinating colours and materials. Additionally, we offer clearly structured option packages in various themes,



with some separate options available for all models. This means we can provide customers with choices that are clear and simple yet distinctly unique.

What are the most significant changes to the interior architecture of the Enyaq iV?

Here, the lack of a central tunnel offers numerous possibilities. At the front, we used this space for an additional storage compartment beneath the centre console, which is arranged over several levels. Thanks to the long wheelbase, rear passengers benefit from the extra space in front of the centre seat as well as the exceptionally generous legroom for the seats either side. In addition to this remarkable amount of space for passengers, the Enyaq iV also offers a boot capacity of 585 litres.

How would you describe the interior design of the Enyaq iV?

Clear, airy, innovative and sustainable. Clear thanks to how easy it is

to configure the Design Selections and the theme packages, airy thanks to its roominess and excellent sense of space. Innovative thanks to features such as the 13-inch central screen and the new head-up display, including augmented reality, and sustainable thanks to the use of natural and recycled materials.

Which new colours and what new and sustainable materials are being used in a car for the first time?

In one Design Selection, for example, the seat covers are made of 40 per cent new wool and bear the Woolmark Company's seal. The remaining 60 per cent of the blend is polyester from recycled PET bottles. These covers have a unique feel and ensure a pleasant seating climate. Another example is the leather, which is produced in a particularly sustainable way, using an extract from olive tree leaves instead of chemicals for tanning.

What do you consider to be the design highlights of the Enyaq iV interior?

I particularly like the decorative trim that spans the entire width of the Enyaq iV from the dashboard to the door panels, further enhancing the sense of space. Below the central display, it references the shape of the Škoda grille and also serves as a rest for the hand operating the touch screen. It is surrounded by a particularly soft material that extends throughout the interior and creates the feeling of sitting on the sofa at home. 🌱

Source: Škoda

“THE ENYAQ iV BENEFITS FROM THE MEB PLATFORM'S LONG WHEELBASE, WHICH – IN RELATION TO THE BODY DIMENSIONS – OFFERS AN EXCEPTIONALLY SPACIOUS INTERIOR. THE FLAT FLOOR, WHICH LACKS THE CENTRAL TUNNEL WE FIND IN VEHICLES WITH COMBUSTION ENGINES, ALSO CONTRIBUTES TO THIS.”

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Setting New Benchmarks

Over the course of next few years, we want to diversify into various categories. Our aim is to create innovation-driven electrical products that will revolutionise the industry, says **Kishan Jain**, Director, Goldmedal Electricals

By Niranjan Mudholkar

Briefly tell us about the origin of Goldmedal Electricals.

Goldmedal Electricals was established in 1979 in Vijayawada, Andhra Pradesh. My grandfather, Otmalji Goraji was an entrepreneur who started the business with a capital of Rs.2.5 lakh. In the early years, our company traded switches and wires of then popular brands like Anchor, Sona and SSK.

How's been the journey since then for the organisation?

It has been an incredible journey since the inception of our venture. What started out as a small trading business has now evolved into a company that manufactures almost everything that a modern home or office needs in terms of wiring devices. Our annual turnover in 2018-19 was Rs.1,400 crore. Today, we are a pan-India brand with presence in

all 29 states of India, offices in each state, over 20,000 direct dealers and over one lakh retailers.

What is your analysis of the Indian electrical industry? Where do you think Goldmedal Electricals stands in terms of market position?

The Indian electrical industry is a rapidly growing one. In such a fast-paced industry, we believe we have made a mark by manufacturing products that are in keeping with the needs of our customers. We en-

"WE ENSURE THAT OUR PRODUCTS ARE NOT ONLY INNOVATIVE IN TERMS OF DESIGN AND USABILITY BUT ARE ALSO COST-EFFECTIVE. BY INNOVATING WITH INDIA-CENTRIC NEEDS IN MIND, WE ARE ENSURING THAT INNOVATION HAPPENS FROM AN INDIAN PERSPECTIVE."

sure that our products are not only innovative in terms of design and usability but are also cost-effective. By innovating with India-centric needs in mind, we are ensuring that innovation happens from an Indian perspective. Whether it is home automation with zero wire change, detachable LEDs, toughened glass plates, remote-controlled doorbells, etc., we ensure that product innovations take place with Indian conditions and needs in mind. This has garnered us a reputation for manufacturing international quality products that are available at an affordable price point. We believe we are amongst the top five Indian brands in terms of quality and market position.

How has the Covid-19 outbreak affected the industry as well as Goldmedal Electricals and how are you dealing with the same?

The pandemic has had an adverse effect on most businesses in the industry. With the nationwide lockdown and disruption in supply chain, many companies suffered delays in production. There has been a shortage of raw materials and workers, which has spiked the production cost and time. However, we have been working together to contain



the impact of this crisis on our company. Many of our office staff members have been working from home during this time. And as we slowly embrace the new normal, we are working towards developing new products and services with a focus on smart technology and electrical solutions.

Tell us about the various product categories that Goldmedal has presence in and what would be your market share in India in these respective segments?

Our current product portfolio includes almost every wiring device that can be used in a modern home or office—from wires and cables to MCBs, DBs, LED lights, modular and non-modular switches and systems, home automation products, PVC pipes, doorbells, and other accessories such as spike guards, night lamps, extension cords, etc. We feature among the top five brands in each of the respective categories and going ahead, we hope to be in the top three very soon.

Tell us about Goldmedal's manufacturing capabilities and capacities.

We have three manufacturing facilities in India located at Vasai (Maharashtra), Bhiwadi (Rajasthan), Vijayawada (Andhra Pradesh), and are in process of setting up another facility in Hyderabad, Telangana.

The Vasai plant has facilities for product designing, testing, product assembly, quality check and packaging. This unit comprises of a 5

“EQUIPPED WITH A WIDE RANGE OF MECHANICAL AND HYDRAULIC PRESSES AND MICROPROCESSOR CONTROLLED INJECTION-MOULDING MACHINES, THE GOLDMEDAL ELECTRICALS TOOL ROOM IS AT THE CENTRE FOR DESIGNING, MANUFACTURING, TESTING AND REPAIRING OF TOOLS, DIES AND MOULDS AS WELL AS FOR COMPONENT PRODUCTION.”





“WE HAVE THREE MANUFACTURING FACILITIES IN INDIA LOCATED AT VASAI (MAHARASHTRA), BHIWADI (RAJASTHAN), VIJAYAWADA (ANDHRA PRADESH), AND ARE IN PROCESS OF SETTING UP ANOTHER FACILITY IN HYDERABAD, TELANGANA.”

lakh sq. ft manufacturing facility, and a warehouse and dispatch facility of 1.5 lakh sq. ft. each. The facility includes high-end equipment from L&T, Kingred, Toshiba, and others. This facility has production capacity of over one lakh switches per day. The company has invested in technology like EDM sparking machines, EDM wire cut, EDM drilling, CNC machines, grinding machines, compressors, cooling towers, lab equipment etc. to ensure it manufactures quality products.

The manufacturing unit in Bhiwadi, Rajasthan, produces wires and cables. Established in 2005, it manufactures various categories of wires including Zero Halogen Low Smoke (ZHLS) wires and the Heat Resistant Fire Resistant Lead Free (HRFRLR) wires. The facility features machines developed by NIEHOFF, the world leader in lines and machinery in the manufacture of its wires & cables.

The third facility in Vijayawada, Andhra Pradesh manufactures our line of PVC conduits, fittings and accessories.

Goldmedal Electricals has a robust tooling room infrastructure. What is the objective behind focusing on this aspect of the business?

The tooling process is one of the most essential elements in manufacturing, which calls for a state-of-the-art tooling infrastructure. Our tool room manufactures mould and die bases that are instrumental in manufacturing precisely dimensioned, high quality products. Equipped with a wide range of mechanical and hydraulic presses and microprocessor controlled injection-moulding machines, the Goldmedal Electricals tool room is at the centre for designing, manufacturing, testing and repairing of tools, dies and moulds as well as for component production.

I understand you are personally very passionate about bringing innovative products in the market. Briefly tell us about a couple of key innovations that you have spearheaded.

Everyone at Goldmedal Electricals is driven to innovate! I joined the

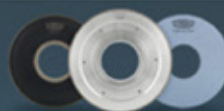
company in 1998 and after having been part of the company for a few years, we thought it was time to challenge ourselves. With the support of my father and uncle, and along with my brother Bishan, we launched the Curve modular series. It was probably the first complete range of modular products to be available in the Indian market. It became an instant success. Following this, was the launch of our premium Nixon modular series and the RF-based Home Automation range of products that could be retrofitted into existing wiring and modular plates. We also introduced a lot of innovations in the accessories market – from doorbells to spike guards to night lamps, etc. More recently, we have launched the GIFA premium range of modular switches, the AIR range of affordable modular switches, PVC Pipes and comprehensive range of high quality LED lights.

Give us an overview of your exports business.

