Luciana Pellegrino of WPO talks to Chakravarthi AVPS Page 12

WhatPackaging?

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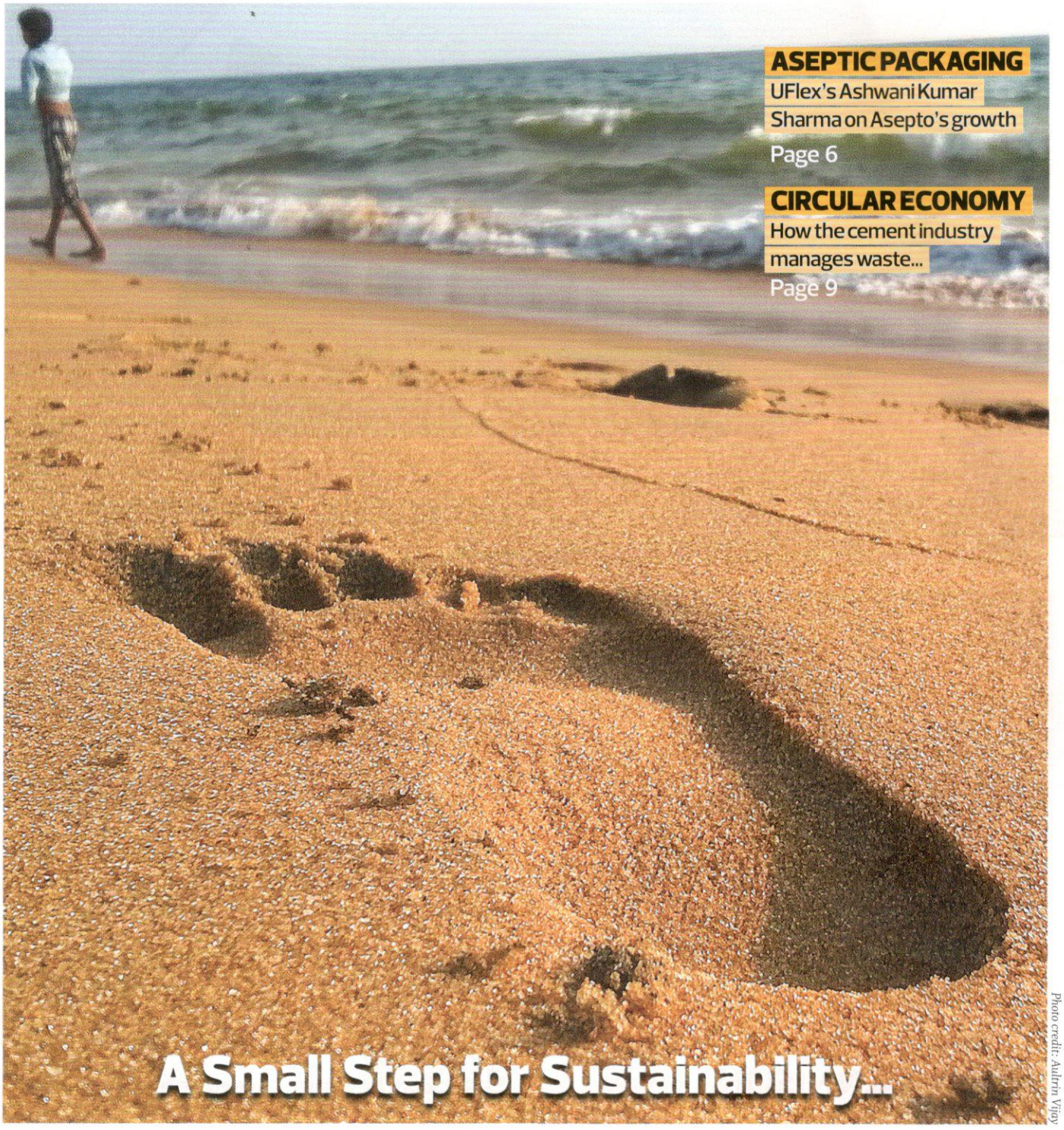


ASEPTIC PACKAGING

UFlex's Ashwani Kumar Sharma on Asepto's growth

Page 6

CIRCULAR ECONOMY

How the cement industry manages waste...

Page 9

A Small Step for Sustainability...

Photo credit: Aaltrin Vijay

ASEPTIC PACKAGING

UFlex Asepto – Riding hi

In just four years, UFlex has established itself as a leading aseptic liquid packaging manufacturer in India, with a growth rate of more than 100%, Ashwani Kumar Sharma, president and CEO of aseptic liquid packaging business at UFlex, tells Rahul Kumar

Rahul Kumar (RK): How far has aseptic packaging come?

Ashwani Kumar Sharma (AKS): In just four years, UFlex' Asepto has established itself as a leading aseptic liquid packaging manufacturer in the Indian subcontinent. As the first Indian manufacturer of aseptic holographic liquid packs, Asepto has built a solid place for itself with the cutting-edge greenfield project in Sanand, Gujarat. We are now the fastest-growing aseptic liquid packaging company in the world, with a year-on-year growth rate of more than 100%.

Currently, the Indian aseptic liquid packaging market is about 12-13 billion packs annually. It is increasing at a CAGR of 12-15% per year. We have gained a domestic market share of about 20% in less than four years, resulting in full capacity utilisation (3.5-bn packs per annum). We are in the process of doubling the capacity from 3.5-billion to 7.0-billion packs annually, addressing increased global demand. We must be prepared to serve these clients in the future perfectly. The commissioning is in full swing, and it will be ready to fulfil these demands shortly.

With the growth, we will take advantage of enormous prospects in international markets. We already export to regions like Southeast Asia, Africa, Europe and the Middle East. With increased capacity, we will continue to add new clients and meet their needs. Currently, we serve over 100 customers in India and around the world.

We are highly competitive with our value-added products, which include holographic and foil stamping techniques. Recently, we partnered with the pharma company FDC to deliver holographic aseptic packaging for its flagship brand Electral Z+ (ORS + Zinc Solution).

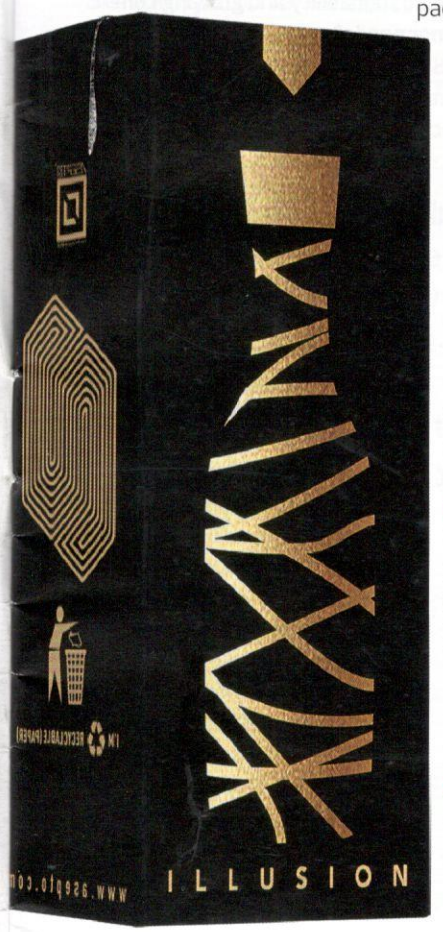
The growth steps we've taken so far reflect Asepto's strong market position and forward-looking mindset. It is the outcome of ever-increasing demand for aseptic packaging. With

gh on international markets' prospects

this approach, we want to build additional factories in India as well as beyond, in the future, to fulfil market demand.

RK: What precautions does a company take to ensure its sterilisation?

