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THE ECONOMIC TIMES

POLYMERS

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A PENCHANT FOR DIVERSITY & INNOVATION

History, diversity and an ability to evolve are what stand out about the Cello Group.

Gaurav Rathod, Director-Cello Group, takes us through not only his journey as the third generation in the business, but the group's as well - a journey which encompasses a rich heritage as one of India's most recognised household brands

MARKET OVERVIEW

A LOOK AT HOW THE PLASTIC INJECTION MOLDING MACHINES MARKET HAS EVOLVED IN A PANDEMIC ERA

EVENT REPORT

THE 2021 EDITION OF THE ECONOMIC TIMES GLOBAL CONFERENCE ON PLASTICS IN AUTOMOTIVE



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THE ECONOMIC TIMES POLYMERS

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Every Cog Counts in the Wheel

I have always wanted to be a painter but after 37 years of trying, I know my talent in that direction borders on the non-existent.

But recently I discovered DIY, paint by number kits -which have a numbered canvas and a bunch of corresponding numbered paint pots and brushes. All you have to do is paint the numbered canvas with the corresponding colour, and voila! You have masterpiece! Its so simple really- but vital to stick to the number scheme as even the tiniest patch done wrong takes away from the aesthetic.

The lesson here is of course the fact that is consistency and not discounting the smallest cog in any wheel. A tiny screw, a miniscule nut, the team member at the lowest rung – every little bit counts in making masterpieces, be it life or work projects.

In this issue's cover story, we focus on a company who did just that- took care of the little things and successfully navigated challenging times, growing multi-fold in the process- the Cello Group is indeed a household name today.

Another great example of team work was evident in the 2021 edition of the Economic Times global Conference on Plastics in Automotive, held in Pune on the 25th of November. A ground- event in today's scenario is always bound to be a challenge- but the team took it on and successfully concluded the best edition to date. Read all about it in our event coverage in this issue.

To complete the picture, we also have an interview with a leading masterbatch manufacturer, a look at the plastic injection molding market and of course comprehensive news from around the globe from the plastics and polymer value chain. We hope you enjoy reading this issue as much as we enjoyed putting it together.

We wish you all a happy and safe Christmas and look forward to bringing you more in the New year.

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STRAPPING LINE



PET

Cotton industry
Jute industry
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Mondi Bags Nine Worldstar Packaging Awards

Mondi, a global leader in packaging and paper, received nine awards in six categories at this year's WorldStar Packaging awards. Open to packaging companies around the world, the WorldStar awards recognise the best ideas, innovations and technologies on the market, with a focus on sustainability, product protection and end-user convenience.

"Mondi is a pioneer in making packaging sustainable by design. Our EcoSolutions approach means we always evaluate the best solutions for our customers, our planet and the end-user, using paper where possible, plastic when useful. Thanks to extensive collaboration with our customers, being honoured with



nine WorldStar awards shows we are moving in the right direction. With sustainability firmly at the centre of our strategy, and ambitious sustainability commitments as part of our MAP2030 framework, we are determined to make our flexible packaging part of a circular economy," says

Thomas Ott, CEO designate, Mondi Flexible Packaging and Engineered Materials.

"We are delighted with our successful track record in winning WorldStar Packaging awards with our innovative, fit-for-purpose and sustainable corrugated solutions. In 2021, half of the awarded products are part of our eCommerce offering, which reflects the great opportunities we are seeing to

partner with our customers in this area. With our network of more than 100 in-house packaging designers, we are setting new standards in the industry both in terms of sustainability and product design," says **Armand Schoonbrood, COO, Mondi Corrugated Solutions.**

Clariant Begins Construction Of Facility In China

Clariant, a focused, sustainable and innovative specialty chemical company, today announced that it will construct its first Chinese production facility for its successful Exolit OP flame retardants at its existing site in Daya Bay, Huizhou, Guangdong Province. By establishing local production capacity, Clariant greatly enhances the speed at which it can provide solutions to its customers in China. Driven by the fast-growing electrical and electronic equipment industries, in particular e-mobility, 5G communications technology and transportation, there is a rapidly growing demand for Clariant's innovative and sustainable flame retardants in China and other Asian markets.

"China has been one of the fastest growing regions for Clariant and we expect this development to continue in the future. By investing approximately CHF 60 million to establish a production facility dedicated to providing our local customers with innovative and sustainable Exolit OP flame retardants, we will take another step towards increasing our footprint in China and continue to solidify our position in the local

market," said **Conrad Keijzer, CEO of Clariant.**

Clariant's facility in Daya Bay is currently home to the company's first ethoxylation plant in Asia, which services local pharmaceutical, personal care, home care, and industrial application customers within its Business Area Care Chemicals.

This investment is in line with Clariant's dedicated growth strategy for China, in which footprint enlargement plays a vital role, alongside customer experience and innovation to support the country's drive towards sustainability transformation. This is underpinned by other investments, such as the recently completed One Clariant Campus in Shanghai, the newly opened state-of-the-art joint production facility with Tiangang in Cangzhou and the new Catofin® Catalysts facility in Jiaxing, which is expected to come online in 2022. By allocating approximately 35 per cent of growth capital expenditure (capex) to China



going forward, the sales share for the Group is expected to grow to around 14 per cent by 2025 versus the 10 per cent contribution from China in the full year 2020.

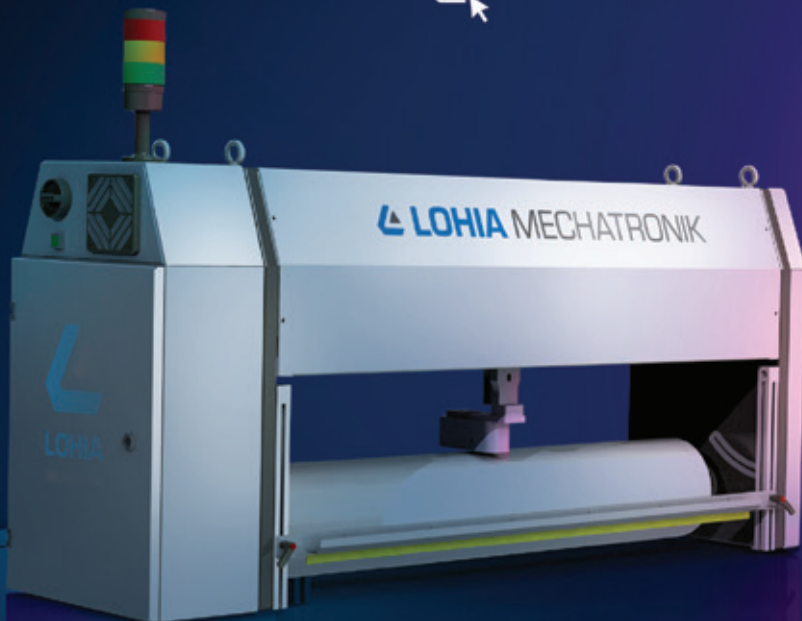
Clariant's Exolit OP range of flame retardants is based on aluminium diethyl-phosphinate (DEPAL), which has a well-recognized ecotoxicological profile, as opposed to halogenated flame retardants and also carries Clariant's sustainability label EcoTain® in recognition of its proven excellent environmental and health profile. The Exolit flame retardants offer unique protection possibilities, providing fire resistance to electronic devices like smartphones and computers.

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UFlex Commissions BOPET Films Plant in Nigeria

UFlex Limited, one of India's largest multinational and a global leader in polymer sciences continues to take steps to reach closer to its customer base. The company has commissioned its BOPET film manufacturing plant in the Ogun State of Nigeria with a production capacity of 45,000 TPA. Spread over 37 acres, the plant houses first-of-its-kind 10.6 meter wide BOPET film line in Africa and also has two Metallizers with a total production of 15000 TPA. The plant that created over 200 direct jobs, is set to cater to the packaging film demand coming from the fast growing economy of Nigeria, ECOWAS (Western Africa) and USA.

In the quarter July-August-September 2021, UFlex also added

a fleet of new value-added products & solutions products to its portfolio that not just help its customers' products stand out on the retail shelves but also helps brands extend an overall elevated packaging and consumption experience.

For example: snacks form a quick bite to keep on-the-go hunger at bay and its packaging undergoes frequent changes to retain consumer interest and make it convenient for them. In order to make the brands stay relevant as well as sustainable in the snacks segment, the flexible packaging business of UFlex has developed a heavy-duty mono-material bag for Danish brand KIMS for its snacks



packaging segment for the European market. The high-barrier packaging is made of mono-material under polypropylene extreme and bears recyclable 'logo 5' mark enabling easy recycling in the existing polypropylene recycling streams while ensuring that the snack packed remains fresh as ever. These snack packs are being used by KIMS to pack food products such as chips, wafers etc.

Covestro And Eco-Mobilier Collaborate

Materials manufacturer Covestro and Eco-mobilier, a French eco-organization and non-profit extended producer responsibility (EPR) schemer for the collection and recycling of used furniture, aspire to generate enhanced value aiming at mattresses and upholsteries. Both parties want to further develop waste markets for foam used in such applications, to enable its use in chemical recycling processes with high efficiency at an industrial level. Furthermore, the parties underline their commitment through an agreement, which sets out a common understanding of strategic goals, projects and activities, forming the basis for a long-term cooperation between them.

Year after year, large quantities of used furniture are generated worldwide that have to be disposed of. Covestro and Eco-mobilier want to keep it out of landfill and minimize incineration, thus reduce its environmental impact and give it a new life. For this purpose, they want to combine their expertise and jointly develop a new solution and a business model for the chemical recycling of polyurethane foam from post-con-



sumer mattresses and upholsteries.

Eco-mobilier has extensive experience in the collection, logistics and processing of used furniture, such as mattresses and upholsteries. This mainly concerns the dismantling of used furniture and presorting materials in order to obtain pure foam parts as raw materials for recycling. A key topic of the collaboration is to further develop the decentralized dismantling process of mattresses to avoid ecologically unfavourable transport of the foam parts to the chemical recycling plant. At a later stage, the partners also plan to evaluate possibilities and develop a corresponding process for recycling upholstered furniture with polyurethane foams.

"For ten years, Eco-mobilier has been acting to set up and improve

a specific scheme for End of Life PU foam collecting and recycling. The partnership between Eco-mobilier and Covestro will allow to increase and to diversify the existing solutions for the chemical recycling of PU foam and to extend the perspectives for a material

which had been considered, yet recently, as non recyclable. Especially, by experiencing padded furniture recycling with Covestro, Eco-mobilier is delighted to start a new stage of development of its strategy targeting of 'zero landfilling' for furniture," said **Dominique Mignon, President of the French organisation.**

As part of its new collaboration with Eco-mobilier, Covestro intends to make use of a novel process compared to other chemical recycling approaches, which it has developed for recycling the foam chemically. The technology has competitive advantages as it allows the recovery of both core raw materials originally used. To this end, the company also operates a pilot plant for flexible foam recycling at its site in Leverkusen, Germany, which is used for test purposes.