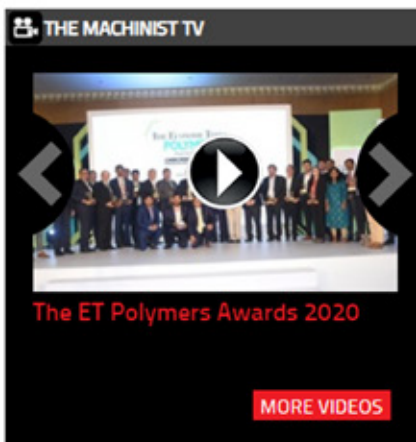
Currently, our exports are limited to a few Asian countries. In the near future, we are planning to export to countries in the Middle East.

As a next-generation entrepreneur, what is your vision for the organisation and where do you see it five years down the line?

Our focus at Goldmedal Electricals has been on creating innovative products that change the way Indian consumers live. Over the course of next few years, we want to diversify into various categories. Our aim is to create innovation-driven electrical products that will revolutionise the industry and offer solutions that will set benchmarks. On the business front, we are planning to increase our reach even further and become the brand of choice across India in all the segments we are present. We also intend to expand to foreign markets like the UAE in a couple of years. 

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The company's Head Office in Chennai also resumed operations in the same manner.

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Driving into the future

We are leveraging the disruption to focus on innovation for the automotive sector with regards safer and cleaner products, says Sandeep Waykole, Country General Manager, Faurecia Seating India

By Niranjan Mudholkar

Give us an overview of the operations of Faurecia Seating India in terms of its manufacturing presence.

Faurecia Automotive Seating has four plants in India located strategically to cater to global and local OEMs needs. We have units set up in Sanand, Gujarat catering specifically to Ford for Front Seat Structures, then Seat Mechanisms plant in Manesar, Haryana producing world class tracks and Recliners for Volkswagen, Ford and Maruti Suzuki, and in Chennai, Tamil Nadu for Ford Front Seat Structures and in Pune, Maharashtra for Volkswagen and FCA Front Seat Structures. By having a manufacturing presence across the country, we are able to target all the OEMs according to the projects we collaborate with them.

Faurecia Seating India is a single source to deliver 100 percent the front seat structure to Volkswagen, FCA and Ford MCA/North America Programs.

All our units are in accordance with Faurecia global standards and



Faurecia 'Cockpit of the Future'

all units are certified Quality Management System- IATF 16949:2016 and Environment Management System-ISO 14001:2015 and Pune Facility certified Formel Q 'A' rated plant as per VDA 6.3 by VW India. Our equipment includes Robotic Recliner Welding Cells, High Precision Laser welding and tube end forming technology. We also have

automated assembly lines with 100 percent traceability system implemented and fully equipped QA lab with weld penetration testing facility and 4D weld watcher for online quality checking of laser welding. All our equipment also is in accordance with Faurecia global standards.

Just to give you a perspective of our capacity, in calendar year 2019, we have manufactured parts for 600,000 cars for various OEMs.

TODAY, ALL OUR PLANTS ARE OPERATIONAL WITH ALL NECESSARY PRECAUTIONS DEFINED BY OUR GROUP AND LOCAL GUIDELINES. INTRODUCTION OF COVID POLICE, COVID LEADER AND COVID COACH IN ALL OUR PLANTS HAS MADE THE IMPLEMENTATION OF NEW NORMAL WAY OF WORKING FASTER AND ROBUST.



How has the Covid-19 outbreak affected your business in India and how are you dealing with the new normal as an organisation?

All our manufacturing plants were closed for more than two months and we estimate overall volume reduction of 30 percent across our customers for 2020. Prior to the pandemic, we also suffered slowdown due to BS-VI transition.

From the very beginning, the highest priority at Faurecia has been

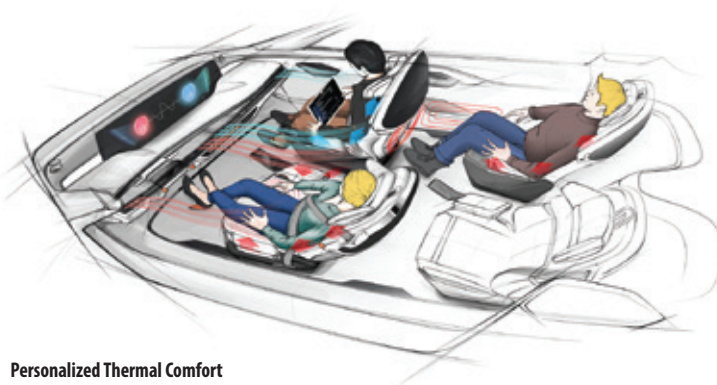
the safety of our employees and the “Safer Together protocol” was adopted as response to protect our teams. All our connected employees have been working from home for almost four months now adhering to health and safety guidelines. We ensured that all our employees were given laptops or desktops to work from home and are equipped with team working tools to ensure good communication. The move ensured that our R&D activities are fully operational throughout this time.

Today, all our plants are operational with all necessary precautions defined by our group and local guidelines. Introduction of Covid Police, Covid Leader and Covid Coach in all our Plants has made the implementation of new normal way of working faster and robust. With this implementation we also ensured that all our suppliers and subcontractors are also following Faurecia new norms. We are aware that we are living in an unprecedented situation. That's why we are following the situation daily to anticipate and adapt all our processes and to ensure Faurecians' health and safety; that are our priorities. The current situation will permanently change how we work, consume and communicate and we are going to adapt all together in this new world.

Like many organisations, we have realised that we should take the disruption as an opportunity to step into new directions. We are leveraging this disruption to focus on innovative products for the automotive sector with regards safer and cleaner products.

Our main focus across all our plants for the remaining 2020 is to implement the resilience plan in our operations for a better tomorrow.

You have a very robust Technology Centre at Bhosari in Pune. Give us an overview of the same and tell us how you are leveraging on this



Personalized Thermal Comfort

FAURECIA HAS A DIVERSIFIED CUSTOMER PORTFOLIO, BUT IN INDIA WE ARE MAINLY WORKING WITH FORD, VOLKSWAGEN, MARUTI SUZUKI AND FCA. WE ARE ALSO WORKING WITH NEW GLOBAL OEMS COMING TO INDIA.

infrastructure?

The Faurecia Technology Centre in Bhosari, Pune is one of the 37 R&D centres globally. Our tech centre in Pune is extremely robust and has over 1500 employees across four business groups – Seating, Interiors, Clean Mobility and Clarion Electronics. In addition to design and development activities, there is also a pilot line for a small batch production that is being used for domestic acquisition and development programs, a trim line to fast track complete seat development and a testing set-up to validate domestic programs. In addition to the Pilot plant, we also have full setup for testing of complete systems according to OEMs specifications and latest regulations.

A huge advantage of having a tech centre, which has all the business groups present, is being able to work closely across all business groups activities, and providing solutions for the entire Cockpit; this is like a ‘One-Stop-Shop’ for the OEMs.

Which are the automotive OEMs that Faurecia Seating India is cur-

rently working with?

Faurecia has a diversified customer portfolio, but in India we are mainly working with Ford, Volkswagen, Maruti Suzuki and FCA. We are also working with new global OEMs coming to India.

Tell us something about your supply chain in the automotive ecosystem in India.

Faurecia Supply chain is very strong and value stream mapped in the current dynamic automotive market. There is a purchasing organisation, which is working with separate logistics department to manage the supply chain and is responsive to varying customer demands and requirements. Ensuring deliveries with zero MPM incidences, Faurecia supply chain organisation is also closely working with suppliers for Carbon Neutrality program to achieve targets set by Faurecia globally.

How would you analyse your suppliers in the Indian market?

Faurecia believes in innovation, technology and quality. Our suppliers are playing important role to



Faurecia Tech Center, Pune

THE 'CONNECTED CAR' CONCEPT IS ONE OF THE GAME-CHANGERS FOR INDIAN AUTOMOTIVE OEMS, AND RECENT SUCCESSFUL VEHICLE LAUNCHES SERVE AS AN INDICATOR OF THE SAME. INDIA IS AN IDEAL PLAYGROUND FOR CONNECTED SERVICES, AS INDIA IS THE SECOND BIGGEST SMARTPHONE MARKET.

fulfil these expectations for the end customers. Our existing suppliers for all commodities like stamping, fasteners, mechatronics, comfort and wellness and few more are technological driven, quality conscious and growth-oriented organisations. These are partnering and supporting us in all aspects of quality, cost and deliveries as well as with all the requirements for all our technological product development and their regular supplies. This is happening uninterruptedly with intentions of long-term business partnerships and the mutual growth in win-win situations. Faurecia is always striving for few but good suppliers in the Indian market who will support and sustain Faurecia's culture and values.

Can you briefly tell us about a couple of interesting projects that you and your team have executed in the recent times?

At Faurecia, we believe in sustained investment in innovation and development. In 2019, we had 618 first filing patents globally. In India too, Faurecia Automotive Seating has an

innovation team that is constantly identifying the needs of the consumer and developing products to make their journey in the car safer and more comfortable.

Keeping in mind the ongoing trends in the market as well as the tropical climate in most parts of India, Faurecia has developed its own ventilation system that boasts a very quick time to sensation for the occupant and helps in better thermal comfort.