AKS: Our Sanand production facility performs a highly automated operation that requires minimal human interaction, considerably reducing hygiene challenges. The production plant meets the highest industry standards, and it adheres to the strictest regulations to mitigate the potential of contamination. To begin with, sterilisation of packaging material is achieved on the aseptic filling machine where the packaging material is sterilised by utilising hydrogen peroxide and/ or UV rays, and then the product is filled and sealed for final production.



RK: Since aseptic packaging deals with ensuring the products are sterile how did it manage the Covid outbreak?

AKS: In order to ensure safe manufacturing, UFlex – Asepto has always prioritised health and safety for its employees, customers, and partners. Asepto enhanced hygiene as a safety standard rigorously in its preparation to protect everyone in our manufacturing facility from pandemic. Our primary goal is to provide safe, continuous supply and timely delivery of our packaging material to our clients. From entry to exit, our plant is well-equipped and maintains the highest sanitary requirements. PPE kits are given in accordance with the mandate and requirements. Masks are required during the whole operating process. Gloves are required due to the handling of FG and secondary components. Protective shields are used to provide extra protection when interacting with individuals. We have even set up hand sanitiser stations in high-traffic locations, and departmental backup personnel have received emergency training. In times of crisis, a well-managed supply chain is essential, and we immediately launched the scenario planning technique that took into account various demand environments across the whole supply chain. We enhanced raw material stock levels to provide production security to mitigate supply disruptions.

RK: How does a company ensure aluminium-free full barrier packaging materials for aseptic carton packs?

AKS: In the current composition of our six-layer aseptic liquid packaging, a very thin coating of aluminium is used acting as a strong light and oxygen barrier, eliminating the need for refrigeration and preventing spoilage of the product without the need of preservatives. Aluminium is also for induction sealing, since induction technology is used in aseptic filling machines. Indeed, we anticipate that in the future, high barrier paperboards with outstanding sealing and protecting properties can be employed as a single component in aseptic packaging. However, in order to implement this single component paperboard modification, there will be a technical change on both – the paperboard manufacturers and the existing filling technologies – sides of the manufacturing process.

RK: What types of processes are being deployed to preserve quality and process low or high acid products?

AKS: Our packaging material is composed of six-layers of barriers; all of our raw materials are FDA certified and serve a significant role in ensuring the integrity of any product filled within. Depending on whether the product to be filled is low or high acid, the PE structure is supplemented according to the application or product filled within.

RK: How the product and packaging is sterilised separately and filled within an aseptic chamber?

AKS: Aseptic packaging is sterilised before being filled with UHT (ultra-high temperature) processed food, resulting in a product with a shelf life of more than six months. In the aseptic packaging technique, the flat and unformed packaging material, as well as the sealing strip, is passed through a heated hydrogen peroxide bath and or UV ray. Hydrogen peroxide is then removed from the packaging material using pressure rollers or hot air. The laminate's edges (sealing) are then sealed to create a tube, and the product is filled through a sterile pipe in a closed aseptic chamber. This preserves the product's overall sterility. This means that filling and sealing machinery must be sterile prior to packaging and during the →

manufacturing process to guarantee that the environment is free from any contaminating micro-organisms.

RK: What are the tech specs of the machines (speeds/sizes/ formats)?

AKS: It is imperative to have an efficient and flexible filling system for beverages. Aseptic liquid filling machines from Asepto are versatile and efficient. With the unique servo motor mechanism, our Asepto Flexpress 10000 packs per hour have the flexibility to fill multiple Asepto Brick format sizes in portion packs, including 100-ml, 125-ml, 160-ml, and 200-ml. We provide the fast format, volume, and design changeover times imaginable, as well as the capacity to handle several product variants on a single machine. The machine is optimum for dairy, beverages, alcohol, and dairy alternatives. The Asepto Flexpress 10000 is a state-of-the-art machine with superior performance and a compact structure, as well as an operator-friendly human-machine interface with an advanced PLC-integrated for sheer performance, resulting in a low cost of ownership for manufacturers. Our fully automatic machine fills the roll fed six-layer packaging and allows a smart approach to liquid filling needs. You can adapt swiftly to changing customer needs, optimise output, and lower system costs.

The Asepto Smart 7800 is a modern and automated, sophisticated aseptic liquid filling line, with a capacity of 7,800 packs per hour; it delivers pack sizes ranging from 100, 125, 160, and 200-ml slim packs. The machine is equipped with specialised tools for enhanced and optimum performance. It has numerous notable advantages, including enhanced integration with PLC, less mechanical parts, and greater human interface, making it operator-friendly, in addition to offering the best production speed of any comparable machine. The machine requires less maintenance, which is a huge plus for our clients because it lowers the total cost of ownership.

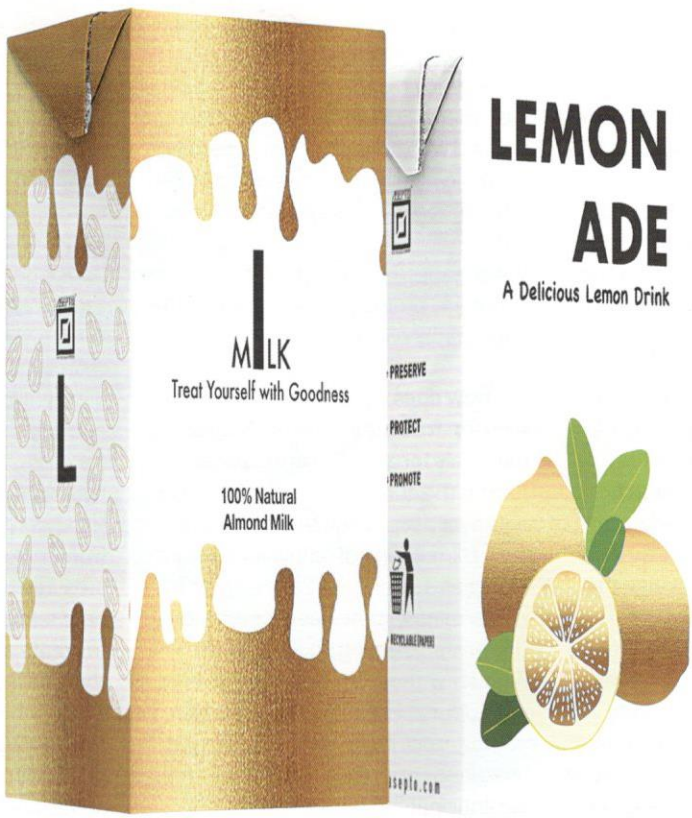
RK: What QA is done before and after you outsource your packaging material?

AKS: We guarantee quality and safety of our packaging to our consumers. We have a fully equipped in-house lab for testing and validations, satisfying product specifications, and quality control of packaging materials. These high-end machines ensure consistency to produce a quality packaging material. We assess and qualify the manufacturers with whom we collaborate to ensure that they fulfil our compliance criteria. Our packaging raw materials, such as paperboard, aluminium, and PE, are procured from reputable worldwide/national sources. As part of our mission to preserve, protect, and promote, we adhere to all applicable regulatory frameworks and maintain the highest standards. Our facility is accredited in line with the International ISO 9001:2015, ISO 14001:2015, ISO 22000:2005, and OHSAS 18001:2007 (45000:2018) management systems, as well as the BRC global standard for packaging and packaging material, in addition to official Indian regulations. Our paperboard, which is 70% of our packaging material, complies with all international regulations, including FSC certification and strict global manufacturing processes. All of our goods are in accordance with USFDA regulations. SEDEX certification has also been granted to our facility.

RK: How does aseptic packaging deal with sustainability and growing consumer needs?

AKS: The Covid-19 pandemic has made customers extremely cautious of the products they want to consume.