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Airnov Expands Changshu Manufacturing Site

Airnov, a global leader in innovating packaging solutions for the healthcare market, has completed an expansion and upgrade of its manufacturing facilities in Changshu, China.

The modernisation of the site, which is around 100 kilometres northwest of Shanghai, includes the installation of new production lines that enables the company to produce a wider range of products at greater volumes.

As a result of the investment, Airnov is bringing several new products to the Chinese market.

The first is the HDPE bottle fitted with CRC caps. Made using a thick plastic polymer, they provide a superior barrier to humidity versus regular bottles, offering a low moisture vapor transmission rate (MVTR).

The newly expanded facility at Changshu will also be able to pro-



duce higher quantities of Airnov's HAT SNAP product. This is an active and ergonomic vial with desiccant stopper that also includes tamper evidence features to help prevent counterfeiting.

Commenting on the strategic

importance of the investment, **Albert Zhao, General Manager of Airnov Asia Pacific**, said: "The expansion has created and optimized an additional manufacturing space for our continuously growing business needs. In the meantime, we will strive to consistently offer better quality and sustainable products to customers both here in China and around the world."

Changshu is one of two Airnov manufacturing sites in China. In the Pearl River Delta, the company's site at Dongguan produces a series of rimless packets that were launched in April this year. Using 25 per cent fewer raw materials than competing alternatives, these sustainable packets also offer greater moisture absorbing capacity and are designed for use in small pharmaceutical and diagnostic product bottles, as well as in medical device and food packaging applications.

Perstorp Increases TMP Production Capacity

Perstorp, the world leader in the production of Trimethylolpropane (TMP), has ramped up the capacity to meet growing demand from the European market.

TMP is used to enhance the properties of numerous materials. Common applications include the use in saturated polyesters for coil coatings, polyurethanes for coatings and elastomers, acrylic acid esters for radiation curing, esters for synthetic lubricants, and for the surface treatment of pigments.

Filip Tauson, Global VP Polyols at Perstorp, commented: "The capacity expansion is fully in line with Perstorp's ambition to further strengthen our position in the Polyols market. TMP is a key product in our Polyol portfolio, which is a core business within Perstorp. This product line have been instrumental in the development of Perstorp as an international company and we are happy to expand our position further to be able to serve a strong demand from the market."

The expansion development takes place in Vercelli, Italy. Perstorp's own TMP production sites are located in China, Sweden, and the United States.

Solvay to Supply Avio with Advanced Materials

Solvay and Avio SpA have signed a long-term agreement for the supply of composite and adhesive materials to be used across a range of programs including the Vega space programs, the European Space Agency's satellite launch vehicles designed to send payloads into low Earth orbit (LEO).

Solvay will supply Avio with ablative material, RTM resins and adhesives. Solvay has a strong legacy in the space market and has long been a leader in ablative materials for space applications, such as nozzles and exit cones. Solvay's products have been used across many space launch programs over the years, thanks to their ability to withstand the extremely high temperatures produced by the rocket motor exhaust.

"We are excited to extend our partnership with industry leader Avio and continue to support Vega critical missions," explained **Carmelo Lo Faro, president of Solvay's Materials Segment**. "We are all currently seeing renewed enthusiasm and investment in the global space race and we believe that our advanced materials will be key enablers for space exploration, space tourism and also the launch placement of satellite constellations. We helped put the first man on the moon and will be there for the first woman on Mars!"



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Waters and Sartorius Partner to Help Bioprocess Scientists

Waters Corporation and Sartorius recently announced they will partner to provide bioprocess experts with direct access to high-quality mass spectrometry (MS) data to accelerate the speed and improve the accuracy of biopharmaceutical process development. They will partner to implement the BioAccord™ LC-MS System from Waters as a new bioprocess analyser with data connectivity to Sartorius' Ambr® multi-parallel bioreactor systems to deliver mass spectral information on drug substances, related analytes and cell culture media. This combination will greatly accelerate and improve the accuracy and speed of tasks from clone selection to bioprocess optimisation.

At a ~10 per cent CAGR from

2020 to 2025, biopharmaceuticals is the fastest-growing segment of the overall pharmaceutical market, according to a report by Evaluate Pharma. Fuelling this growth is the unprecedented rate at which highly complex new biologics are coming to market. Consequently, biopharmaceutical manufacturers are requiring more upstream analytical data.

"Waters and Sartorius share a commitment to biopharmaceutical customers to solve their problems with the very best process and analytical tools," said **Davy Petit, Senior Director of Global Pharmaceutical and Biomedical Research Business, Waters Corporation**. "Clone selection and process development can benefit significantly

from at-line versatile mass spectrometry data which can help bioprocess engineers accelerate workflows and increase confidence in making critical decisions. The combination of our technology in the hands of bioprocess scientists, alongside the well-established Sartorius Ambr bioreactor systems installed-base, can significantly reduce the development timeline for delivery of medicines and vaccines."

The combination of Ambr and the easy-to-use at-line Waters BioAccord LC-MS System will save bioprocess scientists substantial time and accelerate clone selection and upstream process development," said **Mario Becker, Head of Product Management Cell Culture Technologies at Sartorius**.

SONGWON Enters Exclusive Coatings Distributorship

Songwon Industrial Co., Ltd has announced today that it has entered an exclusive distributor partnership with TCL Hofmann for its Business Unit (BU) Coatings.

TCL Hofmann is the exclusive distributor in Australia and New Zealand of SONGWON's BU Coatings range: SONGSORB® CS and SONGNOX® CS products, UV absorbers (UVAs), hindered amine light stabilizers (HALS) and antioxidants for the Coatings market.

A specialist supplier of technical and chemical products across Australia & New Zealand for over 25 years, TCL Hofmann will support SONGWON to expand in the region and become a customer partner of choice providing solutions that offer optimal light and temperature stability. The partnership also highlights SONGWON's commitment to the global Coatings market and to its customers in these two countries.

"After successfully cooperating with TCL Hofmann for some time already, we are pleased to strengthen our positive business relationship through this exclusive distributorship," explains **Rosanna Telesca, Leader Business Unit Coatings**. "Having such a competent and reputable partner in this region will further SONGWON's reach and help us to better meet the challenging technical goals and needs of our customers in Australia and New Zealand."

SABIC introduces new NORYL™ Resins

To support broader adoption of electric vehicles (EVs), SABIC is launching two new grades of NORYL™ resin that support demand for lighter, thinner and more crash-resistant battery modules and housings. These new innovative materials – NORYL NHP6011 and NHP6012 resins – address key consumer requirements for EVs: improved safety, range and power. They deliver enhanced robust flame retardancy and impact strength to meet stringent industry-related safety standards, as well as thin-wall molding capability to reduce weight and accommodate more cells, helping to extend vehicle range and boost performance. These novel glass fiber-reinforced NORYL resins feature proprietary polyphenylene ether (PPE)-copolymer technology and are the latest additions to SABIC's growing NHP family of materials for mobility applications.

"Optimisation of batteries is crucial to expanding adoption of electric vehicles and realizing the full sustainability benefits of e-mobility," said **Darpan Parikh, global product management leader, Resins & Compounds, SABIC's Specialties business**. "By helping to enhance EV batteries through better safety, higher energy density and lower weight, our new NORYL resins can also help manufacturers increase the consumer appeal of their vehicles."

Several trends are shaping the future of EV batteries. For example, stricter flame retardance requirements are now in force, driven primarily by concern about the safety of lithium-ion batteries. In Europe and Asia, battery module materials must meet the UL 94 V-0 standard.



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Adding Value - Masterfully!

An interview with **Ashwin Agarwal, Managing Director, Kandui Industries Private Limited**, on how the company is one of the most trusted brands in the masterbatches field and how team work is a large part of the company's success

Watching the tall, svelte models walk down the ramp during the Milan Fashion week is akin to a pilgrimage to the holy land for any fashion aficionado. The pomp, the drama, the clothes, and specifically the colours – this season they range from soft sunny yellows to greys, from neutrals and nudes to shocking pinks and bright orange. But, have you ever paused to wonder the detailed work which goes behind the shades of each perfect garment- and not just the ones in Paris and Milan, but the ones we buy in our local stores? If you trace your way down the value chain, you will definitely touch upon a masterbatch manufacturer- and none has mastered this art of masterbatches better than Kandui Industries Pvt Ltd.

We spoke to **Ashwin Agarwal, Managing Director, Kandui Industries Private Limited**, about how the company is innovating in the field, thanks to a dynamic, resourceful and hardworking team- in fact Mr Agarwal specifically referred to specific team members during the interview,



crediting them with being an integral cog in the company's success story. Here are excerpts from the interview: **Tell us briefly about the company, its history in India, the sectors it caters to and its product portfolios.** Kandui Industries Pvt Ltd has since 2006 established itself as a dynamic player in the masterbatches industry. We currently export to over 32 countries and hold a fair share of the domestic Indian market.

A combination of our state of the art extruders, well equipped laboratory, reliable quality control systems, well qualified managers and smart workforce, together, enable us to offer world class quality products and services to our customers – and quality on time is an integral part of our vision and mission.

Kandui manufactures masterbatches, additives and fillers for a wide range of sectors covering all the major applications such as flexible

and rigid packaging, automobile, pharma, agriculture, construction, household and furniture industry, man-made fibres, etc.

It is the culmination of this expertise,

experience, technology and innovation that reflects the true nature of Kandui Industries- that of adding value!

How are your masterbatches utilised in the automotive industry?

We manufacture black masterbatches for polyester fibres, which is further made into fabric used in the making of upholstery in the automotive industry. Kandui's anti-scratch additives are also used in dashboard applications and anti-fog additives are also used in the manufacturing of the shield of headlights, brake lights and indicators. We also make nylon based black masterbatches which are used in automotive components.

Additionally, we have recently introduced a polypropylene -based flame retardant MB fire fighter 07- and its performance is really like '007! This RoHS compliant masterbatch provides the highest fire retardant properties like UL 94 V0, V1 and with a dosage as low as 10 per cent, thereby retaining mechanical properties. This product definitely has the capability to revolutionise the automotive industry.

How is innovation in masterbatches pushing the drive towards excellence in packaging. How is Kandui participating in this drive towards innovation?