In India, people spend almost seven percent of their day commuting and this is resulting in chronic back pain and other spinal injuries. To provide additional comfort we have developed a lumbar and massage system that is India centric. Trying to not limit the 'lounge class' experience to only premium sedans, we are also working on providing this experience in the entry level segment.

As mentioned earlier, we are also focussing on hygiene inside the car to ensure safety for all the occupants, whether it is in their personal vehicle or in the ride sharing segment.

'Cockpit of the Future' is a concept that is very dear to Faurecia. Tell us about the progress of this concept in the context of the Indian market.

The Cockpit of the Future (CoF) is about technology and experiences which revolve around the end-user to create a cockpit which is versatile, predictive and connected. It highlights the Faurecia know-how and transformation.

In India, we have recently initiated a CoF project which focuses on an Indian End-User and considers his/her pain points which emerge out of very relatable user stories. The Futuristic Cockpit for India will have Innovative technologies focusing on Connectivity, Comfort and Personalisation.

With its 'Cockpit of the Future', Faurecia is well-placed for providing a full cabin solution supported by extensive consumer research and innovation, which enables us to provide unique user experiences.

What is your take on the rapidly evolving 'Connected Car' concept?

The 'Connected Car' concept is one of the game-changers for Indian automotive OEMs, and recent successful vehicle launches serve as an indicator of the same.

India is an ideal playground for connected services, as India is the



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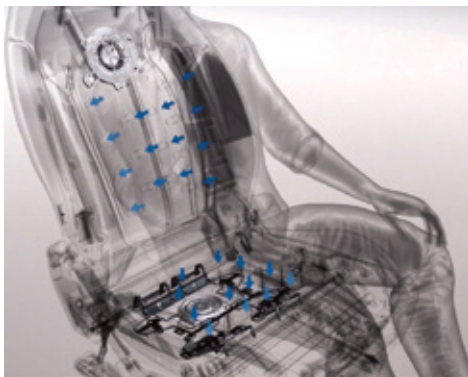
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Ventilation System

KEEPING IN MIND THE ONGOING TRENDS IN THE MARKET AS WELL AS THE TROPICAL CLIMATE IN MOST PARTS OF INDIA, FAURECIA HAS DEVELOPED ITS OWN VENTILATION SYSTEM THAT BOASTS A VERY QUICK TIME TO SENSATION FOR THE OCCUPANT AND HELPS IN BETTER THERMAL COMFORT.

second biggest smartphone market. Young Indian consumers are well equipped with high-speed data, and want to have a seamless experience and digital continuity as much as possible.

A connected car comes with an on-board internet connection which opens possibilities for providing features like remote diagnostics, safety & security, fleet management, navigation, infotainment, IoT connect


and so on.

We can anticipate a huge growth in connected car technologies, as the penetration of these features is currently at an early stage in India. Faurecia with its Cockpit of the Future and Clarion Electronics Business group has solutions to address the emergent market needs for connected car technologies.

What role do you think the seating system plays with regards to this concept of 'Connected Car'?

The Connected Car is here to stay and at Faurecia Seating, we are developing different products to extend connectivity to seats as well. There are many solutions that are in development in areas like comfort and wellness, and a more personalised seating experience for our end consumers.

The Indian car buyer is now maturing and has started taking safety quite seriously. Tell us about your collaborations with auto OEMs in India towards ensuring safety from the seating perspective?

With new safety regulations like India NCAP coming into place, we are looking at much safer cars. Today, safety features like airbags which were standard in other parts of the world like Europe and North America, have also been made mandatory in India. End consumers have also become more conscious about this aspect and it has definitely been taken into account by the OEMs as well. Occupant safety is a priority for Faurecia. Our seat structures and mechanisms, as all our products, meet all global standards and regulations. 

UPDATES

Keihin, Nissin Kogyo, Showa & Hitachi Automotive combine

The Competition Commission of India (CCI) has approved proposed combination filed jointly by Keihin Corporation (KC), Nissin Kogyo Co., Ltd. (NKCL), Showa Corporation (SC) and Hitachi Automotive Systems, Ltd (HIAMS). The proposed combination pertains to KC, NKCL, SC and HIAMS forming a Joint Venture between Honda Motor Co. Limited (HAMCL) and Hitachi Limited (HL).

In India, HAMCL is primarily engaged in the business of automobiles and two-wheeled motor vehicles. In

India, KC is engaged in R&D, manufacture and sale of automotive and motorcycle components. In India, NKCL is engaged in the manufacture and supply of integrated braking systems for vehicles. In India, SC is engaged in the manufacturing of shock absorbers for automobiles and two-wheeled motor vehicles. In India, HIAMS, acting through its subsidiaries, is engaged in the manufacture, marketing, sale and service of automotive components including components for braking systems. Detailed order of the CCI will follow.

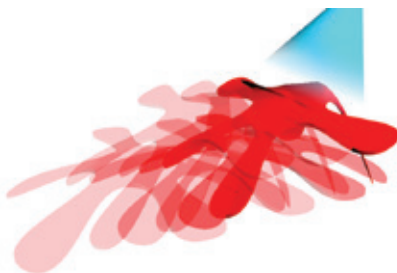
Synthetic materials mimic living creatures

Lifelike material is inspired by muscles, which contract to turn chemical fuel into mechanical energy

Northwestern University researchers have developed a family of soft materials that imitates living creatures. When hit with light, the film-thin materials come alive — bending, rotating and even crawling on surfaces. Called “robotic soft matter” by the Northwestern team, the materials move without complex hardware, hydraulics or electricity. The researchers believe the lifelike materials could carry out many tasks, with potential applications in energy, environmental remediation and advanced medicine.

“We live in an era in which increasingly smarter devices are constantly being developed to help us manage our everyday lives,” said Northwestern’s Samuel I. Stupp, who led the experimental studies. “The next frontier is in the development of new science that will bring inert materials to life for our benefit — by designing them to acquire capabilities of living creatures.”

Stupp is the Board of Trustees Professor of Materials Science and Engineering, Chemistry, Medicine and Biomedical Engineering at Northwestern and director of the Simpson Querrey Institute. He has appointments in the McCormick School of Engineering, Weinberg College of Arts and Sciences and Feinberg School of Medicine. George Schatz, the Charles E. and Emma H. Morrison Professor of Chemistry in Weinberg, led com-



puter simulations of the materials’ lifelike behaviors. Postdoctoral fellow Chuang Li and graduate student Aysenur Iscen, from the Stupp and Schatz laboratories, respectively, are co-first authors of the paper.

Although the moving material seems miraculous, sophisticated science is at play. Its structure comprises nanoscale peptide assemblies that drain water molecules out of the material. An expert in materials chemistry, Stupp linked the peptide arrays to polymer networks designed to be chemically responsive to blue light.

When light hits the material, the network chemically shifts from hydrophilic (attracts water) to hydrophobic (resists water). As the material expels the water through its peptide “pipes,” it contracts — and comes to life. When the light is turned off, water re-enters the material, which expands as it reverts to a hydrophilic structure. This is reminiscent of the reversible contraction of muscles, which inspired Stupp and his team to design the new materials.


“From biological systems, we learned that the magic of muscles is

based on the connection between assemblies of small proteins and giant protein polymers that expand and contract,” Stupp said. “Muscles do this using a chemical fuel rather than light to generate mechanical energy.”

For Northwestern’s bio-inspired material, localized light can trigger directional motion. In other words, bending can occur in different directions, depending on where the light is located. And changing the direction of the light also can force the object to turn as it crawls on a surface.

Stupp and his team believe there are endless possible applications for this new family of materials. With the ability to be designed in different shapes, the materials could play a role in a variety of tasks, ranging from environmental clean-up to brain surgery.

“These materials could augment the function of soft robots needed to pick up fragile objects and then release them in a precise location,” he said. “In medicine, for example, soft materials with ‘living’ characteristics could bend or change shape to retrieve blood clots in the brain after a stroke. They also could swim to clean water supplies and sea water or even undertake healing tasks to repair defects in batteries, membranes and chemical reactors.”

The study, “Supramolecular-covalent hybrid polymers for light-activated mechanical actuation,” was supported by the US Department of Energy through an Energy Frontier Research Center grant (award number SC0000989) to the Center for Bio-Inspired Energy Science, which is a part of the Simpson Querrey Institute. 

Source: Northwestern University

THE RESEARCHERS BELIEVE THE LIFELIKE MATERIALS COULD CARRY OUT MANY TASKS, WITH POTENTIAL APPLICATIONS IN ENERGY, ENVIRONMENTAL REMEDIATION AND ADVANCED MEDICINE.

The right long-term strategy

Currently, we are seeing a very stable upward trend in our business which we do not immediately expect to reverse. There is broad-based recovery in all regions led by Asia, says **Markus Steilemann**, CEO, Covestro.

By Niranjan Mudholkar

You have been the Chief Executive Officer of Covestro since June 2018. How's been the journey so far in this role? I am sure this is the most tumultuous period you must have seen in your tenure as well as career given the impact of the Covid-19 pandemic.