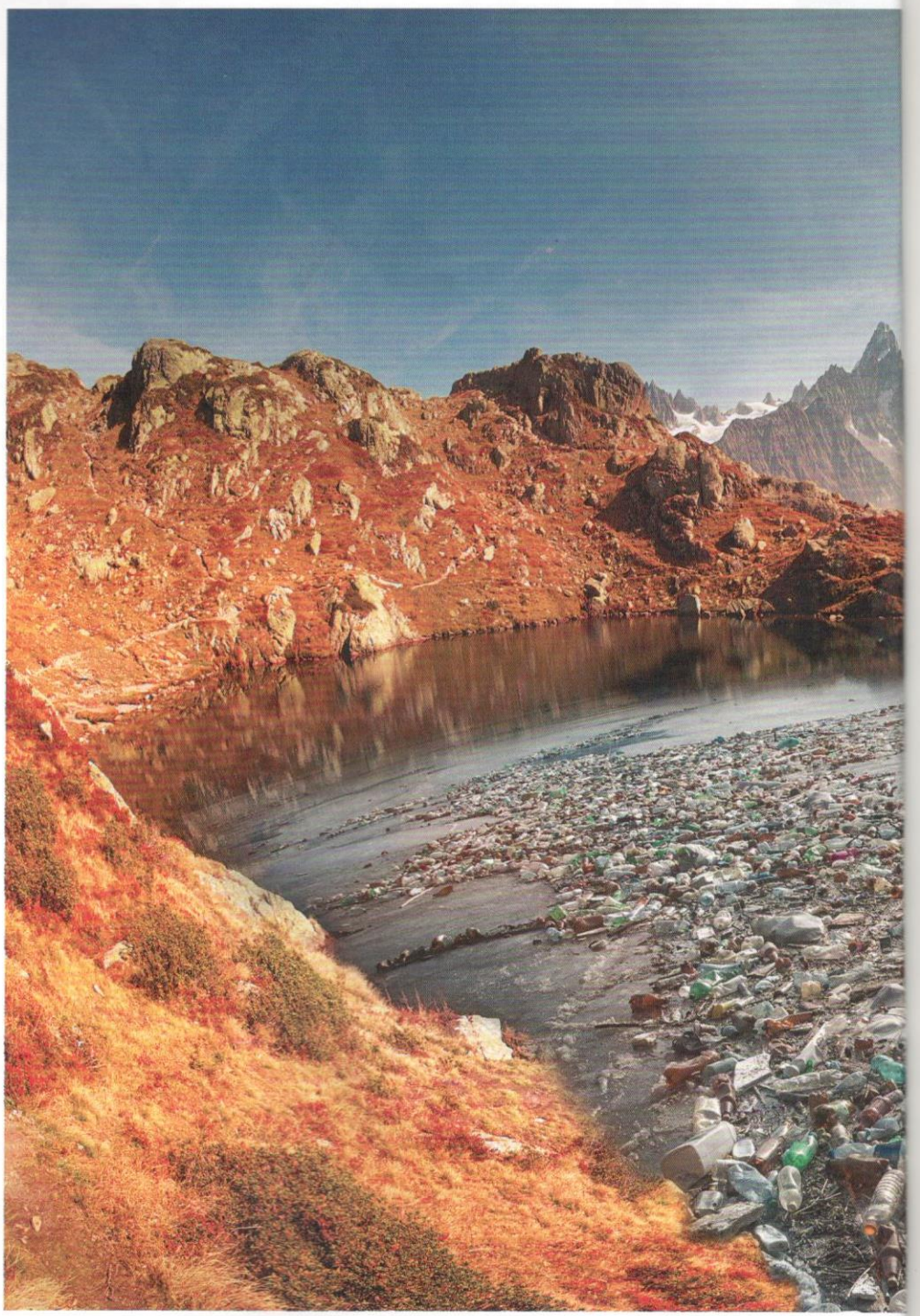
Aseptic packaging emerged as the safest way to offer quality packaging, with high functionality and sustainability standards. Moreover, it's the ideal packaging for on-the-go customers. Our packaging has several stages of production offering barrier properties to keep products safe and the packs anti-counterfeit. It is pertinent that food products not only remain safe in packaging for a long period but also that a quality product gets packaged. Therefore, good packaging plays a pivotal role in today's scenario for all food brands. Keeping sustainability as the core of our operations, our aseptic liquid packs are made up of 100% renewable and recyclable paperboard (FSC-certified) that can be recycled, in line with our philosophy to make product packaging sustainable.■



ENVIRONMENT

Brands talk innovations at

The Global Summit on Flexible Packaging, organised by PHDCCI and the Ministry of MSME, saw industry leaders addressing the challenges faced by the flexible packaging sector. Aultrin Vijay reports



The timing was apt. The Union Environment Minister Bhupendra Yadav said on 28 February, "We've issued a notification to ban single-use plastic and a resolution for the same will be passed." From Chennai to Dehradun, civic bodies are imposing strict action on single-use plastics (SUP). Even as the Global Summit on Flexible Packaging organised by the Ministry of MSME, in association with PHD Chamber of Commerce and Industry (PHDCCI) was in session on 23-24 February 2022, the Greater Chennai Corporation told the Madras High Court that its officials had seized 20 tonnes of banned single-use plastics between 19 August 2021 and 18 March 2022. The authorities collected a total of Rs 36.5 lakh in fines during this period from those violating the single-use plastic ban. And this is what brand owners and packaging experts had gathered to discuss. What happens next? What with most SUP items being banned from 1 July 2022 as per the 12 August 2021 notification of Ministry of Environment, Forest and Climate Change?

Ajit Gupta, co-chair, PHDCCI Packaging Committee and director of Ajit Industries kicked off the summit. He said, "Since the last few years, we're

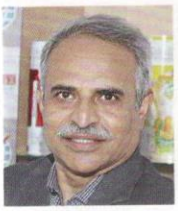
flexible packaging summit

Photo credit: WWF

noticing that flexible packaging is rapidly replacing traditional packaging such as glass jars and metal cans mainly due to the multiple benefits such as extended shelf life, cost effectiveness, lightweight, and less cost of transportation," he says, adding, "This reduces the cost of production. There is significant growth of flexible packaging across food, beverage, cosmetics and personal care products, household and pharmaceutical products."

He spoke about how packaging converters who are developing new innovative mono polymer, fully recyclable flexible packaging laminates. "In the case of sustainability, we witness continued transition from plastic to paper flexible packaging. Plastic provides significant benefits of barrier functionality delivering resistance to gases, moisture, light and aroma where needed. But for certain packaging such as confectionery packs, paper is more suitable, and brands find it suitable in terms of environmental concerns."

EPR: A boon or bane?



The Indian packaging industry is poised to cross USD 70 billion in volume and continues to grow at a CAGR of 18%, where flexible packaging enjoys the highest share.

"However, the industry is at a crossroads," says **Jeevaraj Pillai**, co-chair, PHDCCI Packaging Committee and joint president – packaging and new product development, UFlex. "Although the discussions on sustainability and circular economy have been around for some time, a clear direction is missing. However, guidelines from major FMCG companies and food companies and the recently announced EPR guidelines define the course of action now and propose a clear way forward for every stakeholder of the industry."

The government of India has notified EPR rules for plastic packaging in India. Producers of these products are responsible to collect the waste they generate. Pillai claimed that EPR encourages the producers and brand owners to work in the direction of reducing plastic waste by recycling, reusing the recycled contents, and the use of biodegradable packaging.

"It is now no longer a matter of choice," he adds.

Readers of *WhatPackaging?* should know that a centralised EPR portal for plastic packaging waste has been made operational on a trial basis in India. This will facilitate Registration of Plastic Waste Processors (PWPs) and EPR Registration for producers, brand-owners, and importers (PIBOs) under the PWM Rules.