We believe that success in research is an outcome of thought, leadership and skill, coupled with requisite



A COMBINATION OF OUR STATE OF THE ART EXTRUDERS, WELL EQUIPPED LABORATORY, RELIABLE QUALITY CONTROL SYSTEMS, WELL QUALIFIED MANAGERS AND SMART WORKFORCE, TOGETHER, ENABLE US TO OFFER WORLD CLASS QUALITY PRODUCTS AND SERVICES TO OUR CUSTOMERS – AND QUALITY ON TIME IS AN INTEGRAL PART OF OUR VISION AND MISSION

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Our History:

- **2007:** Our baby steps - commenced operations as a proprietorship firm, manufacturing low-end fillers for plastics applications
- **2009:** A natural progression - started manufacturing additives and colour masterbatches for polyolefins
- **2010:** On a roll - shifted operations to a new facility, the company status changed to a Private Limited company
- **2011:** Pioneering initiative - became the first company in India to produce black masterbatches using split feed technology; the 2nd company in India to produce black masterbatches for man-made fibres
- **2013:** Testimony to efforts - the Government of India lauds the Kandui R&D efforts; R&D gets DSIR recognition
- **2015:** Stamp of technical authority - commenced manufacturing of the difficult polyester colour masterbatches
- **2015:** Global presence increases - government recognises Kandui as a star export house
- **2017:** Segregated manufacturing - separate unit for production of filler masterbatch was commissioned; installation of the gold standard Farrel Machine (USA)
- **2019:** Setting standards - membership awarded to the Bureau of Indian Standards (BIS), sub-committee for plastics
- **2020:** Making sustainability our business - entered into a JV with Okeanos™, creator of a new category of degradable packaging which aims to replace single-use plastic with a stone-based alternative
- **2021:** New markets - commenced manufacturing of polypropylene based masterbatches for the carpet industry

infrastructure. Research activities have long been the foundation of the company's success. This was affirmed as we received a formal recognition in 2013 for our R&D- the coveted DSIR recognition by the Government of India.

Some of our in-house developed special products for packaging applications include

- PET amber masterbatches, mostly used in pharmaceutical bottles
- Anti-rodent and anti-termite masterbatches that are extremely efficient for use in power cables, tarpaulins and plastic doors
- Filler masterbatches that come with the ability to replace 10-50 per cent LDPE in all critical extrusion lamination applications

such as flexible and rigid packaging, liquid packaging board, composite cans, drinking cups and more

- **KONDUCT** Conductive Compounds for use in electronic packaging, FIBC liner and anti-static films
- **THERMOCHROMIC** additive masterbatch which brings reversible colour changing properties at a particular activation temperature to the fibre or moulded items. This property is utilised in the secret coding of fabrics and other moulding items, adding a security feature to the original branding. It is also extensively used in children's toys, bottles and ice trays.

As a company which supplies masterbatches to the medical industry, please tell us how the pandemic shifted business over the past year and half?

We observed a surge in demand from the medical industry increasing our sales of the below listed products:

- **Breatheeze™:** A specialty compound mainly used in the making of breathable fabric for sanitary napkins and diapers. It is also used in PPE Suits ensuring doctors stay cool
- Antimicrobial additive for various applications such as mask, PPE Suits
- Pet Mould Release for preforms & blood collection tubes
- PET Amber colour masterbatch for medicine bottles

What kind of manufacturing footprint does Kandui have?

We have a strong manufacturing base of over 300,000 square feet, spread across two facilities and we produce over 45,000 MTPA of high quality masterbatches. The strategic locations of our facilities, specifically the proximity to Nhawa Sheva and ICD Tumb, gives us a distinct advantage in terms of logistics costs. And as we are in Daman, our electricity costs are some of the lowest in the country.

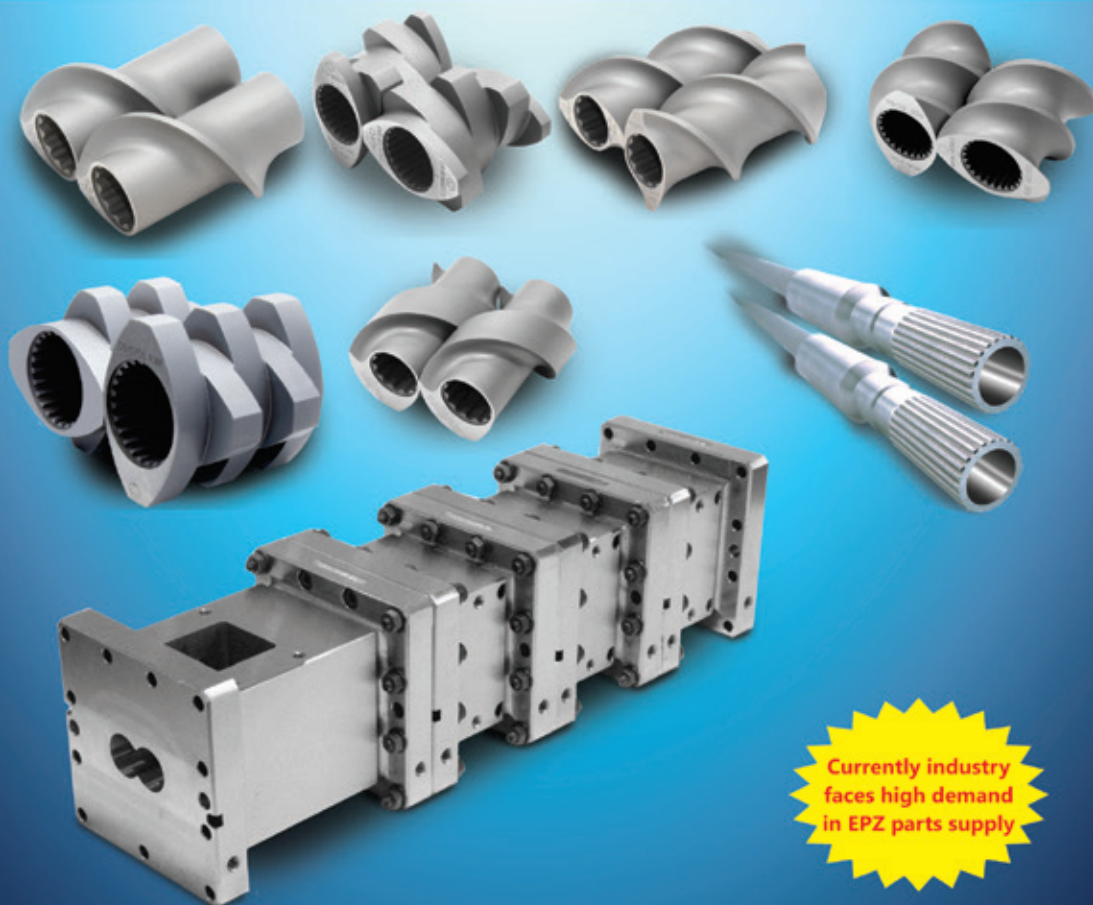
We have invested in globally renowned machines from Coperion, Farrell, KraussMaffei Berstorff and Steer Machinery – giving us the global technology edge as well.

How was the last fiscal in terms of business numbers, and what kind of target are you looking at for the ongoing financial year?

In the pandemic year 2020-21 having touched a turn-over of Rs. 219 crores, we clocked an overall growth of 8 per cent in revenue over the previous fiscal year; in spite of a poor first quarter and a subdued textile related business. This year we are expecting to touch turnover of 250 crores. 📈

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The Fast, Fresh and Safe!

Driven by overall growth in the global market for food, the market for packaging equipment is taking on a new turn. Here are excerpts from TriStar Plastics's whitepaper on the subject.

By TriStar Plastics

Food packaging equipment includes everything from bottling lines for alcoholic beverages to vacuum-sealing for frozen dinners. Driven by overall growth in the global market for food, the market for packaging equipment is robust. But food is still a highly competitive marketplace which demands high-efficiency, reliable packaging equipment. And this equipment needs to thrive in production facilities with some unique challenges.

Food packaging techniques can be just as important as the processing of the food itself. No longer simply an instrument for carrying food to market, product packaging has key implications for food safety, shelf-life, marketing (via labelling and package design), and profit margin.

Meanwhile, new trends in food (like a major shift toward "convenient fresh meals" like pre-prepared salads) always come with new imperatives for food packaging. Food companies will always be tasked with bringing new food products to market in the most functional, attractive, and cost-effective packaging possible. And food packaging equipment is an essential part of accomplishing that task at the scale and speed demanded by this price-sensitive industry.

All of these requirements translate to the production line, where food packaging equipment needs



to package goods safely, precisely, and at high-volumes. Meanwhile, the ever-present risk of food spoilage means that delays imposed by packaging equipment malfunctions can be particularly costly. Packaging problems can grind the production line to a halt just as easily as issues with food processing equipment.

With this context in mind, packaging equipment faces an urgent need to maintain performance. And it needs to do so across a variety of potentially challenging production environments.

At Source

Food packaging equipment is

unique compared to packaging in some other industries: in general, it needs to be applied "at the source," in the same facility where food is being processed. Any time food spends unpackaged represents a potential threat to shelf-life, freshness, and safety.

In some cases, this imperative for onsite packaging simply means that packaging equipment is placed in a manufacturing facility directly after processing equipment. In other cases, it can lead to even more extreme arrangements. In the seafood industry, for instance, you'll find floating canneries on ships that allow fresh catches to be canned immediately for maximum freshness.

Some food, like fruit, requires limiting processing. In these cases, you can even find packaging equipment at work within the agriculture industry (like a farm that freezes and bags fresh vegetables). The upshot of

NO LONGER SIMPLY AN INSTRUMENT FOR CARRYING FOOD TO MARKET, PRODUCT PACKAGING HAS KEY IMPLICATIONS FOR FOOD SAFETY, SHELF-LIFE, MARKETING (VIA LABELLING AND PACKAGE DESIGN) AND PROFIT MARGIN



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Today if the company has delivered a processing capacity of 5.76 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 future too, will be committed to customers for great value and complete peace of mind.

LohiaCorp



this unique need for onsite packaging is that food packaging equipment is expected to thrive in a huge variety of challenging operating conditions.

Furthermore, food and beverage production is highly regulated, and packaging equipment is no different. Any material that will come into close contact with food needs to avoid flaking, emitting chemical contaminants, or leaking lubricant.

Advanced Materials for Food Packaging Equipment: Solutions to Pressing Challenges

TriStar has extensive success working directly with food packaging equipment manufacturers to



FOOD PACKAGING EQUIPMENT IS UNIQUE COMPARED TO PACKAGING IN SOME OTHER INDUSTRIES: IN GENERAL, IT NEEDS TO BE APPLIED “AT THE SOURCE,” IN THE SAME FACILITY WHERE FOOD IS BEING PROCESSED

deliver components that can thrive in the face of the diverse challenges faced by this equipment:

1. **Self-lubricating polymers eliminate the need for expensive food-grade grease, help reduce maintenance costs,** and provide a more sanitary, grease-free environment.
2. Excellent **vibration and impact resistance** to maximize component lifespan under heavy loads.
3. Excellent **wear resistance**, essential in packaging equipment that is expected to operate on high-volume, 24/7 production lines.
4. **Corrosion resistance** to avoid degradation from wet environments (or the caustic cleaning chemicals often required in food manufacturing facilities).
5. **Moisture resistance** helps prevent deformation in wet environments.
6. Excellent **strength-to-weight ratios** help ensure flexible design options.
7. **Regulatory pre-approval** for simple material sourcing.