A lot has happened since 2018 and I am grateful to experience this and to steer the further development of Covestro to a leading innovative and sustainable polymer company. And you are right, this is the most challenging period in my professional life since we are not only confronted with the pandemic but also have to cope with an adverse global economic situation, structural changes in our customer industries and increasingly fierce competition. However, I look to the future with optimism as Covestro has the right long-term strategy by embracing the circular economy.

How has the pandemic impacted Covestro's overall business?

Certainly, we have also felt the effects of the current security measures concerning Covid-19. But all the time we have been able to uphold supply chains and production and managed to deliver our customers with what they need. We also adapted to the conditions with home office and

"OUR SECTOR COULD PLAY A MAJOR ROLE IN BUILDING A BETTER, CLIMATE-NEUTRAL, POST-CORONA WORLD, SINCE PLASTICS ARE OPTIMALLY SUITED AND INDISPENSABLE TO ADVANCING MORE SUSTAINABLE SOLUTIONS."



modified working shifts. This is how we have overcome the critical phase. Currently, we are seeing a very stable upward trend in our business which we do not immediately expect to reverse. There is broad-based recovery in all regions led by Asia.

Do you think this viral outbreak has further disrupted the chemicals industry or would you say it has also created new opportunities?

It's a little of both. On the one hand, the importance of our industry might be strengthened as our products and solutions prove to be critical in coping with this crisis. So the

society might acknowledge this and see our sector through a different lens. And it could play a major role in building a better, climate-neutral, post-corona world, since plastics are optimally suited and indispensable to advancing more sustainable solutions. On the other hand, our sector could face a longer economic downturn and be forced to reshape and re-invent itself, depending on how deeply customer industries, like automotive and aviation, might fundamentally change.

How would you look at the concept of circular economy in the New Normal post Covid?

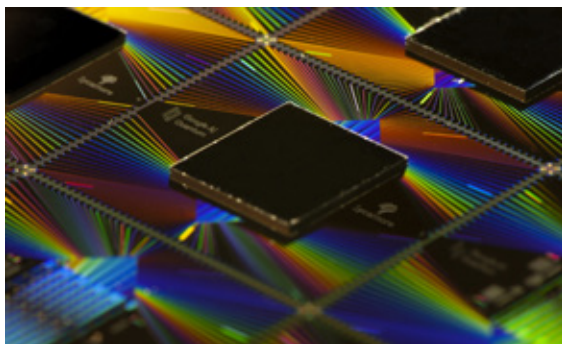
We must make sure that the long-term goal of a truly sustainable, climate-neutral future will not be eclipsed by the pandemic. But I am quite hopeful in this regard since there are a lot of appeals and initiatives for a "green recovery". The key to it is the circular economy concept which will help to cope with climate

"ON THE OTHER HAND, OUR SECTOR COULD FACE A LONGER ECONOMIC DOWNTURN AND BE FORCED TO RESHAPE AND RE-INVENT ITSELF, DEPENDING ON HOW DEEPLY CUSTOMER INDUSTRIES, LIKE AUTOMOTIVE AND AVIATION, MIGHT FUNDAMENTALLY CHANGE."

change, environmental pollution and our dwindling natural resources. This is why we at Covestro have committed ourselves to driving the circular economy forward. We are doing this by increasingly using alternative raw materials such as CO₂, biomass and end-of-life materials instead of crude oil. At the same time we focus on developing new recycling technologies such as the chemical recycling which allows to dissolve used plastics into molecules and to use them to create new products. Our approach is accompanied by a planned long-term switch to renewable energies and close partnerships with player all along the value circle.

Given the social distancing restrictions everywhere, digitisation and automation are becoming increasingly important. How is this trend impacting the overall business landscape?

Digitalization and automation will certainly continue to make inroads. The trend was already apparent before the pandemic. At Covestro, the Coronavirus crisis has sharpened our view for the benefits of digitalization – we see more clearly what is technically feasible and useful, also in terms of flexible working. Based on our vigorous IT, our mobile office concept has proven a valid alternative and is expected to gain a bigger



Quantum computing chip by Google: Novel computer technology to set milestone in digital research & development. "We want to invest specifically in the further development of this technology and build up expertise. The partnership with Google gives us the opportunity to do so and is so far unique in the chemical industry," says Dr. Markus Steilemann.

share of our work routine. Equally, flexibility in our daily work and agile structures will get a boost.

What future trends are you envisaging for Covestro business?

With our products and solutions we want to address major global challenges and help to make the UN Sustainable Development Goals come true. That is why we are so much focused on providing innovation that fosters sustainability. First and foremost we want to contribute to building a climate-neutral and cleaner world by fully aligning with the circular economy concept. This is why we support initiatives like the Alliance to End Plastic Waste which has already achieved a lot in the fight against environmental pollution – also in India where, for example, an initiative has been set up to clean the Ganges. Another major


topic for us is digitalization. We will, for example, make use of the potential of the novel technology Quantum Computing in research and development. It will lead to more efficient and environmentally friendly processes as well as completely new materials with less use of resources and in significantly less time.

How do you foresee Indian market for Covestro in the post covid world?

The current pandemic has an unprecedented impact

on the entire world, also on India. Nevertheless India has been an important market for Covestro. As of now, Covestro has an adequate footprint in India and we are working closely with our customers to drive the market towards more sustainable solutions. We believe India has a great potential to play an important role in the world markets. On the other hand, India has to cope with a lot of challenges – spreading mega-cities, poverty, nutrition, environmental standards, to name a few. In many cases, high-performance polymers such as Covestro is providing contribution to improving the situation.

You have recently also taken charge as the President of PlasticsEurope. How important is this assignment for you and what will be your top priority in this role?

Working in such a powerful organisation with a Pan-European impact is a great honour. I am delighted to have the opportunity to focus the work of the association even more on driving sustainability and in particular the circular economy which should become the world's new guiding principle. I will also campaign for using plastics as particularly sustainable material in as many areas as possible. 

"WE WILL, FOR EXAMPLE, MAKE USE OF THE POTENTIAL OF THE NOVEL TECHNOLOGY QUANTUM COMPUTING IN RESEARCH AND DEVELOPMENT. IT WILL LEAD TO MORE EFFICIENT AND ENVIRONMENTALLY FRIENDLY PROCESSES AS WELL AS COMPLETELY NEW MATERIALS WITH LESS USE OF RESOURCES AND IN SIGNIFICANTLY LESS TIME."

Making magic with materials

Akshay Singhal, Founder & CEO, Log 9 Materials narrates his start up journey and his quest of commercialization of Graphene-based novel products to provide immediate benefits to the masses.

By Niranjan Mudholkar

I understand that Log 9 Materials started its journey in December 2015. What was the motivation in starting this organization and how has been the journey since then?

The inception of Log 9 Materials happened while I was doing my Bachelors at IIT-Roorkee. Since young age, I was inspired by my grandfather Mr. Vipin Kumar, who was a scientist working at NPL New Delhi; he was to first person who introduced me to the world of nanotechnology and science. During my graduation years at IIT-Roorkee, while doing my research in nanotechnology, Graphene caught my eye as the next big thing for the nanotech and material science domain. Coincidentally, during that time, I came in touch with a professor in the Department of Metallurgical and Materials Engineering, Prof. (Dr.) Indranil Lahiri, who had already completed his Ph.D. in Graphene from US. After working with him for almost a year on a number of projects, I was convinced that a Graphene venture was something I really wanted to pursue.

Hereafter, with the financial support of my parents, I established Log 9 Materials as a Graphene nanotechnology R&D company, researching and working on developing innovative products for the

immediate applications and betterment of mankind. Soon we received incubation capital of Rs. 15 lakhs from IIT-Roorkee's Incubation Centre, and from that point onwards, there was no looking back. I also met our co-founder, Kartik Hajela at IIT-Roorkee, and together we went on to build India's leading Graphene start-up.

The journey of Log 9 over the years has been full of ups and downs. But for me, personally and professionally, the journey has been quite gratifying. From starting-up in the backyard of my house with just an idea and vision, we went on to raise successive rounds of seed, Pre-Series A and Series-A funding through 2017, 2018 and '19, expanding our team and internal capabilities, and developing an array of amazing products leveraging the power of Graphene and nanotechnology.

Log 9 Materials is a rather strange name. What does it mean and what is its genesis?

By simplifying calculations, logarithms or Log tables/values have contributed over the years towards the advancement of the various



branches of science. Basically, 10 to the power minus 9 meters is 1 Nanometer (nm), and the thickness of Graphene is less than 1 nm. 1 nm being equivalent to 10 to the power minus 9 meters, we took a cue from this and that is why the company was named Log 9 Materials (referring to nanomaterials).

What has been the reason behind focusing on Graphene, which has been touted as the strongest but very difficult to work with the material?

Graphene is widely known as a 'wonder material' amongst the global scientific community, and its existence has been known to mankind for many years now; however, it has not seen much of commercialization yet owing to a number of perceived factors.