Innovations in food-grade packaging

According to a recent report by Exim Bank, the Indian packaging industry is worth more than more than USD 50.5 billion with a CAGR of 15-18%. "This is a good thing," says **Tanweer Alam**, director, Indian Institute of Packaging (IIP).

"Flexible packaging, due to its several advantages, is being used in all segments especially food and pharmaceutical," Alam says.

He added that the Indian flexible industry is doing very well in terms of sustainability and that India is becoming a hub for biodegradable polymeric material. "During the last three months, we also analysed solutions that could enable recyclable packaging materials to be used for packing food and can be incorporated in the upcoming amendment by FSSAI," Alam reveals.

He also spoke about how IIP has incorporated topics such as sustainability and recycled flexible packaging in their syllabus. "This will enable students to be well-equipped in the field of sustainability," he says.

Alam also revealed that IIP is in the process of getting approval from the Ministry of Environment for certifying biodegradable polymeric materials, for which the institute has created a testing facility with the help of UFlex.

Film extrusion technology

Speaking about the circular economy, **Christoph Lettowsky**, technical director at Germany-based Reifenhauser Blown Film, said that closing the loop has been possible for glass, paper and metals, but for the plastics industry it's a challenge. He claimed that Reifenhauser did

Plastic in the world's oceans will triple by 2040: WWF

Waste packaging is causing damage to the environment and wildlife – says the World Wildlife Fund. Its report says that plastic ingestion and entanglement kills 100,000 marine animals and one million birds each year.

The plastics industry has invested USD180 billion into new factories since 2010. But by 2015, 60% of all plastic produced had become waste, most of which ended up in the ocean. 50% of plastic waste was from packaging; while according to a 2018 estimate, single-use plastics account for 60-95% of marine pollution.

Key industries, like construction, are increasing their use of recycled plastic. However, companies need to make significant efforts to replace plastic with paper or compostable alternatives. These solutions could cut annual flows of plastic into the ocean by 80% in two decades.

some work on the machine technology side to address this.

During his session, he elaborated on innovationsin recyclable film product solutions to produce MDO PE films. "One challenge that we will face in the future is to produce recycled materials. But the bad news is that it will not always be very good, high quality recyclates. Compared to virgin material, the challenge will be the quality of your material," Lettowsky explains.

He also said that mono material packaging, such as BO-PET films, is a very popular packaging solution. "A stand-up pouch usually has a PE sealant film in the inner layer, glued with an adhesive layer to the outer layer, which is usually 12µm BO-PET film. The challenge is that such a package cannot be recycled due to the mix of PE and PET films," Lettowsky says.

"For the past couple of years, everybody in the sector was focusing on replacing it with PET film. And how can we do that? One way is to stretch PE film in the machine direction, if the film contains 40-50% HDPE, and stretch it 5.5-6 times in the machine direction. The nature of the film changes and creates a film with properties, which allow to replace a 12-micron PET film by 20-, 23- and 25-micron thick stretch film," he explains.

He elaborated on the solutions offered by Reifenhauser such as the EVO Ultra Stretch films, developed on Reifenhauser's EVO Ultra Stretch unit.

He also listed out three golden rules of stretching: "1) The warmer the film before the stretching, the less energy is required, 2) The less crystalline the film, the easier is stretching, and 3) The longer the annealing time, the better is the shrinkage behaviour."

Data source: Ultimate Flexipack

Recycling metal barrier packaging

Germany-based Saperatec is a start-up focused on recycling multi-layer materials from polymers, metals, paper and glass, with 15 staff mainly in R&D and engineering. The major area of activity is in the area of metal barrier flexible packaging materials. The company is on track to commission its first aluminium foil/polymer packaging waste recycling plant this year in eastern Germany.

Once operational, the plant will have an input capacity up to 30,000 tonnes – starting with Alu-foil laminate waste (post-production) and beverage carton waste (post-consumer) after defibring.

Thorsten Hornung, CEO at Saperatec spoke about the advanced mechanical recycling of multi material flexible packaging films through composite material delamination, a recycling technology that the company is proud of.

He claimed that the process has been optimised for minimised environmental impact and for food compatibility, so "all the chemicals we're using here are water-based and all the chemicals have a food contact rating". The company currently focuses on four major types of packaging: traditional aluminium foil barrier pouches, beverage cartons, tube materials, and pharma blister packs.

Speaking about recovering film- →

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DAY 1 Trends, Challenges and Predictions

ASHESH MUKHERJEE
VP and BU head – sheetfed business, tobacco business, India
Siegwerk India

CHANDRAKANT GADHIA
President business strategy- finance and operations
Marks Emballage

ASHWINI DESHPANDE
Co-founder, Director
Elephant Design

T GAUTHAM PAI
Executive chairman
Manipal Technologies

PRIYA SINGH
VP – production and digital resources
Hachette India

DAY 2 The Marvel and Magic of Inks

DEB DEBABRATA
Director
Future Formats

DR JK RAGHAV
VP - sheetfed technology and global projects
Siegwerk India

PRASANTA SARKAR
GM – technical (sheetfed inks)
Hubergroup India

FALIITH Y PANDYAA
Managing director
Print Vision

KS MURTHY
Deputy managing director
Toyo Ink India

ROHIT BADLANI
Director
MB Industries / Uvbiz

JATIN TAKKAR
Head PSR
Siegwerk India

GAURAV SATHAYE
Director
United Speciality Inks

Innovations and Ideas with Inks... DAY 3

CHAKRAVARTHI AVPS
Managing director
Ecobliss India

RAJESH GANDHI
Vice president
Fujifilm Sericol

B BHASKARAN
Director- technical
Spico Printing Inks

LESTER PINTO
Managing director
Albea India

AKIL CONTRACTOR
Director
Print Dynamic

SHAIL PATEL
Director
Gujarat Print Pack Publication

ASHWANI KUMAR SHARMA
President & CEO, aseptic liquid packaging business
UFlex

Show & Tell: The User Experience DAY 4

JAYANT MARDIKAR
Commercial head
Parksons Packaging

ANOOP VENUGOPAL
Technical director
Anaswara Offset

SAHIL GIRISH RAO
Director
Akruti Print Solutions and Unbox

MAYURI NIKUMBH
Head of design
Conran Design Group

KG SHARMA
Director
Miraj Multicolour

DR KA ARUL ANAND
Joint director (technical)
Designated officer-central licensing
(Telangana and Andhra Pradesh
FSSAI

Sustainability: What is the magic wand that can solve our problems? DAY 5

RAMAKRISHNA KARANTH
CEO
Siegwerk India

MANAS SARKAR
General manager (human resources)
Flexible Packaging Business, UFlex

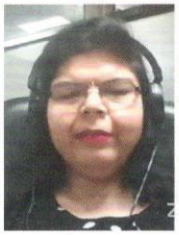
GANESHKUMAR V
Associate vice president - sustainability
DQS- India

SHAILESH VERMA
VP and global sales head - packaging and lamination films
Cosmo Films

MEDHA TADPATRIKAR
Founder trustee/
Co- founder director
Keshav Sita Memorial Foundation Trust / Rudra Blue Planet

grade recycled polymers and aluminium, Hornung says, "It keeps the metallised composite materials away from incineration, achieves more than 91% recycling ratio, with less than 50% CO2 footprint, high quality recycled materials, and low environmental footprint."

Lightweighting and other takeaways



Meenu Sachdeva, assistant general manager, Ultimate Flexipack spoke about sustainable mono-material and high barrier laminates for food packaging. Sachdeva also mentioned the sustainability benefits of flexible packaging, the role of packaging in fighting food waste, and explored the advantages of PE-based mono material and the solutions offered by Ultimate Flexipack.