Food packages — with their wide range of options, sizes and densities — will continue to evolve given fickle consumer tastes and changing market trends. But the makers of food packaging equipment will always strive to help their manufacturing partners achieve production gains. TriStar's line of strong, non-corrosive, and cost-effective self-lubricating bearings will help lead the way to that savings — for the manufacturer, for the retailer, and for the consumer. 

Source:
TriStar Plastics White Paper

Working Case Study Example

Complete bottle drying for better label adhesion and throughput

Labelling is a critical step in the packaging process. Given the rise in food allergies and dietary restrictions, consumers depend on label accuracy to decipher ingredients before consumption. And CJ bearings have become a critical part of the labelling equipment. A thermosetting, filament-reinforced resin with a PTFE liner, CJ bearings are recognized for strength and good mechanical properties. They also remain dimensionally stable in wet beverage environments.

Challenge:

A major bottler of carbonated beverages approached us to solve their air-drying challenge. Excess moisture was left on the bottles after filling, which prevented the equipment from properly adhering product labels. Without proper label placement and adhesion, the bottles were unfit for market, which resulted in a significant amount of waste and production loss.

Solution:

Our team visited the plant and studied the function of the bronze bearings on the manufacturing drying systems. They discovered the bronze bushings on the idler arm of the air knife system failed repeatedly and caused inconsistent drying on the filled bottles. By replacing the bronze bushings with CJ bearings, our client has had superior drying results and better label adhesion. In fact, the CJ bearings have helped our client exceed their throughput.

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The Future of Mobility

The 5th edition of the Global Conference on Plastics in Automotive was held on the 25th November 2021, at the Novotel Pune – a successful networking event. Here are highlights of the same

By Kruti Bharadva

If there is something every person was starved for in the past year, it was face to face interactions with their peers, colleagues and compatriots, exchanging thoughts and opinions on the industry. The 5th edition of the Economic Times Global Conference on Plastics in Automotive felicitated this need and much more. Held in Pune on the 25th of November 2021, the conference was a veritable feast of industry led presentations conferences and networking opportunities.

With an ambition to cover the theme of “The Future of Mobility” through a holistic debate and indus-



E-MOBILITY, AUTONOMOUS DRIVING, 5G AND A CIRCULAR ECONOMY ARE THE FUTURE TRENDS IN MOBILITY. SUSTAINABILITY CHALLENGES ARE IN TERMS OF RECYCLING OR SCRAPPING OF OLD VEHICLES, RECYCLING OR REPURPOSING OF EV BATTERIES, BIO-DEGRADABILITY AND USAGE OR RENEWABLE ENERGY AND RESOURCES

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Anand Srinivasan, Managing Director and Head Engineering Plastics, Covestro India Private Limited



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WITH THE PANDEMIC, MAJORITY OF TOOLING DEVELOPMENT IS BEING DONE INDIGENOUSLY, THUS, THE INDIAN TOOLING SECTOR

IS GOING THROUGH ITS GOLDEN PERIOD AND THIS GROWTH TREND IS GOING TO REMAIN FOR A LONG TIME. I HAVE NO DOUBT THAT THE INDIAN TOOLING INDUSTRY WILL NOT ONLY FULFIL ITS DOMESTIC DEMAND BUT WILL BE A MAJOR GLOBAL TOOL SOURCING HUB.

Vishal Agarwal, President, Yudo Hot Runner India Pvt Ltd

try input, the panel discussions included topics like plastics driving the future of mobility and the move towards a circular economy, innovative plastics and advanced composite materials, E-Mobility being the dawn of a new era In India, and a special all-women panel on the challenges and rewards which come with being a female in the Indian automotive sector.

The partners of the event were:

- **Powered by Yudo Hot Runner India Pvt Ltd**
- **In Association with Covestro India**
- **Lubricant Partner Mobil**
- **Platinum Partners Domo Chemicals and igus India Pvt Ltd**
- **Gold Partners Electronica Plastic Machines**
- **Gold Partner Omega Seiki Mobility**
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Winner of the Yudo Hot Runner India Ltd – Electric Bike Contest

Excerpts From The Interview With Shri Nitin Gadkari



Chief Guest Shri Nitin Gadkari, Union Minister Of Road, Transport And Highways, Government Of India, giving his virtual address to the delegates

E-mobility is the future for us which is a highly safer, cleaner and eco-friendly mode of transport. India has surplus electricity and the government intends to have EV cells penetration of 30 per cent for private cars, 70 per cent for commercial vehicles, 40 per cent for buses and 80 per cent for two and three-wheelers by 2030. We don't need any artificial push for the sale of electric vehicles in India. The economics are so good that due to the low per-kilometre cost, the consumer would naturally shift to buying EVs. Per-kilometre cost of petrol best vehicle is 10/ km, for diesel it is 7/km and for EV it is a mere 1/km.

Additionally, there is a large-scale in-house production demand for small battery-operated EVs like bikes, autos, cars and bicycles in the market. More and more Original Equipment Manufacturers (OEMs) are offering domestic chargers along with the EVs, making it very easy to charge respective EVs at home. Many world-class EV carmakers are available in India and now the battery capacity, driving range and charging mechanisms of electric cars are significantly improving.

Research is also in full swing for hydrogen fuel cell technology. The government has allocated Rs 18,000 crore for the manufacturing of advanced battery cells. We intend to shift public transport mode and logistics on electricity. The government has sanctioned Rs 18,000 crore to support the expansion of public bus transport services where the procurement of electric buses seems to be the more economically viable choice. In the next two to three years mass production of EVs will lead to the same capital cost compared to petrol and diesel versions today due to economies of scale. I am confident that by the end of this decade, there will be a significant penetration of electric vehicles in the Indian transport sector.

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Panel Discussions

The application of plastics and advanced composites in automotive vehicles has been increasing over decades, with more recent uses being focussed primarily on making vehicles more energy-efficient through lightweight engineering, together with providing more durability and design flexibility at a low cost. In automotive design, although plastics have contributed to a multitude of innovations in safety, performance, and fuel efficiency, the

industry requires new research and improvement to meet the needs of next-generation vehicles.



5th edition of the Global Conference on Plastics in Automotive, Pune, Nov 2021

India's EV market is expected to reach nearly \$206 billion USD in the coming decade, if India were to achieve its 2030 EV ambitions, signalled by NITI Aayog, which states that 70 per cent of all commercial cars, 30 per cent of private cars, 40 per cent of buses, and 80 per cent of two-wheeler and three-wheeler sales in 2030 would be of EVs. The cumulative EV sales in all vehicle segments are projected to cross over 100 million units by FY30, 200 times its current market size.

To this end, the conference comprehensively covered the following topics:

- Plastics driving the future of Mobility and the move towards a Circular Economy
- Engineered Materials Driving The Indian Automotive Sustainable Growth
- Functional Solutions for Future Mobility
- Innovative Plastics And Advanced Composite Materials
- Tech Up, Cost Down. Sustainability With Motion Plastics
- Women in Automotive



Keynote Panel Discussion- Plastics driving the future of Mobility and the move towards a Circular Economy.
LtoR: Mr Uday Narang, Chairman Omega Seiki Mobility; Mr Kamal Bali, President & MD, Volvo Group India; Mr Siddhartha Bagri, Founder, Pravaig; Moderator Rahul Kamat, Editor- B2B Division, WWM



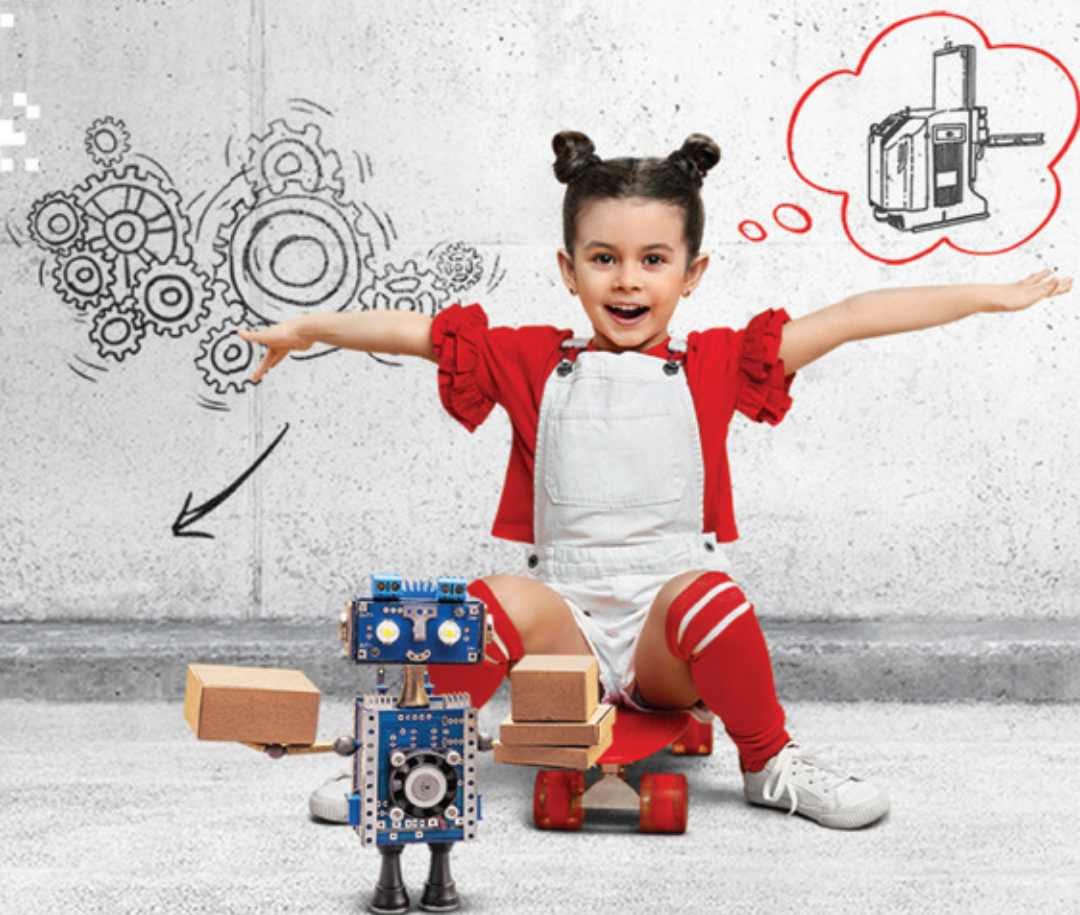
Panel Discussion- Exploring Innovative Plastics And Advanced Composite Materials
LtoR: Mr. Vinayak Gapchup, Head R&D - Polymer BU, Varroc; Mr Amit Arya, Associate VP, Motherson Automotive Technologies; Vineet Maheshwari, Independent Automotive Consultant, Former Head Of Engineering- Interior Plastics, Minda; Sandeep Waykole, Business Unit Director, Faurecia Automotive Seatings India Pvt Limited; Mr Mukul Singhal, Vice President, Engineering Tata Auto Components; Moderator, Mr Divakar Gokhale, Head of Mobility, Covestro

Hall Of Fame

The conference was honoured to play host to leading companies not only in the plastic processing sector, but also automotive OEMs' and electric mobility pioneers. Additionally, two companies were felicitated and inducted in the Automotive Hall of Fame- an editorial choice initiative undertaken by the ET Polymers magazine- for their considerable contribution to the industry. These companies were Minda Corporation Ltd and Greaves Electric Mobility.