When I was in college studying material engineering, I saw various newly discovered materials that were coming up, but most of these materials were saturated in terms of scope of improvement as well as functional applications. So, I realized the need for working on a new material hav-

"I REALIZED THE NEED FOR WORKING ON A NEW MATERIAL HAVING SUPERIOR QUALITIES, AND WHEN I CAME ACROSS GRAPHENE, MY MIND WAS BLOWN."



ing superior qualities, and when I came across Graphene, my mind was blown.

Since those days, I was intrigued and fascinated with the prospects of Graphene. With its strikingly superlative properties as compared to other emerging nanomaterials, I strongly believed that Graphene had the potential to transform the world for better. After starting to work on Graphene projects back in 2014, we (I along with some of my batchmates including Hemant Charaya who is also now a key team member at Log 9) were able to produce multiple variants of Graphene in the laboratories and optimize processes for scaling production. Given the fact that I had a good grasp over the subject and sufficient know-how regarding the material, I decided to continue on the quest find how Graphene nanotechnology based products/solutions can revolutionize the future of humanity, and thus established Log 9 Materials eventually. From day one, Log 9 has focused majorly on commercialization of Graphene-based novel products in order to provide immediate benefits to the masses.

Tell us something about your product portfolio.

As of now, Log 9 works broadly in two domains, i.e. filtration and energy. In the filtration industry, our first product was PPUF, a Graphene based selective filter for reducing harmful toxins/carcinogens in cigarette smoke. The success of this product gave Log 9 the initial boost and confidence to diversify and further improvise for other applications of Graphene.

Some of the notable products that we at Log 9 Materials have developed over the years are described below:

Aluminum fuel cells: These cells work on aluminum, air and water, combined with graphene-based



cathode, to harness order to harness electricity via an electrochemical reaction; hence it is a primary energy generation system. The system is fully recyclable and emissions-free. Through these innovative and eco-friendly Fuel Cells, Log 9 wants to revolutionize the future of electric mobility in India. Through this process, aluminum metal becomes a safe and clean fuel which is able to generate electricity on-demand. Further, the system is cost-effective, easy to use and removes the hassle of charging again and again (as with conventional battery systems). Besides electric vehicles, Log 9 is also developing Aluminum-based fuel cells for stationary applications, i.e. for powering homes and communities.

Sorbene: Sorbene is the brand name given to Log 9's innovative range of sorbent pads made with Graphene; these pads have been scientifically proven to absorb oil, petrochemicals, and other hydrocarbon-based liquids upto 5 times more effectively as compared to various traditional polypropylene-based sorbents. The product is an outcome of Log 9's intensive research on the selective filtration and adsorption properties of Graphene. The product range has been commercialized and is currently produced and marketed by Log 9 Spill Containment Pvt. Ltd. (Log 9 Materials' wholly

owned subsidiary company in the clean tech domain).

Finally, our latest product is UV-C light based disinfection chamber CoronaOven, which is a need-based innovation developed in the wake of the Covid-19 outbreak. The chamber can disinfect/sterilize object surfaces in 4 to 8 minutes, while neutralizing Coronaviruses and other pathogens; in the current scenario, the main objective is to prevent surface-to-human transmission of the virus.

What kind of manufacturing infrastructure do you have?

In the initial days of the business the manufacturing used to happen in the backyard of my house in Uttar Pradesh. Once we moved to Bangalore we setup a small shed behind our office where we were doing pilot manufacturing and prototyping of various products. We recently inaugurated a state-of-the-art production factory in Navi Mumbai in December 2019. The facility in Mumbai was set up by our subsidiary company, Log 9 Spill Containment Pvt. Ltd., and it is by far India's largest manufacturing hub for Graphene materials and Graphene-based clean-tech products.

Tell us something about your R&D activities.

Log 9 was launched initially as a nanotechnology R&D venture, and till date, R&D forms a core strength area for our company. We have a dedicated R&D centre in Bengaluru, and around 60 percent of our employees are engaged in partial or full time R&D activities/job roles. As a company we have filed for more than 20 patents globally. We have shown time and again our quick and cost effective approach to innovation.

How has the Covid-19 outbreak

affected your business and how are you dealing with it?

Due to restricted access to our labs during Covid lockdown, our technological and product development work slowed down since the Covid-19 outbreak. In order to deal with the challenges, we re-strategized our activities, focusing on technologies or sub-systems which have minimum external dependence.

However, during this period, we also utilized the available resources to contribute to the collective fight against Covid-19 in India and across the globe, by launching a slew of UV disinfection products across the country under the brand name CoronaOven. In the last few months, our time-critical, UV-based product line was well-received and appreciated in India and abroad; hence, Covid actually led us to think about becoming cash flow positive much sooner than we could have expected otherwise. We are working towards a plan that would ensure sustainability of the business with profitable revenue cycles in the coming months and years.

Disinfection or neutralizing the virus has suddenly become everyone's priority in the New Normal. Is this what inspired your team to come up with CoronaOven?

Yes, that's indeed true. When the Novel Coronavirus started infecting a large population in our country around March this year, we at Log 9 were able to foresee the seriousness of the contagion and its implications in the times to come. During that time, people were scared to go out of their homes, and even to bring in groceries, vegetables, etc. from the neighborhood shops, as there was almost no sure-shot way to sanitize these daily use items. Scientific studies demonstrated that the Novel Coronavirus can live for upto 72 hours on plastic and stainless steel surfaces, up to 24 hours on cardboard, and so on.

We at Log 9 believed that surface-to-human transmission of the virus could emerge as a serious concern in the future. Meanwhile, our founders were reading reports on how healthcare providers/frontline Corona warriors across the nation were suffering because of the shortage of masks and PPEs.

While all that kind of panic was going on, we as a science and technology start-up decided to step up and do our bit for the society. That is how CoronaOven came to being, as a simple yet effective device to prevent/limit the potential nightmare of surface-to-human transmission of the dreaded virus, both in healthcare settings and home settings. The device was designed by our team on the basis of the scientific principle of UV-Germicidal Irradiation and a previously conducted study by Nebraska Medical Center. In view of the rising threat of Covid 19, we created this product, conducted simulations for the same within a very short time period (only in the two weeks or so), and launched it in the market.

How does this innovation work and has it been certified by the relevant authorities in India?


As mentioned earlier, CoronaOven is a portable disinfection chamber that uses UV-C light (having wavelength of 253.7 nm) in combination with specific design parameters to kill various types of Coronaviruses, including the Novel Coronavirus. It is a proprietary device designed by Log 9; the device deploys accurate and necessary thermal energy via multi-focal, 360-degree UVC radiation on each point on the surface of any object to be disinfected, and thus guarantees 100 percent destruction of the Coronaviruses and harmful microorganisms, only within 4 to 8 minutes (depending upon the object) after the object is placed inside the chamber and the UV switch is

turned on.

In healthcare settings such as hospitals, CoronaOven can be used to quickly decontaminate medical equipment like N95 masks, eye goggles, face shields, etc. whereas at homes it can be used to sanitize grocery items, food items, water bottles, utensils, and various other home appliances having solid surfaces of plastic, metal, leather, etc. Over the last few months, we have come up with various product variants of CoronaOven, based on the same UV technology and principle used in the initially launched product.

In terms of certification, CoronaOven is the only UV disinfection product in the Indian market having multiple relevant certifications/authorizations to its credit. It has been tested and certified in terms of proper UV-C dosage by Indian Council of Medical Research (ICMR) - recommended Council of Scientific and Industrial Research, Central Scientific Instruments Organization's (CSIR-CSIO) laboratory. The product has also been tested and validated from a few other reputable institutions, including The Indian Institute of Science (IISc) - Bangalore and Dr. Dang's Path Lab, Delhi.

What's the way ahead for Log 9 from here on?

As the way forward, we are looking to maintain the start-up's profitability by launching sub-systems/offshoot technologies as stand-alone product offerings quickly in the market, while we also continue to develop our flagship Aluminum Fuel Cells for widespread electrification of vehicles in India, thus eliminating the need of incurring billions of dollars in trade deficits with China for Li-Ion battery imports. Over the long term, this would ensure that India becomes a net exporter of energy, as our country is one of the largest producers of Aluminum in the entire world. 

EESL to procure 250 Electric Vehicles

Energy Efficiency Services Limited (EESL), a Super Energy Service Company (ESCO) under the administrative control of Ministry of Power, Government of India, will procure 250 electric vehicles from Tata Motors and Hyundai Motor India. The companies were selected through an international competitive bidding process, which was aimed at increased participation. Tata Motors Limited and Hyundai Motor India Limited won the tender and now will supply 150 Nexon electric compact SUVs & 100 Kona electric premium SUVs respectively for government use. The letter of award for the procurement was presented to the two companies, in the presence of Guenter Butschek, CEO & MD, Tata Motors, Shailesh Chandra, President, Passenger Vehicle Business Unit, Tata Motors and Tarun Garg, Director – Sales, Marketing &



Service, Hyundai Motor India Ltd. This procurement will utilize 5 Million from the recent grant provided by the Asian Development Bank (ADB). EESL has received financing from ADB towards the cost of scaling up and financing high priority areas like Demand Side Energy Efficiency Sector Projects.