Toshio Yamaguchi, senior counsellor, sales and marketing department at Japan-based Totani Corporation, explained the technology for pouch-making with mono-material recyclable material, and highlighted the challenges and solutions for it.

On day two of the summit, **Mirslov Hinkov**, managing director at Bulgaria-based Mechatronica spoke about the latest technologies in laminates and flexi tubes. Hinkov elaborated on how reduction in material usage can be achieved by using thinner foils and integration of shoulder/cap. He also revealed how Mechatronica was planning to reduce aluminium usage and opt for pre- and post-consumer recycled materials.

DELIVERABLES FROM BRAND OWNER'S PERSPECTIVE: CAN SMALL

The panel discussion, moderated by Deepak Manchanda of The Packaging Consortium, touched upon the challenges faced by the flexible packaging industry and the solutions to it from the brand's perspective. The discussion also addressed how small brands and MSMEs could also take advantage of the solutions by working together on the solution.

Himanshi Mahajan, head of packaging (R&D), Mother Dairy Fruit Vegetable

Amiya Pradhan, category head packaging – haircare, Dabur India

Barun Banerjee, head of packaging, Nestle South Asia

Jikul Kishor Purohit, co-founder, Packfora

Sanjay Gupta, VP-packaging, DS Group

Deepak Manchanda, The Packaging Consortium

Deepak Manchanda (DM): What is the most significant challenge for flexible packaging industry?

Barun Banerjee (BB): It would be development and the changing regulations. We need to find the balance. Is it plastic mono-material or circular economy? What is the waste hierarchy which should be followed in the country? How can we adopt solutions without affecting supply so that we can scale up and deliver to the demand?

Himanshi Mahajan (HM): Advances in the material sciences have allowed the flexible packaging industry to create a better material for the food and beverage industry. But there are challenges. From a sustainability angle, segregation and recycling are the challenges that we are facing. Secondly, to introduce bio-based material into the packaging stream, the challenge is to ensure that the machinery can handle the recyclable and biodegradable materials. The new packaging design is the operational challenge, which we are facing. There are few areas where a multi-barrier or a complex structure is required from a food safety point of view. We are working on the solution – which will take some time – to introduce sustainable formats.

Amiya Pradhan (AP): First thing that a brand considers is how to sustain the brand. Without sustaining the brand at a commercial scale, we will not be able to commit to any such material, whether it is recyclable or PCR-based. First challenge is cost. These structures cost too high that we cannot sustain that brand.

Sanjay Gupta (SG): We value packaging as the sixth pillar of marketing. It is the only industry that contributes to every single product produced in an economy. It is the world's third largest industry after food and energy. Packaging is the fifth largest sector in India's GDP and is one of the highest growth sectors in the country. Plastic packaging has been playing a major role in the economic growth wellbeing. It has significantly helped address major global challenges. Overall, plastic packaging has a very strong value proposition, which is being challenged due to negative consequences. That mindset must be changed, whenever we say plastic is a negative product. The contradiction between challenges and opportunities for plastic packaging, we call it the "plastic paradox". This needs to be changed by 7Rs – recycle, refuse, reduce, reuse, repair, regift and recover.

Jikul Purohit (JP): Some of your key strengths, at times, become some of your biggest weaknesses. For flexible packaging, its strength is barrier properties. Today, there are many complex barrier structures and industry needs to harmonise and zero in on a few

USINESSES MAKE A POSITIVE DIFFERENCE?

structures. Second is lower thickness, which offers you less weight and low cost, but because of this there is a low value attached to the flexible packaging, and there is a challenge towards the end-of-life solution or affordability. Versatility, which was an advantage a few years back, has now become a complexity. Flexible packaging is still a fantastic material as far as the carbon footprint is concerned, but it also comes with its own end-of-life challenge, which we need to come together and find a solution.

DM: What is the most efficient approach to finding solutions to the challenges?

BB: We need a more standardised approach in the market, so no competition around material development.There should be clear understanding that there is no secrecy in the development; it should benefit all players in the country so that it leads to similar solutions, which can be scalable, so that it maintains the supply consistency and machine suppliers are able to make changes to the existing machines to run the latest materials. The package should protect the product, retain shelf life; the fundamentals of packaging should not be compromised. It should be a combined and holistic solution and should not be compromised with change of materials.

Regulation framework has been released, which encourages food grade recyclable materials. FSSAI has already drafted the regulation. And also, in the national EPR, from 2025-2026 onwards, there is a plan to use recycled materials in packaging. So, the direction is towards a circular economy. We should not be relying too much on the non-renewable side, which is key. So that virgin plastic usage gets reduced. Nestle is looking forone-third reduction by 2025. The anti-litter campaign should gain strength.

HM: In food packaging, much of the food is left in the packaging material. We can educate the consumer to empty it to make it more viable for recycling. Much of the work around plastic waste management rules is going on within the brands. So, we need to educate them in a simpler way by explaining what the struggles are and how we are collaborating for these initiatives. People can help by not littering, and segregating waste at source. We are using QR codes and sensors for branding and to add fun value to the packaging.We can add information about recycling along with the QR code so that consumers can scan and learn how to segregate and be responsible.

AP: We have collaborated with many institutions to encourage responsible behaviour among consumers. We are also trying to install some stations in malls where consumers can refill their packs with oil or shampoo. Existing machines should be able to work on newer materials with minor upgrades, which will encourage brands to adopt newer and recyclable materials. We are also aligned to the government's PCR goals.

SG: We are working to reduce the carbon footprint in our complete value chain right from packaging to manufacturing to logistics and construction. India looks towards Europe and the US for new technologies. We must invest a sizable pie in packaging R&D, because it will be difficult for brands to be up to date. Technologies should be indigenised.

JP: Collaboration is key to work on the issue. Rather than competing, if we work together, then definitely there will be a solution. Every member in the supply chain has a role to address the issue, starting with waste segregation at source. Once effective collection is established, the problem will be reduced by 50%, because the waste can go to the recycling stream and either recovered or recycled. Globally the biggest challenge is manpower. India has a huge manpower. Collection was an issue. But over a period, the government along with industries and NGOs have done a commendable job in urban areas, where most of the waste is segregated and sent to material recovery centres. Today, India is one of the best in PET recycling.

DM: How can the solutions be taken to smaller brands, MSMEs and the unorganised sector?

BB: Reimagining and redesigning packaging is key. We should be responsible for the packaging material quantity we are using. We should make the packs fit for purpose.With the recycled food-grade polymer encouragement the government is bringing in, every sector will benefit from it. These two approaches could be beneficial for MSMEs and smaller brands

HM: First point is to optimise the packaging material we have. We need to look at the purpose and the performance needed by the packaging material and thereby we can reduce or remove some of the layers or additives that are not required. By doing so we also optimise costs. Secondly, many multi-layer plastics are used for its functionality. But we have seen products using multi-layer plastics (MLPs) for better machinability. There is a possibility to convert it to a better recycling mono layer structure, where MLP is not necessary. Reimaging packaging and tweaking structures

AP: I see a lot of opportunities for the MSMEs. All technologies should be indigenised, so that MSMEs can capitalise on that, and cost benefits can be passed on to the users.

SG: India is a price-sensitive, mass populated country. We need to see packaging from a consumer point of view and not as a packaging technologist. On a larger scale, we need to invest in start-ups and encourage them because of the concept and technologies they can develop, which is difficult for larger players. Only thing we need to do is handholding, financing, advising and connecting them with larger players. This will also add value to the GDP of our country. As per the Global Innovation Index, India ranks 48 among 131 economies. In the last four years, India has produced many unicorns and start-ups. We should help this young team, which can help the whole industry.