Greaves Electric Mobility (formerly known as Ampere Vehicles Private Limited) has over thirteen years of experience in EV technology, designing and manufacturing electric vehicles. With a strong base

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Minda Corporation Ltd is a leader in the auto components sector, has over 60 years of history in the sector and caters to leading passenger vehicle, commercial vehicle, motorcycle & Scooter, Off-road Vehicle & Tier 1 Manufacturers in India.



INDIA IS AT THE CUSP OF TRANSFORMING ITSELF INTO A GLOBAL SUPERPOWER AND MOBILITY SOLUTIONS WILL BE AT THE CENTRE OF THE GROWTH STORY. UNLIKE THE PREVIOUS NEW WORLD, INDIA'S SUCCESS STORY WILL NOT BE DEPENDENT ON OIL, BUT ON CLEAN ENERGY DEVELOPED SUSTAINABLY FOR A GREENER TOMORROW. IN FACT, DATA WILL BE THE NEW OIL AND INCORPORATION OF IOT (INTERNET OF THINGS) AND AI (ARTIFICIAL INTELLIGENCE) AND ML (MACHINE LEARNING) IN THE AUTOMOTIVE INDUSTRY WILL HELP INDIA REACH GREATER HEIGHTS.

Uday Narang, Chairman, Omega Seiki Mobility



Panel Discussion- E-Mobility – The Dawn Of A New Era In India

LtoR: Anand Mohan, Executive Director, Polaris; Mr Anand Bhangaonkar, Head R&D, Piaggio India; Moderator Mr Vishal Agarwal, President, Yudo Hot Runners; Ashwin Shankar, Co-Founder, Battery Pool; Karthik Bangalore Anantha, R&D-Head, Omega Seiki Mobility



Panel Discussion- Women in Automotive

LtoR: Moderator Kruti Bharadva, Asst. Editor, WWM; Aditee Patwardhan, Deputy General Manager – Engineering/R&D, Tata AutoComp Systems Ltd Interiors and Plastics Division; Kapila Sandeep Soni, Managing Director Of Croyance Automotive; Ms Pooja Bansal, Head HR, Piaggio India; Ms Pritti Patel, Head Business Development, BatteryPool

We were especially honoured to award Shri Nitin Gadkari Union Minister, Ministry of Road, Transport and Highways, Government of India with ETGCPA Hall of Fame 2021 for his Outstanding Contribution in The Infrastructure Sector.

The highlight of the event though had to be a personal message from Shri Nitin Gadkari, who congratulated the participants, delegates and organisers for the notable event.

Conclusion

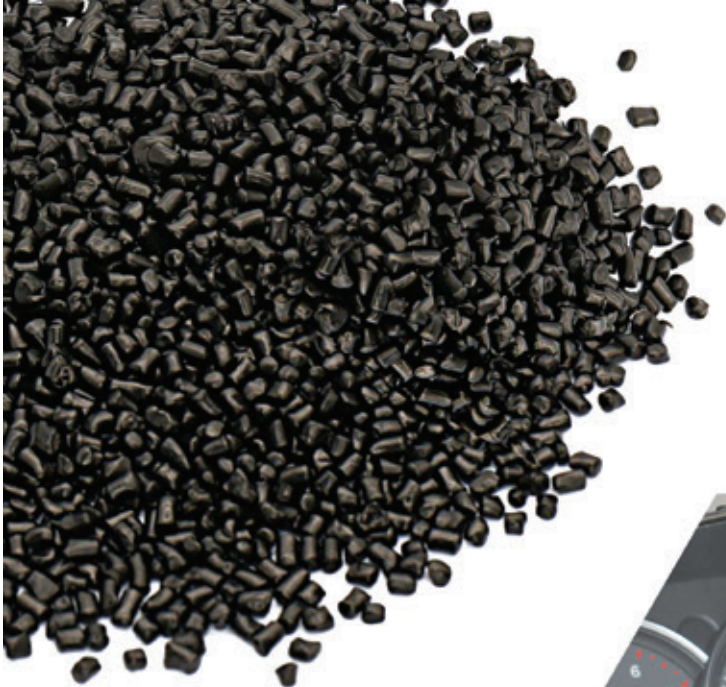
At the end of the day, vital facts were validated- plastics and polymer

composites are integral to automotive design. Nearly every quality of the modern vehicle—from safety and performance to efficiency and aesthetics—relies on plastics. Today, the revolution underway in personal mobility is driving automakers to rapidly invent mobility solutions suited to an autonomous, connected, electrified and environmentally responsible automotive future. To do so, automotive designers need new material solutions. Advanced plastics and polymer composites will continue to be essential on this journey to the future of mobility.



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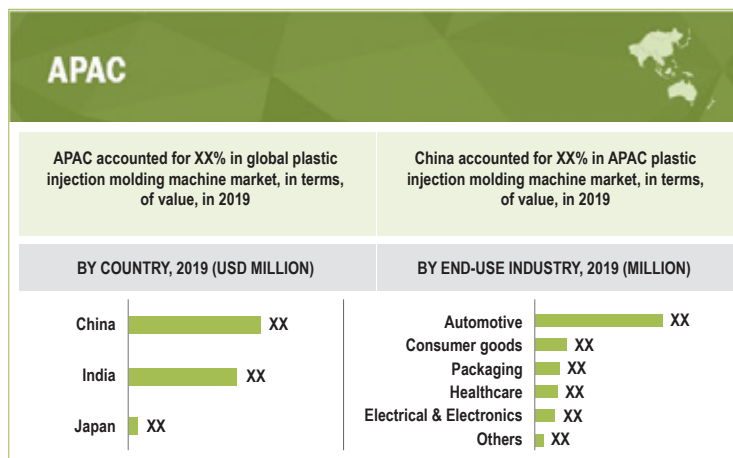
Forecast: Plastic Injection Molding Machines Market

An in-depth look at where the market stands currently and where its headed

The plastic injection molding machine market size is estimated to be USD 8.9 billion in 2020 and is projected reach USD 10.6 billion by 2025, at a CAGR of 2.74 per cent between 2020 and 2025. The market is mainly driven by the rising demand for plastic injection molding machine in end-use industries such as automotive, consumer goods, packaging, healthcare, electrical & electronics and others. Factors such as growing demand from healthcare industry, rapid industrialization in growing economies like China, India and Thailand and increasing demand for plastic molds in electric vehicles will drive the plastic injection molding machine market. APAC is the key market for plastic injection molding machine, globally, followed by Europe and North America, in terms of volume and value.

Impact of COVID-19 on Plastic Injection Molding Machine Market

Asia Pacific is the largest market for plastic injection molding machine market. The plastic injection molding machine has been adversely affected during COVID-19 which has, opened up avenues of opportunities for plastic injection molding machine market. Recently, there has been a rise in demand for plastic injection molding machines from the makeshift hospitals and healthcare institutes all around the world for manufacturing of various medical equipments. The outbreak of coronavirus across the globe has highlighted the healthcare industry. Due to explosive surge in the number of Covid-19 cases, the demand for medical equipment like syringes,



air systems, and other medical instruments increased exponentially. Countries such as India and China became the hub for manufacturing and meeting the demand for all these equipment across the globe.

Driver: Rising Awareness About Energy Saving

There is growing awareness regarding energy saving worldwide. This is leading to increasing demand for all-electric injection molding machines. All-electric is the fastest-growing type of plastic injection molding machine. The main reasons are its various advantages such as energy savings, increased precision and re-usability, low maintenance without the requirement of oil for cleaning, and high speed. All-electric injection molding machines outperform hydraulic machines in terms of efficiency, reliability, cost savings, cycle-time savings, and re-usability. They save up to 70% of energy as compared to conventional hydraulic machines. They operate with digital control systems. As a result, various components of all-electric injection

molding machines are mechanically driven. The operating cost is significantly low as they require less power. There is no chance of fluid leakage or misting in all-electric injection molding machines, which reduces the possibility of material and surface contamination.

Restraints: High Initial And Maintenance Costs of Machines

All-electric injection molding machine has production efficiency, short injection times due to dynamic servo-motors, greater repeatability, reduced noise, and best acceleration performance. Due to the high technology of all-electric machines, the investment costs are high. Another disadvantage is the extraordinary maintenance in case of waste. In case of motor failure, the entire system must be changed, which entails significantly high maintenance costs.

Opportunities: Demand for Large-Tonnage Plastic Injection Molding Machine

According to a report, there is a

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growing demand for large tonnage plastic injection molding machines which are used for making large molded parts for automotive, appliances, and industrial applications. Earlier, due to plant infrastructure expenses, the demand for plastic injection molding machines was not beyond the 400 tons range with 500 presses being the maximum limit. Over the years, the demand has changed. There is a great demand for large parts. The ability of machinery manufacturers to build a large energy-efficient machine that offers fast cycle time has increased. According to the Plastics Industry Association, the shipment of large machines has increased more than small machines. Large plastic injection molding machines give companies good business opportunities in various markets, including sports, agriculture, and automotive.

“All-Electric is the fastest growing machine- type for plastic injection molding machine during the forecast period”

All-electric injection molding machine utilizes electric servo motor powering gears, racks, and ball screws to drive most of the machine functions. All-electric presses are noiseless faster, and more accurate as compared to other types of injection molding machines; however, the machine is more expensive. Since servo motors run all-electric injection molding machines, they require power only when they are in operation. All-electric injection molding machine can save up to 50–70% energy as compared to hydraulic injection molding machine. All-electric injection molding machine is currently the most preferred machine type owing to its lower use of chilled water, decreased housekeeping and preventive maintenance, less energy and oil consumption, and lower repair rate. Thus, All-Electric injection molding machine is the fastest growing segment during the forecast period.