Mahindra and REE Automotive sign an MOU



Mahindra & Mahindra and REE Automotive have signed a memorandum of understanding (MOU) to explore development and manufacturing of electric commercial vehicles for global markets. Such a strategic collaboration will leverage REE's revolutionary electric vehicle corner module and platform technology of integrating powertrain, suspension and steering components in the arch of a vehicle wheel. This coupled with Mahindra's well-established vehicle design, engineering, sourcing capability and manufacturing assets, is set to be a win-win strategic partnership for both companies. The partnership will support REE's global customer need for 200,000-250,000 electric commercial vehicle units over a few years, including potential Mahindra's domestic and international volumes. Production would be scaled further to support additional volume in the global as well as Indian market. "Our collaboration with REE has the potential to bring a disruptive approach to a new age of vehicles capitalizing on our respective strengths," said Rajesh Jejurikar, Executive Director (Auto and Farm Sectors), M&M. "The competitive advantages of REE's corner modular architecture with our experience in conventional vehicle system design, engineering, sourcing ecosystem and significant production capacity, provides a perfect match to deliver exciting zero emission vehicles."

Honda enters 180-200cc segment

Honda Motorcycle and Scooter India Pvt Ltd. has made its entry into the 180-200cc motorcycle segment with its all new muscular, sporty and advanced Hornet 2.0. Talking on the launch, Atsushi Ogata, Managing Director, President & CEO, Honda Motorcycle & Scooter India Pvt. Ltd. said, "Inspired by the dreams of the new age customers & their passion for riding, we are pleased to introduce all new Honda Hornet 2.0. With its advanced technology & thrilling performance, new Hornet 2.0 is set to create a new benchmark among the young motorcycle enthusiasts. It is the beginning of Honda's new era of portfolio expansion catering to a wide range of customers in India". Yadvinder Singh Guleria, Director – Sales & Marketing, Honda Motorcycle & Scooter India Pvt. Ltd. said, "The new Hornet 2.0 is a transformation of Honda's racing DNA into sheer thrill of street riding."



BS-VI compliant Marazzo launched

Mahindra & Mahindra Ltd has announced the introduction of the Marazzo with BSVI technology. Marazzo, which scored impressively on the GNCAP Safety charts, will now be available in three variants, namely M2, M4+ and M6+. According to Veejay Nakra, CEO, Automotive Division, M&M Ltd., "We are delighted to introduce the BSVI-compliant, cleaner-technology Marazzo. Engineered for excellence, the Marazzo offers spacious comfort, safety, a smooth car-like ride, effortless handling and a low operating cost."



World's first 3D printed footbridge

The world's first lightweight 3D printed fiber reinforced polymer (FRP) footbridge will be installed at Kralingse Bos park – the green heart of Rotterdam.

The world's first lightweight 3D printed fiber reinforced polymer (FRP) footbridge will be installed at Kralingse Bos park – the green heart of Rotterdam. This heralds the transition towards the next generation of bridges, offering high performance with extreme versatility, circularity and sustainability.

Royal HaskoningDHV and DSM have announced the intention to collaborate in the design and build of a new circular composite footbridge which will be installed in Rotterdam. Rotterdam is a dynamic, innovative city at the forefront in the use of composite bridges to underpin the city's drive towards circularity and sustainability.

Sustainability and the next generation infrastructure

Mozafar Said, Asset Manager from the City of Rotterdam, said: "The city of Rotterdam is proud to be a leader in the smart and circular use of composite bridges. Together with Royal HaskoningDHV and DSM, we are continuing to push the frontiers of sustainability for bridges, using thermoplastics which will enable greater circularity. "The 3D printed FRP footbridge as a circular composite aligns with our city's ambitious sustainability targets to reduce carbon footprint and promote live-



Rendering of 3D printed footbridge

ability and we are proud to be the first city to test, print and install it.

"We see the use of composite bridges as a smart solution to replacing our older constructions. With more than 1000 bridges in Rotterdam, we are constantly looking to push the boundaries to develop the next generation of bridges which will be more sustainable and circular with lower maintenance and lifecycle costs."

Circular composites

According to Maurice Kardas, Business Development Manager at Royal HaskoningDHV: "We announced the prototype of this circular composite bridge in 2019 and with the vision and support of our partners DSM and the City of Rotterdam we can now take this one step further.


"Rotterdam and the Netherlands are ahead of the curve in innovation in infrastructure, particularly in the areas of sustainability and circular-

ity. By introducing circular composites into their bridge infrastructure, Rotterdam proves once again to be a city ahead of the game. This is a step change which signifies a collective effort to bring innovation from idea to realization and ushers in a new era of sustainable design and bridge functionality."

The circular composite footbridge is made from a fiber reinforced thermoplastic called Arnite which

combines high performance with circularity. Patrick Duis, Senior Application Development Specialist Additive Manufacturing at DSM added: "The printed circular composite bridge enables the transition to a more sustainable and circular type of bridges with minimal wear and tear. Now that we have the new circular composite of recyclable source material along with the required performance properties available to us, we can start taking the environment-friendly design of the infrastructure to the next level."

A modern, durable footbridge solution

The footbridge will be developed strictly in line with the highest standards of safety for FRP bridge design. The city of Rotterdam infrastructure experts in composite bridges will be closely involved in the design and build process. Sensors could also be included into the footbridge to build a digital twin of the bridge. The sensors can predict and optimise maintenance, ensuring safety and extend the life span of the bridge. It is estimated the footbridge will be installed and in use by the end of 2020. 

"WE SEE THE USE OF COMPOSITE BRIDGES AS A SMART SOLUTION TO REPLACING OUR OLDER CONSTRUCTIONS. "

Mozafar Said, Asset Manager from the City of Rotterdam

Small format, big innovation!

One of India's leading FMCG giant chose PET for a new product range because this packaging material facilitates the creation of more innovative and functional packages.

One of India's foremost private sector companies, ITC, recently introduced a brand new range of milk-based drinks with fruit pieces while expanding their juice portfolio with a variety of premium 100 percent Indian fruit, 0 percent concentrate and 0 percent preservative juices. With both they trusted Sidel and their proven expertise in aseptic packaging, investing in a complete line, featuring the first dry preform sterilisation in India. Besides helping this manufacturer to gain greater productivity and flexibility, Sidel designed and tested their three new PET bottle formats for absolute food safety and powerful packaging differentiation on retailers' shelves.

ITC Limited, founded in 1910, is a leading company in the Indian market. With a gross sales value of ten billion US dollars and a diversified portfolio covering many industry sectors – food and beverage, packaging, agriculture and hospitality services, among others – ITC are headquartered in Kolkata (West Bengal) and employ 34,000 people today. This innovation-driven



company apply a holistic approach of 'Integrated Crop Engagement' to their products, thus meeting the most stringent international food safety standards. In addition, they have received several certifications for their organic and sustainable farm practices.

Surfing the healthy consumer wave in India

Indians are more and more looking for 'better-for-you' beverage options, which are offering added nutritional benefits on a daily basis. Busy and stressful lifestyles are increasingly representing the rule for the majority of the Indian population, who is looking for convenient ways to cope with their time constraint and is willing to pay a premium for so-

called 'naturally healthy' beverages in small formats.

Recognising this shift in consumer preferences, ITC recently decided to expand their product range to include liquid dairy products: they launched Sunfeast Wonderz Milk, a new milk-based drink bottled in PET. Available in 200 ml and 300ml formats, it is offered in four different

flavours: Vanilla Milkshake, Mixed-fruit Milkshake, Mango Milkshake and Badam Milkshake. In parallel, they added a portfolio of premium Not From Concentrate (NFC) juices with source certified premium fruits to their existing B Natural brand. The portfolio includes the exotic range of Himalayan Mixed Fruit, Ratnagiri Alphonso Mango and Dakshin Pink Guava, making it the first fruit beverage brand in India to provide a portfolio of source certified fruit beverages with 100 percent Indian Fruit, 0 percent Concentrate without any preservatives to their customers.

To make this move, ITC needed a highly flexible PET packaging solution. "Strengthening innovation across the organisation is a key business imperative for us in these times of rapid business change and heightened competition. It also ensures that we enlarge our market share, create brand differentiation and are future-ready. All of that while pursuing 'Responsible Competitiveness' – a socio-economic-environmental framework that is pushing us to always guarantee that growth is sustainable and inclusive," explains Rajesh Ponnuru, Category Manager

"STRENGTHENING INNOVATION ACROSS THE ORGANISATION IS A KEY BUSINESS IMPERATIVE FOR US IN THESE TIMES OF RAPID BUSINESS CHANGE AND HEIGHTENED COMPETITION. IT ALSO ENSURES THAT WE ENLARGE OUR MARKET SHARE, CREATE BRAND DIFFERENTIATION AND ARE FUTURE-READY."

Rajesh Ponnuru, Category Manager Juices and Dairy at ITC Limited.

Juices and Dairy at ITC Limited.