JP: The future is probably moving from price-centric to price- and purpose-centric approach. Until now, for bigger and smaller brands, the thought process was based on compliance. We need to move to collaboration rather than only complying to government regulations.

Hinkov says Mechatronica is aiming to reduce material usage and use more recyclable materials, reduce labour costs, and improve efficiency to protect the environment and maintain lower costs.

Vishwanath Patil, senior product development manager – Asia, Global Tube Laminates, Huhtamaki spoke about sustainable development in tubes.

He says, "In Huhtamaki, we are embedding sustainability in everything we do to achieve carbon-neutral production and designing all our products to be recyclable, compostable or reusable by 2030. We would want to have 100% of our products designed to be recyclable, compostable and reusable (in flexible packaging), and source over 80% renewable or recycled raw materials. We aim to consume 100% renewable energy to achieve carbon-neutral production and science-based emission targets."

He adds, "We believe the value of packaging is higher than its impact on the environment. We aim our packaging materials to be renewable, recyclable, carbon neutral and smart (integration of track-and-trace)."

Patil highlighted its Blueloop sustainable packaging solution, which is designed to address the issues created by linear consumption model. Huhtamaki claims that this model will help its customers "reach their sustainability goals by making flexible packaging circular".

According to Patil, Blueloop design uses a minimum of 90% standard packaging materials (PE and PP). It can be recycled with a yield of more than 70% in an existing recycling process, 90% mono-material usage in final packaging applications, and "can be bio-based and never compete with human food".

Patil claims that with Blueloop, sorting becomes easier. So, it is circular as well as easier to recycle. The company is now working on solutions having 99% mono materials, either PE or PP, which gives improved recyclability. It will also replace aluminium with other high barrier solutions.

Meanwhile, **Venkatesh Rajagopalan**, business head – Tube Division, UFlex, elaborated on enhancing aesthetics in flexi tubes.

Rajagopalan says, "Flexitubes from the house of UFlex overcomes the limitations of present conventional tubes both co-extruded and lamitubes by providing unmatched features in terms of aesthetics, barrier properties and anti-counterfeit properties."

He adds, "Flexitubes is a multi-layer structure. We only do reverse printing, so there's no need for the surface coating for print production. Its decoration layer provides varied options including foil effect and anti-counterfeit options."

During his presentation, Rajagopalan showcased different types of tubes with different graphic effects and other latest innovations from UFlex. He briefly spoke about sustainability and highlighted itsEcoFlex sustainable tube solutions, which includes Earthika biodegradable tubes, Kraftika paper-based tubes and Remika recyclable tubes. ■

EVOLUTION OF TUBE BODY AND HEADER GEOMETRY

Thomas Lefevre, vice president, business innovation, PackSys Global AG, Switzerland (a member of Buckner Group), explained the evolution of tube body and header geometry; plus key trends in the laminate tubes segment. Edited excerpts:

The tube industry shows tremendous amounts of innovation. The round tubes are the most common and one of the advantages is that you can create a series of standards that are used on a global basis. India is an exception in this area because it uses a number of sizes. Apart from that, the thread and head styles are different from what they are in the rest of the world. Given the size of the Indian market, it is not a disadvantage, but it would be of greater advantage if the neck styles are tweaked to that are used elsewhere. It would then open a market for component suppliers.

Some of the trends are reducing the material content and thickness of the shoulder, using PE and PP, and shorter, lighter caps. Shoulderless tubes are an interesting concept.

India has a very large market and it's the leading market globally for the conversion of aluminium tubes to laminate tubes particularly in the pharma sector. That is a size that can only be marvelled at; it's a huge market.

It's less expensive to make a flip-top closure if it is a push-on as opposed to screw-on, which takes longer time to mould the closure and is more difficult to orient. Orientation of the closure is a topic that is being discussed strongly. People want the opening of the flip-top cap to be aligned with the front panel of the tube.

Also, the lip balm market is very large in India. People want to have their own unique geometry. A lip balm tube's diameter is maximum 90mm, there's not a lot of space there to try to get creative. We are working with brand owners to reduce the weight and bring some innovation in the lip balm market.

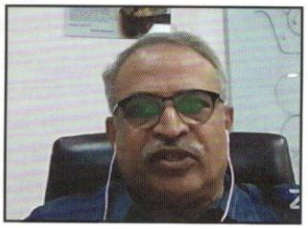
In terms of sustainability, one of the trends that we support is talking to brand owners about converting products that's already packaged in bottles into tubes. When you counter-propose to the brand owners about using tubes instead of bottles, one of the things that you find is the amount of plastic used in the tube is a tremendous saving that you can get versus the bottle. It can go up to 40% of weight savings, when using a tube.

REPORT

PHDCCI conference deliberates on sustainable food packaging

The ideal food packaging needs to be safe, secure, and sustainable, say the experts, as they offer solutions to sustainability

Tanweer Alam



Jeevaraj Pillai

Rohan Wijesinghe

Torben Fischer

Christoph Lettowsky

Jean-Marc Dore

Providing a sustainable packaging solution has become a major trend in the food packaging sector. Thus, in the short and medium-term future, there will be advancements in packaging material with recycled content, biodegradable material, and recyclable polymers, said **Jeevaraj Pillai**, co-chair, PHDCCI packaging committee and joint-president, packaging and new product development, Uflex. He was speaking on the first days of the virtual international conference on the advancements and challenges in the food packaging industry on 23 March. The event was organised by the PHD Chamber of Commerce and Industry, and was supported by the Ministry of Micro, Small and Medium Enterprises.

Pillai said the advancements in the food packaging sector has largely been due to the industry's attempt to face the challenges head-on. "Today, the industry is under pressure to relook at the current product portfolio and propose changes to it to make it more sustainable," he said.

He added that while the government has issued sustainability guidelines on the compliance basis, the FSSAI has also taken up the responsibility of an enabler to help implement the key recycling requirements proposed in the plastic management rules.

During his keynote address, **Dr Tanweer Alam**, director, Indian Institute of Packaging (IIP), said that the packaging industry in India is now worth USD 35-billion. The number is expected to double in the next five to 10 years.

"The pandemic has proved the importance of packaging more than ever," he said. "Today, retailers are struggling to meet the efficient packaging demand from the consumers. This shows that packaging and distribution have become more important than ever."

He said for the immediate future, the ideal food packaging will need to be safe, secure, and sustainable. It needs to be eco-friendly with good barrier properties.

So, there is a need to introduce sustainable packaging material and design. "If we can make biodegradable plastic cost-effective, there will be a huge demand for it," he said.

Jean-Marc Dore, president, packaging vertical MEDEF, spoke about food packaging trends in France. MEDEF, or the Mouvement des entreprises de France, or the Movement of the Enterprises of France, is the largest employer federation in France.

PN Sridharr

Dore said the European food packaging market is worth 180-billion euros, while the packaging machinery market is worth 11.6-billion euros.

In France, the food packaging market was worth 35-billion euros in 2018, while the packaging machinery market was five-billion euros in 2020.

Dore said there are 17,647 food packaging companies in France. Of these, 98% are SMEs. The country is the fourth →

global food packaging exporter after the US, Germany and the Netherlands.

He said the French food packaging industry has been actively involved in sustainable development for the last 25 years, with a material recycling rate of 68% for the household part and even more for industrial and commercial packaging.

In his keynote address, **Rohan Wijesinghe**, president, Sri Lanka Institute of Packaging, spoke on the global perspective on food packaging. He said the growth in food packaging has led to stringent regulations by the governments to ensure the quality and safety of the products. Thus, packaging materials need to meet the ever-tightening standards.

"This is a challenge for the industry. For example, until now, biodegradable polymers have replaced only 5% of plastic. So, we have a long way to go," he said.