“Automotive is estimated to be the largest end-use industry in plastic injection molding machine market between 2020 and 2025.”

Plastic injection molding machines are predominantly used in manufacturing automotive components, interior wrapping, and assembly parts, such as automotive exteriors, car lenses, interior components, under-the-hood components, and filter components. A strong shift in the use of plastics instead of iron and steel in the automotive industry is expected to drive the plastic injection molding machine market during the forecast period. Stringent government regulations have forced automotive manufacturers to use plastics instead of other materials such as iron and steel. Rapid economic growth, improved infrastructure, and rising middle-class population in emerging economies have led to an increase in vehicle production and sales, which, in turn, increase the demand for plastic injection molding machines. The rapidly growing automotive industry in APAC is also one of the major factors driving the plastic injection molding machine market.

“APAC is expected to be the largest plastic injection molding machine market during the forecast period, in terms of value and volume.”

The APAC comprises major emerging nations such as China and India. Hence, the scope for the development of most industries is high in this region. The plastic injection molding machine market is growing significantly and offers opportunities for various manufacturers. The APAC region constitutes approximately 61 per cent of the world's population, and the manufacturing and processing sectors are growing rapidly in the region. The APAC is the largest plastic injection molding machine market with China being the major market which is expected to grow significantly. The rising disposable incomes and rising standards

of living in emerging economies in the APAC are the major drivers for this market.

The increasing population in the region accompanied with development of new technologies and products are projected to make this region an ideal destination for the growth of the plastic injection molding machine market. However, establishing new plants, implementing new technologies, and creating a value supply chain between raw material providers and manufacturing industries in the emerging regions of the APAC are expected to be a challenge for industry players as there is low urbanization and industrialization. Booming automotive, consumer goods and packaging sectors and advances in process manufacturing are some of the key drivers for the market in the APAC. Countries such as India, Indonesia, and China are expected to witness high growth in the plastic injection molding machine market due to the increasing demand from the automotive industry.

“Europe is estimated to be the second largest plastic injection molding machine market during the forecast period.”

Europe is the second-largest plastic injection molding machine market in the world. Key countries in the region include Germany, France, the UK, Italy, and Spain. As the market in Europe is mature, it is projected to grow at a lower CAGR during the next five years. Europe has always been a major plastic injection molding machine market due to presence of developed automotive sector in the region. This market is more growing due to high demand of plastic molds in electric vehicles. Key countries such as Germany and Italy have shown promising demand for plastic injection molding machine which is expected to continue in the near future. 

Source: [marketsandmarkets](https://www.marketsandmarkets.com)
www.marketsandmarkets.com



THE ECONOMIC TIMES POLYMERS

Awards 2022

Excellence in Plastics

Lubricant Partner

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- Excellence in Consumer Durables & Electrical & Electronics
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- Excellence in Houseware & Kitchenware
- Excellence in Toys & Play Equipment
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Send in your nominations to:

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A Penchant for Diversity & Innovation

History, diversity and an ability to evolve are what stand out about the Cello Group. **Gaurav Rathod, Director-Cello Group**, takes us through not only his journey as the third generation in the business, but the group's as well- a journey which encompasses a rich heritage as one of India's most recognised household brands

By Kruti Bharadva

Some years ago, when my siblings were still in school and college, and I would travel home for Christmas, the invariable thing always on their wish list of things I should get them from India, would be stationary. Specifically pens. Just goes to show how one brand crossed borders -such is the power of the Cello brand.

Beginning with a tiny factory as plastic PVC footwear and bangles manufacturer in Mumbai in 1967, the Cello group has today emerged as one of the most diversified household brands in the country. The Mumbai-based company has a presence across multiple segments ranging from plastic and steel ware, opal ware and glassware, melamine ware to moulded furniture, home appliances, air-coolers, writing instruments, paper and stationery products, and cleaning products. Today, 60-year old Cello group is one of the most recognized brands in the country, and probably every household has at least one Cello product at home.

We spoke to **Gaurav Rathod, Director-Cello Group**, a third generation family member to join the family business. He started his internship under the leadership of

I AM BUILDING UPON A ROCK-SOLID FOUNDATION, WHICH IS HUMBLING AND INSPIRING ALL AT THE SAME TIME AND COMES WITH A GREAT SENSE OF PRIVILEGE

his grandfather Late Shri Ghisulal Rathod, Founder & Chairman of the Cello Group, at the very young age of 18!

"The longer the legacy, the greater the responsibility," shared Gaurav.

"It has been quite challenging, but has been the greatest enabler too, this being part of the family business, a platform for me to try new things. I am building upon a rock-solid foundation, which is humbling and inspiring all at the same time and comes with a great sense of privilege," he added.

"In 1985, my grandfather launched the hot-pot in India, the very first one the country had ever seen. He was the power house behind a hot-pot into every kitchen in India," added Gaurav with a proud smile.

"We moved into plastic moulded furniture in the 1990's and in 1995 launched the stationary business- a segment we are most widely recognised in as it cuts across a wide

demographic- all ages use pens!" he further explained.

Diversification is Key

It was in the mid-1990s that the group diversified into the plastic-moulded furniture business (which is also the only listed entity within the group) and writing instruments. It has never looked back since and has kept on adding one business after another to its portfolio – the latest being Opal-ware in 2017.

In an era of lean manufacturing, why such a diverse portfolio, we ventured to ask!

"We are diverse in certain limits! We are not expanding into totally new product lines, but actually keeping well within the customers' perception of us as primarily a household/consumer goods company," shared Gaurav.

A short while before the pandemic hit, the company also ventured into the cleaning category, launching a range of cleaning prod-





ucts called 'Kleeno'; which includes floor, sink and ceiling brushes, kitchen wipers, mop buckets, brooms, dust pans and scrubs. These cleaning products, as also some of the vacuum-insulated thermoware products, have witnessed a significant surge in demand recently, even as the pandemic-afflicted market struggles to keep itself afloat.

"The cleaning segment has been one of the silver linings on the pandemic cloud, as we launched it just before COVID hit. It has since then almost grown 200 per cent!" Gaurav commented.

A Focus on Manufacturing Quality

Importantly, most of these businesses have been backed by world-class technologies and processes, with a plan to offer customers the best products at the right price points. For its latest diversification into Opalware, the company set up the largest manufacturing plant in the country, deploying German technology as per European quality standards. Similarly, in the beginning, when it got into

moulded furniture, the company decided to make elegant, versatile and durable plastic moulded furniture, made from special grade plastic and state-of-the-art moulds from Italy. Currently, for moulded furniture, it has got over 35 modern injection/extrusion machines across four facilities (spread over four regions) with a total capacity of 250-2,800 tonnes.

"Our main hubs are in Daman and Haridwar, with smaller units in Chennai and Kolkata. We are also greatly expanding into Rajasthan at the moment," Gaurav commented.

When, in 1995, the Cello group started the writing division, from the first batch of pens, it offered consumers the latest technology like Swiss tips and German ink in its clear pens. It developed LPHV (Low Pressure High Volume) technology in-house for superior writing. It had the largest range of high-performance ink and gel ballpoint pens in India and manufactured over five million pens every day to become India's largest manufacturer of fine quality pens with 37 per cent market share.

Despite being highly diversified,

the Rs1,500-crore Rathod family-promoted group has continued to focus on manufacturing, where it makes almost 75 per cent of its portfolio on its own, in order to maintain quality and consistency. The group, backed by over 4,000 workers, is one of the largest processors of plastics/polymers (about 50,000 tonnes per annum), with 18 factories across multiple locations (a total of 2.6 million sq ft of manufacturing area). With more than 550 sophisticated moulding machines under its manufacturing shop floor, it is amongst the top few players in the business today.

It was Cello's ability to constantly innovate and launch new and superior products that attracted the attention of French stationary major BIC group to its Cello Pens brand and its manufacturing facilities in India. In 2009, the French group acquired a 40 per cent equity stake in the writing instruments business of the Cello group for Rs790 crore or an overall valuation of Rs1,975 crore (\$402.5 million). In 2015, the €2.5 billion French major, one of the top three players in the world stationery business, bought over the entire stake in the group's writing pen division, which was then renamed BIC Cello (India).

"Our strategy of diversification, where synergy is the primary plan, has paid dividends for us," affirmed Gaurav.

"And we will continue to provide our consumers with the best and contemporary products in the houseware and home segment. While doing so, we will also add newer products and actively try to consolidate the overall portfolio, by phasing out products that have out-

1967

Formation
(Pvc
Footwear &
Bangles)

1982

Plastic
Houseware

1994

Moulded
Furniture

1995

Writing
Instruments

1997

Oral Care

2005

Bubble
Guard
Sheets

lived their use and need to be substituted by superior products. We want to be a complete solution provider for households,” he added.

Navigating the Pandemic

The real impact of Covid-19 on Indian businesses is still in the realm of conjecture. Forget business analysts, even most companies themselves are clueless about how the endemic disrupted their markets and businesses. The Covid-induced lockdown in a way just shut down fully functional factories and took the hands off machines at manufacturing facilities across industries. How did Cello fare, though?

“The pandemic has of course taught the entire manufacturing industries many lessons. The on it has taught us is that there are opportunities to be explored even in such challenging times – our cleaning segment taking off being case in point. But we had our challenges – for example, there was no demand for lunch packs and tiffins or bottles, with offices and schools both shut down. Yet demand for cookware and home appliances certainly went up with more people staying at home and cooking,” revealed Gaurav.

“Our diverse portfolio has to be given credit for allowing us to reach almost 90 per cent of our pre-pandemic sales in the current time!”

New Paths

After selling off its stationery business to France’s BIC five years ago, the Cello group earlier this year re-entered the writing instrument category under a new brand, ‘Unomax’ having already started exporting in small volumes to overseas markets.

The company has a different strategy for its new stationery business to differentiate it from Cello Pens.

“These ‘Unomax’ pens and stationery products have been positioned at price points slightly higher than where they were under our earlier Cello brand,” said Gaurav

In October 2020, even as the market was yet to recover, the Cello group went ahead to strengthen its sales and marketing efforts, roping in Bollywood superstar Amitabh Bachchan as its brand ambassador. The

associating with some of the best household products in its segment, we believe, is a winning move. We cut across different markets in India and, hence, Amitabh Bachchan will be able to help us connect better. The central idea is to highlight the importance of using credible, reliable, and durable products.”

Going Online!

For a long time, Cello sold its products through the offline channel, including its presence



actor endorses Cello’s range of products across social media platforms to enhance and build the consumer connect across different markets, and to grow its market presence.