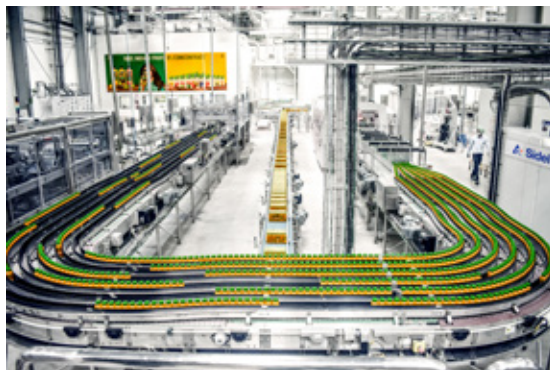
Much more than pioneering a packaging innovation in India

ITC widened their nutritional drinks portfolio by expanding the packaging material choices supporting their B Natural juices and by launching the new Sunfeast liquid dairy products in PET. The resulting aseptic complete line project was a first in many ways: it was the first time that ITC partnered with Sidel, the very first time they entered the dairy-based beverage market and the first time UHT milk-based drinks with fruit pieces were launched in India leveraging the benefits of aseptic PET production with dry preform decontamination.

“Our global leadership in this field, based on more than 40 years of expertise and more than 150 references of our Aseptic Combi Predis installed worldwide, was also a key driver for ITC’s decision, further strengthened via the opportunity of taking care of the process phase through Tetra Pak Processing System (TPPS) technologies,” says Gaurav Kumar, Project Manager Execution, Global Key Accounts at Sidel. “We are really proud to be the first ones in India to leverage the benefits of aseptic PET production with dry preform decontamination,” continues Rajesh Ponnuru from ITC. “This unique system perfectly supports the complete aseptic PET solution Sidel provide to us, offering flexibility, sustainability and efficiency. Plus, the Predis system uses no water and very little chemicals during production.”

Expert advice along every step

ITC chose PET because this packaging material facilitates the creation of more innovative and functional packages, thus helping the leading



Indian player surf the rapid changes that are happening in the local market by gaining a competitive edge through product differentiation. The latter aspect was especially important for them, as the majority of milk products in the country are packaged in pouches, glass bottles and cartons. Bottled in PET and decorated with colourful sleeve labels, the B Natural and Sunfeast products immediately gained a distinctive look and feel while providing an enhanced brand experience, therefore receiving a very positive response from local consumers.


As ITC were unfamiliar with aseptic PET production, Sidel provided them thorough advice along every step of the supply chain. “The experience they have shown around packaging, beverages and raw materials was key in winning our trust,” highlights Rajesh Ponnuru. The customer visited Sidel’s centre for packaging expertise in Octeville-sur-Mer (France) multiple times to check the new bottle designs, developed around two main shapes – round and squared, the latter representing another first in this project; the first squared PET beverage bottle offered to Indian consumers.

Moreover, Sidel’s Liquid Package Interaction (LPI) laboratory ran shelf life tests on a number of juice and milk-based recipes to simulate real life distribution conditions and ensure, in advance, the products’ quality, safety, and organoleptic properties. The resulting insights helped ITC decide, which recipes to launch on the market and which

PET barrier material to choose; the goal being to protect their dairy drinks and juices against microorganism growth and alterations caused by the effects of light, oxygen and temperature. To meet the highest food safety standards and ensure a 6-months shelf

life, Sidel’s packaging scientists recommended the customer to use an O2 PET barrier for their milk-based product range and an O2 – combined with a light – barrier to protect their 100 percent organic juices.

“To find out more about aseptic PET production with dry preform decontamination, we decided to visit a similar installation in Indonesia. During this visit, we had the opportunity to experience the Aseptic Combi Predis in action and talk with operators,” says Rajesh Ponnuru. Based on this positive experience, ITC’s order for the Sidel complete aseptic PET line was placed. The scope includes Tetra Pak Processing System (TPPS) technologies and, as the heart of the line, the Aseptic Combi Predis complemented by Capdis™, the company’s dry cap decontamination system. The line also features a RollQuattro labeller, a sleeve, packing and stretch wrapping systems, a PalKombi palletiser and EIT® (Efficiency Improvement Tool), with the latter one significantly improving production efficiency.

The aseptic PET complete line – operational since early 2019 – was installed in a new area of the ITC production site in Kapurthala (Punjab) and laid-out to account for production operations and raw material logistics. It ensures the highest level of ease of operations and maintenance, hygiene and food safety while offering outstanding flexibility to switch easily from one product to another. 

Source: Sidel

Closing the loop

Plastic recycling in India is an extensively decentralised and distributed process today. There is a need to centralise and bring cohesion in the plastic waste management ecosystem, says **Sanjay Kapote, CEO, Manjushree Technopack Ltd. (MTL)**

By Niranjan Mudholkar

What exactly is the 'Born Again' initiative? How much have you invested for the same?

Plastic, a universal material mass used across applications has been largely misunderstood. Out of all the packaging materials available today, Plastic conversion has the least environmental impact. The real challenge is in the end-of-life management of this wonder material.

Born Again is our effort to build a consumption ecosystem that effectively manages the collection and treatment of plastic that has reached its end-of-life. Born Again is a business, vertically integrated with the plastic waste collection environment, with an objective to reduce the amount of plastic waste going to landfills and to deliver virgin-like quality Post-Consumer Recycled (PCR) PP and HDPE resin to our customers.

We have invested Rs.21 crore in our first plant that was commissioned in June this year. We plan to invest another Rs.75 crore over the next four to five years to setup similar plants across India.

What prompted Manjushree Tech-



nopack Ltd. (MTL) to undertake this initiative?

For over 40+ years we have been India's leading plastic converter, supporting over 500 FMCG companies in packaging their products. It is our continuous endeavor to make plastic sustainable. Over the years we have undertaken several sustainability initiatives like reuse of our manufacturing excess, light weighting of containers and preforms, design innovations for plastic reduction.

The Recycling unit is our effort to close the loop on plastic consumption and to fulfill our Reduce, Reuse and Recycle motto.

How will MTL collect the plastics waste required for recycling at this plant?

We have partnered with plastic waste aggregators, bulk plastic waste management businesses like Saahas Zero

Waste to collect presorted, industrial, post-consumer and manufacturing waste. The waste will be aggregated at our partner's facility and separated into HDPE and PP waste piles. Our partners will transport segregated waste bales to our facility where it will go through seven stages of treatment

process before getting converted into premium grade recycled resin.

Is it really possible to deliver virgin-like quality PCR (Post-Consumer Recycled) resin (PP and HDPE)? What is the level of acceptance of this PCR resin amongst the FMCG segment?

With our world class equipment, multi-stage treatment process and stringent quality control, it is possible to generate near virgin PCR resin. Our initial trial results are encouraging enough and are driving our efforts to deliver virgin like resin. We have received positive response from major FMCG brands, specially the brands working in the home care and personal care space. We have also started trials with some of the major brands aiming to deliver sustainable packaging.

At present, what is the capacity of the plant started at Bidadi, Karnataka?

Our flagship recycling plant in Bidadi has the capacity to process over 7,500MT of plastic waste per annum, producing 6000 MT of near virgin HDPE and PP recycled resin.

Do you plan to take this initiative

"BORN AGAIN IS AN EFFORT TO BUILD A CONSUMPTION ECOSYSTEM THAT EFFECTIVELY MANAGES THE COLLECTION AND TREATMENT OF PLASTIC THAT HAS REACHED ITS END-OF-LIFE."



to the other parts of the country as well?

We do have plans to expand our recycling business across India. We are currently weighing between Greenfield and franchise options for expansion.

Do you see other packaging companies following MTL's footsteps with regards to this initiative?

Plastic recycling in India is an extensively decentralised and distributed process today. There is a need to centralise and bring cohesion in the plastic waste management ecosystem. In fact, we along with several FMCG producers have undertaken an initiative to build a circular economy in India.

We have seen lots of enthusiasm from FMCGs and Consumer Product Producers, in adopting recycled resin. We can definitely expect more


and more packaging companies providing recycling support in future.

MTL had opened a Greenfield facility at Silvassa in March 2020. Has the lockdown affected the progress of this new plant?

Covid 19 has definitely impacted businesses across the country. Since we operate in the essential services space, none of our plant functioning was stopped during the lockdown, including Silvassa. It was a struggle for the initial few days, but our operational team turned the situation around quickly and ensured that all our plants were working in line with the guidelines received from Government bodies.

How has the Covid-19 outbreak impacted MTL's overall business and how are you dealing with the new normal?

Countries affected with Covid-19 worldwide have seen a slump in their economic growth. In India as well, Covid-19 has affected the growth of businesses and the economy in general. The period has been extremely crucial for us with packaging being an integral part of delivering essential commodities like – food & beverage, personal care, home care, pharmaceutical, etc. to consumers.

While our automated robotic manufacturing technology helps reduce human contact to the minimal, we have taken severe measures like – setting up daily factory sanitisation SOPs, sanitisation of finished goods, daily workforce temperature checks, sanitisation of cargo vehicles, daily temperature check of cargo drivers, etc. to support our customers with hygienic and contamination free packaging. 