He added that life-cycle inventory evaluation can be a suitable guideline for sustainability. This includes sourcing and use of raw material, material consumption and wastage, resource consumption, and recycling, among others.

"The next-generation of food packaging should contribute to reducing waste as well as resources. The use of sustainable or green packaging has the potential to reduce the impact," he said.

He gave an example, saying that, it is considered possible that by 2050, 50% of the European food packaging material will be manufactured from renewable non-food resources using food and packaging waste. The remaining 50% of the material will come from oil-based closed-loop recycled material. These bio-based materials will also be compostable.

In his presentation, **Dr Torben Fischer**, division manager, cast film, Windmoller & Holscher, Germany, spoke on the sustainable cast PP packaging and technology solutions for food packaging.

Windmoller&Holscher has three fields of action, namely, packaging 4.0 solutions, efficient productions, and sustainable products. The sustainable product category includes increasing processability of recycled material and identifying new recycling approaches.

In the new sustainable products category, Fischer gave the example of a stand-up pouch. The current design of a stand-up pouch includes BO-PET counter-printed + adhesive + aluminium foil + adhesive + PP sealing film. Thus, the product is difficult to recycle.

As a solution, Fischer suggests a two-ply stand-up pouch design, which uses PP film + adhesive + cast-PP with matelisation or barrier coating. He said this new material and design has the added advantage for recyclability.

Talking about emerging trends in the food packaging industry, **Dr Christoph Lettowsky**, technical director, Reifenhauser Blown Film, Germany, said that mono-material solutions are preferred, even required, to improve the mechanical recyclability of packaging film laminates.

"The most promising mono-material packaging is all-PET. It provides excellent sealability even when contaminated and has the ideal sealing layer for packaging granular, solid and liquid products," he said.

Speaking on Comexi's role in sustainable solutions for food packaging, **Albert Chicote**, Comexi Group, Spain, said the company understands sustainability as respect for nature and commitment to work for a better world. "It is also a social responsibility towards our employees, to have a healthy company and do what we are committed to do," he said.

He said Comexi is the first flexible packaging company to make life-cycle analysis and environmental product declaration a part of its machines. "We apply sustainability with offset EB printing machines, the first central drum offset machine that enables sustainable flexible packaging printing," he said.

Speaking on sustainable paper for food packaging, **PN Sridharr**, DGM, sustainable products & packaging, ITC, explained that paper is repetitively available, grown in an environment-friendly way, economically viable, and is FSC-, PEFC-certified. The paper also doesn't harm the environment during the conversion process. It also has the least possible carbon footprint.

On how to move towards sustainable paper packaging, Sridharr gave the example of CII GreePro Ecolabel. It is a type I eco-label for paper/paperboard packaging. Sridharr said, it has a holistic product life-cycle framework and identifies environmentally preferable products. He added that the GreenPro is in line with the UN environmental guidelines on providing product sustainability.

Speaking on innovative and sustaina-

ble packaging for the future, **Christoph Wachter**, director, flexible packaging paper division, Koehler Paper, Germany, said that there is a strong consumer demand for truly sustainable packaging solutions. Quoting a survey, he said that 91% consumers want products without plastic packaging, 90% would like to see more activity from retailers to offer more sustainable packaging solutions, and 78% consumers avoid plastic if other packaging solutions are available.

He said while making sustainable paper, Koehler Paper focuses on different aspects of the products, including recyclability. He added that in the future, the company wants to use bio-sourced material for paper production.

He said a sustainable packaging solution hinges on four aspects — recyclability of the package, functionality (barrier effects depending on the product), the cost (compared to the current solution), and the machine performance in converting and packaging lines.

"As a ink supplier, we need to consider our contribution in the recycling/composting process," said **Dr Lars Hancke**, business development, flexible packaging, Hubergroup. He added that Hubergroup started this journey with the cradle-to-cradle certification. It is the most comprehensive certification one can get for sustainability compliance. One major aspect of the certification is to make sure the ink is not toxic to the environment.

Dr Joerg Peter Langhammer, head of global PSR + sustainability, Siegwerk, Germany, said that the packaging value chain is complex and the responsibilities must be shared.

According to Langhammer, this value chain involves three stakeholders — the food industry (packaging specification and final validation), the converters (packaging conception and process validation), and ink manufacturers (ink development and supply and advice on how to use ink).

"Siegwerk proactively assumes responsibility by understanding the needs of each partner in the chain," he said.■

STRINGENT REGULATION FOR INK AS PER IS 15495: 2020

In the Printing Ink Standards for Food Packaging as per IS 15494: 2020, the Bureau of Indian Standards has revised the standard by incorporating prohibition of toluene under 'solvents' category, phthalates under 'plasticiser' category and titanium acetylacetonate under 'various compounds' category in Annex-A of the exclusion list on the basis of their hazards to health and the environment.

The revisions were made in June 2020.

Speaking on the first days of the virtual international conference on the advancements and challenges in the food packaging industry on 23 March, organised by the PHD Chamber of Commerce and Industry, **Sagar Singh, member secretary, CHD, chemical department, Bureau of Indian Standards**, highlighted the major points of the IS 15495: 2020.

Singh said the purpose of the standard is to raise the bar on packaging safety. "Now, compliance to packaging ink safety is a legal obligation. The legal responsibility of safe packaging material lies with the food business operator," he said.

According to the revised guidelines, the food-grade packaging material should not endanger human health. There should be no change in product composition, and no change in organoleptic properties.

Singh said, "There should not be any toxic substrate in the external packaging. The packaging should comply with the exclusion list. There should not be bleeding of dyes and pigments. It should also follow the heavy metal compliance."

The Indian Standard was first published in 2004. The standard was formulated with a view to assist the manufacturers of printing ink to produce ink which are intended for use on food packages, and which do not contain any hazardous chemicals that may get transferred to food packed, and help food packers and manufacturers of packages in selecting proper quality printing ink. The general guideline for exclusion of certain substrates from printing ink formulations intended for use on food packages have also been prescribed in this standard.

The committee responsible for the development of this standard reviewed the standard in view of the overall impact of constituent chemicals of the ink formulations considering their reported toxicological profiles hazardous to environment and the human health and possible contamination of food products while the food products are being packed in the printed packages.

According to the guidelines, the sum of the concentration level of lead, cadmium, mercury and chromium (VI) shall not exceed 100 ppm for printing inks.

Singh added that according to the guideline, packages should be designed with restrictions of printing in mind. For example, printing should not occur in areas, which, by folding, come in contact with food. It is also important that the substrate itself should not cause taint and odour of the packaging product.

Also, traces of impurities (including listed in Annex-A) coming from the raw material in printing are avoidable as these raw materials are produced under commercial industrial conditions.

Singh said the ink manufacturers should make every effort with the supply chain to ensure that the impurities are kept at the minimum level.

According to the guidelines, the printing ink manufacturers shall inform the converters and print buyers on suitability of ink type towards packages of food and norms followed in formulation whenever there is such a need.

Singh said the responsibility of the printer and the converter is to ensure that food packages are manufactured and stored in such a manner in which all preventable transfer of material from the ink or coating to the food content is avoided, even if such transfer is unobjectionable on the grounds of health, odour and flavour.

The storage environment should be potential volatile contaminants, which could have adversely affected the organoleptic characteristics of the food.

VIEWPOINT

Mapping the sustainability quotient: Are we doing enough?

Are packaging films eco-friendly? What are the manufacturers doing about the green process? Rahul Kumar of WhatPackaging? talks to UFlex, Cosmo Films and Chiripal Poly Films

Photo credit: Aultrin Vijay

For UFlex, sustainability is an overarching theme that drives the company. For the company, sustainability includes elements such as recycling, biodegradation, source reduction and source substitution.