“Cello is a value-for-money brand, and we want to showcase our diverse range of products across demographics,” said Gaurav. “No other brand ambassador has such an appeal across different age groups as Amitabh Bachchan, with everybody able to relate to his persona. Having one of the best actors in the industry as the brand face,

across 50,000 retail touchpoints and 600 outlets. People wanted to have the touch-and-feel experience before buying products.

When the COVID-19 pandemic struck Indian shores, Gaurav shared that he knew that online was the way forward. “Although we have been selling traditionally, our products are ecommerce-friendly,” he commented.

Going forward, the company soon plans to open an online store. In the next 12-18 months, Gaurav also emphasised that the company’s aim is to identify opportunities within the Indian market and expand its portfolio while expanding its digital and offline footprint.

“We expect to grow 7X in the next three years!” Gaurav concluded on an optimistic note. 📍

2013

Kitchen
Appliances
& Prego
Glassware

2014

Stationery
& Paper
Products

2015

Melamine
Ware &
Tools &
Dies

2016

Opal Glass,
Cleaning
Division &
Air Coolers

Henkel and BRABUS Strengthen Windscreen Bond

BRABUS, the world's largest independent high-performance tuner, turns to trusted adhesives partner Henkel for what it needs to secure advanced windscreen installations on its demanding "supercar" transformations and classic car restorations

By Kruti Bharadva

BRABUS, the world's largest independent high-performance tuner, turns to trusted adhesives partner Henkel for what it needs to secure advanced windscreen installations on its demanding "supercar" transformations and classic car restorations.

This includes Teroson windscreen adhesives and the Teroson Bond Windscreen Adhesive Application System. Henkel offers the one-stop pre-treatment and application package, featuring a cutting tool, cleaner, primer, adhesive and equipment, to Bodyshop's and car workshops to support easy and efficient windscreen replacement.

"BRABUS is committed to pushing performance to the next level. We have been partnering with Henkel for a number of years because we trust Teroson to reliably support our conversions and re-assemblies in significantly exceeding the driving performance capabilities of production vehicles. The innovative adhesives and application system ensure windscreen fittings stand up to more demanding operating conditions and meet our specific advanced requirements," says **Sven Gramm, Director of Communications at BRABUS**.

As windscreens have progressed from simple glazing applications to integrated structural and safety-relevant parts of the vehicle body, direct glazing adhesives must meet a wider range of performance requirements – from the essential flexibility to absorb vibrations, and a leak-proof



seal to the structural reinforcement, to occupant protection required in advanced, modern car designs.

Matthias Biegel, Technology and Segment Engineer at Henkel, adds: "Through our long-standing, close relationship with BRABUS, we are constantly evolving Henkel's adhesives portfolio to meet their advancing needs. In addition to the very important processing properties, the safety of the occupants is a key priority for us. That is why we do not only test our premium windscreen adhesives under standard conditions. All premium adhesives are tested and evaluated with the Henkel standard test under significantly higher loads to ensure maximum occupant protection and provide an extra layer of

confidence to our customers."

Recognizing the automotive aftermarket's increasing economic and service demands, Henkel's Teroson Bond Windscreen Adhesive Application System supports a more efficient workflow for windscreen removal and replacement in workshops. It offers a complete toolbox of support and enables the work to be carried out by only one operator. New cartridge labelling has been added to each product to make the system even easier to select and to use.

Used by BRABUS also in conjunction with Henkel's wider portfolio of direct glazing adhesives and sealants, product highlights from the new system include:

- Teroson Bond 60: a premium

choice 1-component and solvent-free polyurethane (PU) adhesive for safe and reliable auto glass replacement. The high-performance windscreen adhesive offers a unique set of benefits to the market being OEM-approved. It has a safe drive-away time of only 60 minutes (with airbags) in compliance with FMVSS 212/208. In addition to the industry standard – FMVSS 212/208: 48 km/h (30 mph) and 100 % head on – Henkel also test against its New Henkel Crash Test Standard which realistically reproduces a common urban crash scenario at higher speed: 64 km/h (40 mph) and 40% overlap. The product's low conductivity also means it is compatible with ADAS (advanced driver assistance systems) sensors and high voltage battery vehicles. The processing and position tack is easy, clean, and fast thanks to the adhesive's no-stringing and no-sagging benefits as well as use of the comprehensive pre-treatment and application system.

- Teroson Bond Easy Cut is a light and easy to use windscreen removal tool with braided polyethylene cord to prevent paint damages that can occur by using conventional metal cords or oscillating knives. It is also the perfect removal tool especially for aluminium bodies.
- The Teroson Bond Glass Cleaner optimally prepares and cleans the surface to be bonded. Very high cleaning performance is achieved in combination with the Teroson ET Sponge. The cleaner is water-based and has a short evaporation time even in cold

AS WINDSCREENS HAVE PROGRESSED FROM SIMPLE GLAZING APPLICATIONS TO INTEGRATED STRUCTURAL AND SAFETY-RELEVANT PARTS OF THE VEHICLE BODY, DIRECT GLAZING ADHESIVES MUST MEET A WIDER RANGE OF PERFORMANCE REQUIREMENTS

weather conditions

- The ultra-abrasive, solvent resistant Teroson Bond Sponge enables reliable removal of contamination on windcreens prior to bonding.
- Teroson Bond All-in-one Primer for pre-treating of bonding surfaces. It promotes adhesion and UV-protection of the windscreen adhesive when applied as a base layer for the polyurethane bead. Evaporation is fast – approximately 2 minutes even in cold environment for 1-component adhesives.
- The Teroson ET Gun Powerline II dispensing tool has an integrated pressure increase in the ratio 3:1. This makes the dispensing tool multifunctional, and it can also be used for special bonding and sealing applications, such as flat and wide stream. Lightweight, well-bal-

anced construction. No blasting of cartridges even at high application pressures.

Henkel Key Account Manager

Björn Wesch is excited about the closer cooperation with BRABUS: “We are very proud to be a preferred supplier of high-performance materials to BRABUS. Performance vehicles like their supercars place extremely high demands on our products. We therefore do not just see ourselves as a supplier, we see this relationship as a great opportunity for their high standards and expertise to take our products and services to the next level.”

Henkel operates globally with a well-balanced and diversified portfolio. The company holds leading positions with its three business units in both industrial and consumer businesses thanks to strong brands, innovations and technologies. Henkel Adhesive Technologies is the global leader in the adhesives market – across all industry segments worldwide leader in sustainability.

High-end supercars, custom automotive refinement, exclusive lifestyle and 6-star restorations for Mercedes-Benz classics are the domain of BRABUS. In 2017, BRABUS celebrated its 40th anniversary and thus four decades filled with automotive masterworks and luxurious treasures. The world-renowned tuner and car manufacturer offer custom options to satisfy every wish. The BRABUS product line-up ranges from powerful tuned engines and elegantly styled aerodynamic-enhancement kits to high-quality alloy wheels, dynamic yet comfortable sport suspensions and exquisitely luxurious interiors handcrafted to perfection. 



SABIC, Mars Petcare and Huhtamaki Extend Collaboration

SABIC, Mars Petcare and Huhtamaki have announced that their successful collaboration in pet food packaging using certified circular polypropylene (PP) from SABIC's TRUCIRCLE™ portfolio has taken the next step and will be used for innovative packaging solutions for the leading cat food SHEBA®

By Kruti Bharadva

SABIC, Mars Petcare and Huhtamaki have recently announced that their successful collaboration in pet food packaging using certified circular polypropylene (PP) from SABIC's TRUCIRCLE™ portfolio has taken the next step and will be used for innovative packaging solutions for the leading cat food SHEBA® brand. Mars Petcare, as part of Mars, Incorporated, a family-owned business with more than a century of history making diverse products and offering services for people and the pets people love, has adopted a flexible film structure with SABIC® PP BCT18F impact copolymer for retort pouches that are used in the packaging of wet pet food products for SHEBA®. The multi-layer film is manufactured by Huhtamaki, a key global supplier of sustainable packaging solutions to customers around the world.

This latest achievement is another example of SABIC's commitment to working to accelerate a circular economy to ensure plastic products are designed, produced, used and recycled more sustainably. "We are very pleased about the ongoing strategic efforts with Mars and Huhtamaki," stated **Lada Kurelec, General Manager PP, PET, PS, PVC, PU & Elastomers Businesses for Petrochemicals at SABIC.** "The transformation of the industry towards a circular economy requires unprecedented innovation and intensive collaboration across the value chain. Together, we have set another



milestone on this exciting journey."

The new wet pet food retort pouch solution continues the partners' efforts to support a circular economy by incorporating advanced recycled content in pet food packaging. "We are pleased to share the progress in our sustainable pet food packaging journey. Over the past year, we have been closely working with SABIC and Huhtamaki, continually testing-and-learning and scaling up the recycled plastic content in our petfood packs. As part of our Sustainable in a Generation plan, we are committed to doing our part to help drive a circular economy, which includes redesigning our packages for circularity. The fact that we are now able to introduce recycled content into our SHEBA® pouches helps us accelerate our journey to achieve 30 per cent aver-

age recycled content in our plastic packaging and to reduce by 25 per cent our use of virgin plastic" said **Barry Parkin, Chief Procurement and Sustainability Officer at Mars, Incorporated.**

In November 2020, Mars, Incorporated had announced its ambition to introduce food safe recycled content polypropylene into its pet food packaging to do its part in building a circular economy where no packaging becomes waste. In partnership with SABIC and Huhtamaki, the goal was to develop and deploy recycled plastic in pet food brands.

One of the most critical issues to overcome for the joint development team were the technical challenges involved in receiving approval for the complex new packaging structure. Wet food retort packaging is associated with demanding

thermal processing conditions to ensure the highest food quality and help Mars Petcare achieve its purpose of creating a better world for pets. By using material from a recycled source under the International Sustainability & Carbon Certification (ISCC) PLUS program, it proves that under even the most challenging of packaging processed, recycled content can be safe and a reality for the future.

Marco Hilty, President of Huhtamaki's Flexible Packaging business segment said: "We are fully committed to partnering with global leaders to develop solutions which drive the transition to a circular economy. We are proud to work with Mars and SABIC on a concrete solution which can be used globally. Successfully processing recycled polymers into high-quality, easy tear films for wet retort packaging at an industrial scale is a significant milestone in delivering on our

ONE OF THE MOST CRITICAL ISSUES TO OVERCOME FOR THE JOINT DEVELOPMENT TEAM WERE THE TECHNICAL CHALLENGES INVOLVED IN RECEIVING APPROVAL FOR THE COMPLEX NEW PACKAGING STRUCTURE. WET FOOD RETORT PACKAGING IS ASSOCIATED WITH DEMANDING THERMAL PROCESSING CONDITIONS TO ENSURE THE HIGHEST FOOD QUALITY

ambition to have more than 80% of our raw materials renewable or recycled. This is important for consumers and in line with our ambitious 2030 strategy."