PRODUCTS

Wear-resistant sliding movement in an extremely small space iglidur coating technology makes surfaces of metal components resistant to abrasion

For lubrication-free sliding in a very small space, igus has now developed three new materials made of maintenance-free tribo-polymers as coating material for metal components such as metal sheets, valves or even shafts. This means that, for users who do not have enough space to install a plain bearing, a wear-resistant, compact and cost-effective solution is now available.

More and more compact, lighter and smaller: this is not only the slogan of electronic manufacturers; in industry as well, the demand for space-saving machines is growing unceasingly. Therefore, technical design engineers are creating small machines and equipment for use where installation space is at a premium. As regard components, more solutions are called for in the area of plain bearing technology as every single millimetre count. In order to meet the new requirements in the area of mechanical engineering, igus has made use of its decades-long experience in the development of tribologically optimised plastics and has now developed three new



| Wear-resistant sliding in extremely small spaces: new coating materials made of tribologically optimised iglidur plastics make metal surfaces abrasion-resistant.
(Source: igus GmbH)

maintenance-free and lubrication-free tribo-polymers as coating materials specially for very small installation spaces. As a result, not only the lubrication-free iglidur plain bearings but also the iglidur coating service for metal surfaces with the material iglidur IC-01 and the new IC-02, IC-03 and IC-06 materials are now available to the user.

Less installation space

The installation space needed for a plain bearing can be reduced using a coating: ideal for small and compact machines and equipment. Thanks to the polymer coating, the surface of moving components is extremely durable and wear resistant. The surface is also corrosion-free and resistant to chemicals thanks to the tribo-polymers. The coatings are used in valves, pumps, for guide plates and for guide systems.

For more information, contact: Nitin Prakash, Product Manager, iglidur®, igus (India) Private Limited, Email: nitin@igus.in, or visit www.igus.in

New Arc High-Performance Liquid Chromatograph

Modern LC System replicates established test methods, delivers improved performance; updates to lab business continuity solution also announced

Waters Corporation has introduced the Waters Arc HPLC System, a new high-performance liquid chromatograph (HPLC) for routine testing in the pharmaceutical, food, academic and materials markets. A key target application is quality control laboratories performing batch release tests on small molecule pharmaceuticals. Waters also announced the availability of Waters Empower BC LAC/E with SecureSync, its newly enhanced data back-up and recovery solution purpose-built for organizations with distributed laboratory environments.

The Arc HPLC System is for laboratories looking for a rugged, reliable and modern HPLC system that can run established HPLC methods regardless of the brand of liquid chromatograph on which they were originally developed, while preserving the chromatographic retention time reproducibility of those methods. The system offers ultra-low analyte carryover, superb injection precision and backpressure tolerance to 9,500 psi at 5.0 ml/min. It is designed to meet all the requirements of a top-of-the-line HPLC system in a cost-competitive package that takes routine testing to the next level.

"We designed the Waters Arc HPLC System exclusively for QC laboratories knowing how important trustworthy test results are to help ensure the uninterrupted supply of safe and effective medicines," said Robert Buco, PhD, Director, Separations Technology, Global Product Management, Waters Corporation. "Arc HPLC is for customers who are ready to modernize legacy instruments while preserving their specific QC methods. Waters makes it simple, providing a unique two-injection method transfer capability from any brand of HPLC instrument onto the Arc HPLC System."

Most quality control methods in use today are HPLC methods. These

methods have one common goal: to measure the concentration of any active ingredient and any known impurity and record the results of tests in compliance with regulatory and quality standards. As a state-of-the-art workhorse instrument, this is what the Arc HPLC System routinely does.

"As a Waters customer for many years, we have standardized on Waters instrumentation and Empower software for testing," said Bo Chen, Instrument Manager, Luoxin Pharmaceutical (Shanghai) Co., Ltd. "Their instrumentation has proven to be reliable and rugged and we know from experience that they stand by their products. The new Arc HPLC System appears to be highly suited for testing of finished products and we are eager to give it a closer look."

The Arc HPLC runs on Waters' compliant-ready, industry-leading Empower 3 Chromatography Data Software trusted by thousands of clients for whom data integrity is of paramount importance.

Disaster Readiness for Today's Laboratory: Natural and manmade threats to business continuity are unpredictable and increasing in both frequency and severity. It is critical for organizations to plan ahead to prevent disruption to global supply chains and invest in technology infrastructure to ensure operational continuity.

Waters Empower BC LAC/E with SecureSync is a comprehensive solution that plays a significant role in a company's business continuity strategy. This dual-purpose system allows remote instrumentation to be connected to and controlled by the Empower Enterprise in addition to enabling secure local control if connectivity is severed from the network.



| Most pharmaceutical quality control test methods are HPLC-based. If there's one thing the Waters Arc HPLC System does extraordinarily well, it's measure the concentration of any active ingredient and any known impurity in a finished product and record the results of those tests in compliance with regulatory and quality standards.

SecureSync software streamlines laboratory readiness by continuously copying relevant information from the customer's Empower Enterprise to the local BC LAC/E system in a secure and compliant-ready manner.

The solution offers a structured approach for responding to unplanned incidents and helps to minimize the impact of being disconnected. SecureSync software proactively prepares and synchronizes system-level information from remote enterprise network databases to local bench-level systems so organizations can resume operations as quickly as possible. The system enables switching to local data acquisition and processing, allowing protected sites to operate independently of the core enterprise network for more than four weeks in the event of a disaster or prolonged outage.

For more information, visit www.waters.com



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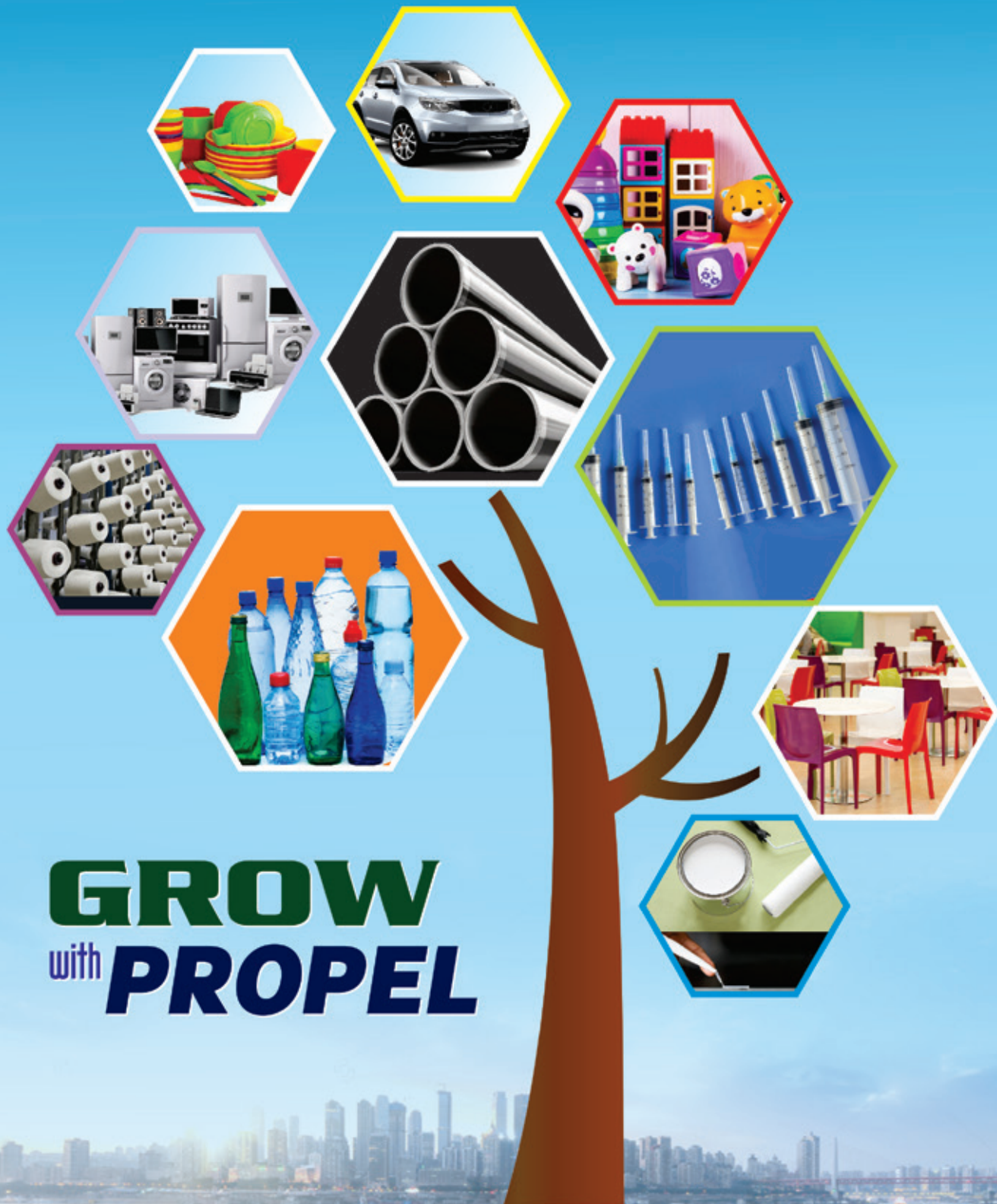
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