Huhtamaki uses the certified circular polymer as a phthalate-free and gel-controlled film layer, which lends the flexible pouches high impact strength and puncture resistance even at low temperatures down to -20°C. For wet food packaging, the pouches must also be capable of withstanding a retort temperature of 135°C for 60 minutes. Even higher

thermal resistance of up to 160°C may be needed in freezer-to-oven applications.

SABIC's certified circular polymers form part of the company's TRUCIRCLE portfolio and services for circular solutions. The offering also includes design for recyclability, mechanically recycled products, certified renewable polymers from bio-based feedstock and closed loop initiatives to recycle plastic back into high quality applications and help prevent valuable used plastics from becoming waste. 

UPDATE

Colorants Webshop – Creating A Better Customer Experience

The evolution of eCommerce has been rapid and enables levels of customer experience we could only dream about even 5 years ago. Customers expect more flexibility, more reliability, more transparency, and more speed. B2B customers are increasingly evaluating suppliers, not just based on product performance and sustainability, but also on their reliability, and customer experience.

David Howes is Head of Digital Commercial and explains how Clariant BU Pigment's Colorants Webshop helps create a better customer experience, and in particular, how a customer portal is key to offering more transparency and better service to customers.

"In many ways our webshop is the same as other B2B webshops. It supports product search, sample request, order confirmation and safety data sheet download. However, by integrating systems used by our customer service teams, we can create a true customer portal providing more real time information. For example, a personalized product catalogue, faster reordering, real time order changes, delivery updates, as well as regulatory, safety and technical documents relevant to each customer. It is a win-win

for our customers who can make better decisions, but also our customer-facing teams who can offer more proactive customer service supporting a better customer experience."

How does the Colorants Webshop help create a better customer experience?

"We set ourselves the challenge to offer a 'one click' experience to make the webshop as easy to use as possible. With this in mind, we designed a homepage with frequently used functions and most important information together in one customer view. Friction is frustrating, but it also increases hidden costs linked to delay. Whilst we are not there yet, we aspire to make our customers experience as frictionless as possible."

There are two parts to a successful customer portal. Making it fast and easy to use, but importantly, ensuring the information provided is useful for daily business. We ask every new user to give us feedback 6-8 weeks after 1st login. We also display a customer thermometer on the homepage which customers can use anytime to give us feedback."

Innovative Launches From Uflex

UFlex has developed a new MOPE/PE recyclable structure with registered matt coating and special PE mono-Polymer based laminate film for EBRO rice brand Peacock. The newly developed structure for rice packaging possesses similar mechanical and other properties allowing easy recyclability of PE in conventional extruder and can be easily run on existing packaging line with minor adjustments. This development has cleared all tests related to handling, post filling of the pack content, and has successfully fulfilled required barrier properties throughout the defined shelf life of the packed rice thus positioning itself as a suitable packaging application for large quantities.

Frozen food segment has experienced a steady growth since the pandemic as people have been gravitating towards foods with longer shelf lives. Frozen and refrigerated food

needs a special barrier structure to pack the food content such that it doesn't lose its integrity even months after opening it. Customising the requirement for the brand Milky Mist, UFlex has developed a three-side sealed pouch packaging structure to pack Asal Coin Parota through use of a special high barrier PET film that increases the barrier properties by 50 per cent under ambient conditions and allows the parota to stay fresh for a longer duration.

For most pet food buyers, what drives consumers' decision is a host of factors including convenience, portability and ergonomics; product safety and freshness; transparency in product descriptions and clean labels; sustainability and recycling; and above all getting best value for their money. With this in focus, UFlex has developed two packaging sizes of 3kg and 12kg to pack pet food for the brand Fidele. Its pack-



aging structure comprises of specialized Matt finished PET polyester and its pocket slider allows reclosability thereby adding to consumer's convenience. The side gusset handle in the 3kg variant helps easy carrying and pouring whereas the 12kg variant comes with bottom pinch pasting allowing multi-dimensional display thus helping the brand to leverage as much branding opportunity as it can and make it stand out on the retail shelves.

Solvay Launches New Amodel® Supreme And Bios Grades

Solvay is accelerating the pace of providing the automotive industry with an entirely new generation of Amodel® polyphthalamide (PPA) materials targeted at higher demands of performance and sustainability for advanced electrical and electronic applications in e-mobility.

In the Supreme range, Amodel® PPA AE 9933 and AE 9950 have been designed for e-motor and inverter busbars operating at 800 volts and higher. They combine best-in-class comparative tracking index (CTI) ratings with high thermal cycle shock resistance from -40 to 150 °C. As a breakthrough vs. conventional PPA technology, they will also retain their CTI over time even after temporary exposure to peak temperatures above 150 °C.

New halogen-free flame retarded Amodel® Bios HFFR R1-133 and HFFR R1-145 meet with the growing trend of integrating the e-motor, power electronics and the gearbox



into one single consolidated electric drive system. With a CTI of >600 volts, heat resistance of >120 °C and excellent dimensional stability, these grades enable the design of highly compact systems using miniaturized components. Moreover, they provide UL94 V0 flammability ratings without the need for halogenated flame retardants. Besides addressing safety concerns in the event of uncontrolled thermal excursion, the halogen-free formulation also minimizes the risk of electronic corrosion.

In addition, Solvay is offering Amodel® Bios AE R1-133, an electro-friendly grade specifically devel-

oped for surface mounted data connectors that can be reflow soldered without blistering. Compared to standard PPA, the higher impact resistance and weld-line strength of the material allows designers to further reduce the wall thickness of connectors, saving up to 50 per cent in footprint on the printed board and giving more space for other electronic devices.

"Amodel® Supreme and Bios are garnering a high level of interest among designers of e-propulsion systems, including e-motors, power electronics, and electronic coolant pumps. Beyond adding value by improving the thermal and electrical performance of e-mobility components in these systems, the new additions to the Amodel® polymers family are being more widely considered as manufacturers are seeking to meet ambitious sustainability targets," states Brian Baleno, Head of Marketing, Automotive at Solvay Specialty Polymers.

New Igus Cable Guide For Scara Robot

Scara robots are ideal to perform pick-and-place or assembly tasks in the industry. However, these dynamics have a limited lifespan due to the corrugated hoses wearing out within a very short time. Therefore, igus has now developed an alternative, which can be retrofitted with the SCARA Cable Solution, which significantly increases the service life.

Watching SCARA robots at work can quickly make you dizzy. The horizontal articulated-arm robots work fast over four axes. The inner and outer arms pivot horizontally. The component for gripping objects, the ball screw, moves rotationally and linearly. This allows the robot arm to reach almost any point in its working radius. This is fast and precise, but it means that the externally routed cables and hoses have to be replaced or serviced frequently due to the high loads.

The SCARA Cable Solution consists of three components: the rotary bearing for the moving end and the fixed end, as well as the corrugated hose with the e-rib. The special feature lies in the new rotary connection, which absorbs the torsional forces. Here, integrated ball bearings ensure a smooth-running energy supply system that is resistant even to high accelerations. The corrugated hose is reinforced with an e-rib so that it can only move in one spatial direction. The guide elements on the sides give the hose unsupported length.



UPDATE

Effective Mould Protection With Rust-O-Wax

Injection moulding is the most common method used for manufacturing plastic parts and at the core of this manufacturing process is the mould itself. High quality of the manufactured products is directly linked to a well-designed and on as equally important, a well-maintained mould. However, the sad reality is that mould maintenance is only given the required attention when mould is damaged, or product quality problems arise.

One of the most common problems that arises due to neglect is that of corrosion on moulds. When moulds are not in use, the cavity and surface of the moulds get corroded due to prolonged exposure to environment. Corrosion tends to damage the surface quality and directly impacts the product quality. This leads to unwanted and high repair costs and in some cases, total replacement of moulds. Typically, wax or oil based protective coating is used on the moulds as a proactive solution to avoid mould corrosion.

ITW Chemin launched the improved version of RUST-O-WAX, a wax-based aerosol coating for protection of critical metal components against corrosion damage. RUST-O-WAX is a long term outdoor and indoor corrosion protector from rust and corrosion, for machined surfaces and assemblies subjected to long periods of storage or adverse shipping condition. The waxy non-brittle film is highly resistant to humidity and severe corrosive atmosphere.

The new formula of RUST-O-WAX improves its ability to withstand higher temperatures (upto 70 °C) and can



be applied directly onto hot surfaces. This translates into long lasting protection, uniform coverage with no sagging during application.

Its features make it suitable for use on moulds used in injection moulding manufacturing process. After prolonged use, the temperature of the mould rises and RUST-O-WAX can be directly applied onto these surfaces for protection prior to storage. Wax also acts as a lubricant and is easy to clean. In addition to this, RUST-O-WAX is also suitable for protection of finished metal and plastic components, in process parts, battery terminals, farm machinery & metal spare parts against corrosion.

Additionally, before applying RUST-O-WAX, there may be a need to clean the surface of dust or residue OR to remove existing rust that has formed on the surface. M-CLEAN and RUSTLICK® 631 respectively can be used for these maintenance needs.

BESPOKE FIRE RESISTANT POLYMERS



As We get future ready for Electric Vehicles fire resistance for plastic components is gaining more attention.

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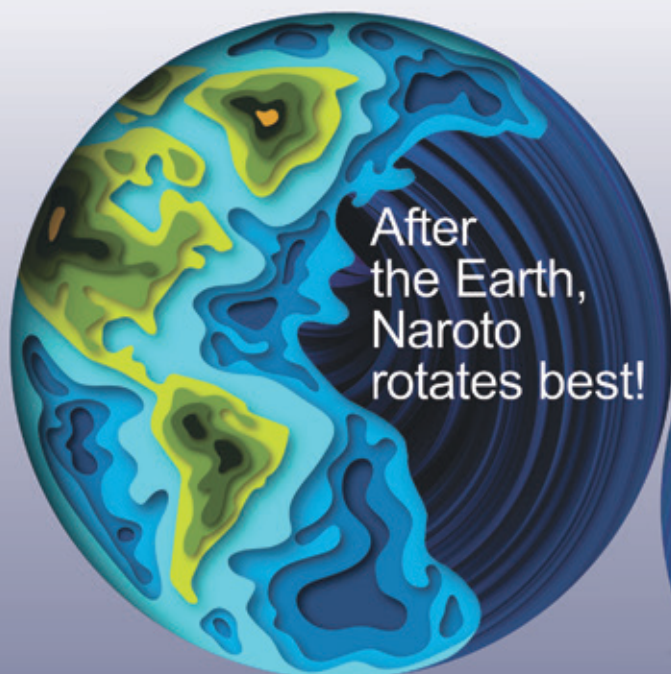
Our High-performance FR Grades are made as per UL94 Flammability Ratings and Halogen free for certain applications.



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