"In each of these domains, we carry out rigorous work to not just be perceived as a sustainable company but actually execute sustainably-led projects at ground level and create products that translate into minimum negative impact on our environment. We follow all certified processes under international standards," says Jeeveraj Pillai, joint president, flexible packaging and new product development, UFlex.

The company has various certifications for different activities which fall under the umbrella of sustainability. For example, the company develops PCR-grade film made from PET waste under the brand, Asclepius, which is FDA compliant. It also has Kingfisher certification from SCS Global Services that endorses that the company's PCR-grade films contain minimum 100% post-consumer recycled PET content. This certification corroborates to its customers and to the flexible films' market, the integrity of its supply chain and claims regarding PCR-based film technology.

The company recycles industrial as well as post-consumer multi-layer packaging (MLP) waste at its Noida plant and this process has attained CIPET certifications in compliance with ISO 14534:2016.

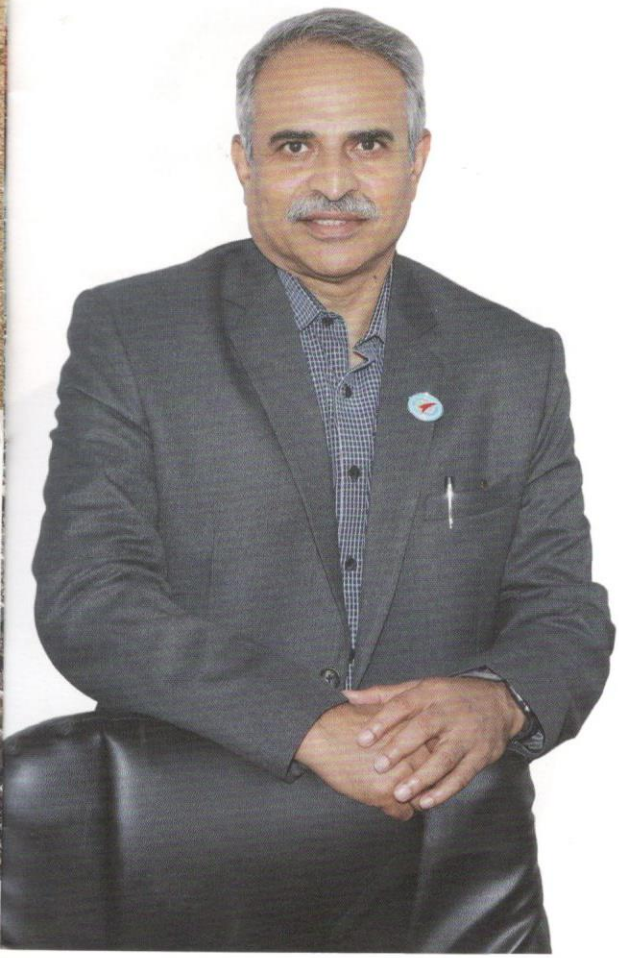
"Also, our enzyme-based biodegradable technology, Flexzyme, biolog-

> **"Certifications endorse the company's efforts to make its processes sustainable"**
>
> **Jeeveraj Pillai**
> joint president, flexible packaging and new product development, UFlex ▸

ically degrades packaging waste into CO2, water, and biomass in a few months when exposed to natural soil conditions. This technology is compliant to ISO 17556," Pillai adds.

Meanwhile, Chiripal Poly Films has product sustainability certificates for PCR-based BOPET film. For the system, the company has the environmental management system certification (ISO:14001-2015) and it is going for energy management system certification (ISO:50001-2018) by February 2022 and for international sustainability and carbon certifications in July/August.

Pillai says these certifications endorse the company's efforts to make its processes sustainable. "It also helps the brands we work with feel more confident about UFlex, as a partner, in their sustainability journey. However, they don't provide any framework or pointers towards our sustainability approach. There is a charter we have arrived at based on the government policies, our own requirements and capacities, and we follow it to the tee," he adds.



Bikash Debnath, senior general manager, QA & TS, NPD, Chiripal Poly Films, adds, "Our 14001-2015 compliance covers GPCB guidelines. The further implementation of the two new systems of EnMS/ISCC will strengthen our commitment towards environment and sustainability."

Staying informed

How do the companies stay informed about the government regulation and policies?

Pillai says, "In India, government policies that are relevant to plastic packaging companies are Plastic Waste Management (PWM) and Extended Producer Responsibility (EPR) guidelines, which are prescribed by the ministry based on India's engagement in climate change pacts and further imposed by the state governments on manufacturing entities. We are notified by the government about these policies and rules that each plant/factory in that state has to comply mandatorily."

UFlex also has a full-fledged sustainability department with required expertise to prepare actionable reports. The company has been drafting these reports every year. "Most of the global customers we work with need these reports, as per their country's federal policy, to verify if their packaging partners are showing a declining carbon footprint trend. and we do share it with them. To give you a quick reference of the UFlex carbon footprint study, in 2017 our average CO2 emission was 2.38 tonnes per tonne of laminate and in 2020, it came down to 1.99 tonnes," Pillai says.

Debnath says Chiripal regularly liaisons with the MoEF, CPCB and other government departments and agencies for updates on government policies and programmes. "We are also members of various industry bodies and the Film Manufacturers Association through which we interact and voice our views to the policy-makers," he said, adding, "I would also like to mention that we are working closely with government bodies to collect and recycle plastic wastage from the villages in Gujarat."

Pankaj Poddar, Group CEO, Cosmo Films, adds, "Our legal department keeps a track on all the notifications which are released from the government bodies. Additionally, we take a step further and keep discussing new sustainability norms with our customers, suppliers and different industry associations."

The sustainability journey

During an industry forum in 2016, Cosmo Films shared a paper on how sustainability will in due time become important, the myths around plastics and how it's more sustainable than any of its counterparts. The paper was appreciated by the delegates.

Poddar says, "We believe sustainability as a concept should be calculated as a whole, not just by its visibility. Plastics have the least amount of carbon footprint during manufacturing and transportation when compared to its counterparts, such as glass and paper. If collected, segregated and recycled in an orderly fashion, it is truly a wonder material which has reduced all round food wastage due to its barrier properties."

Chiripal's journey into sustainability has various goals. According to Debnath, it includes minimal use of natural resources and more use of renewable energy, such as solar, wind, hydro; and zero discharges of water. It also includes using energy efficient motors wherever possible, reducing carbon footprint, following the 3R principle and spreading awareness about the sustainability journey within the company and outside. →

For UFlex, as a growing flexible packaging company, when it set up its business, its chairman Ashok Chaturvedi had estimated a proportionate increase in plastic waste with the increase in urbanisation. With a vision to provide convenience of flexible packaging to brands and consumers, UFlex ascribed equal importance to tackle the problem of plastic waste way back in 1990s and developed a technology to recycle MLP mixed plastic waste generated from its production way ahead of other companies in developed economies. This even earned the company the Best Paper Award from Davos Recycling Forum in 1995.

"However, we were practicing a linear economy then," Pillai says, "Once we had the technology to recycle waste, including one that homogeneously recycles all layers of MLP without the challenge of separating them, our next step was to bring in the recycled product into usage to create a circular economy."

The company achieved that by manufacturing injection moulding components with recycled granules as well as by upcycling recycled chips into its PCR PET and PCR PE range of films.

"Then came the next challenge of reducing plastic consumption at source and we established that via our packaging solutions like Kraftika and more such solutions that use less amount of virgin plastic. Once we were successfully able to carry out meaningful work in all these three areas — first recycle, then make use of recycled products and then reduce the use of plastic at source to achieve circularity — that really was a true point in UFlex' sustainability journey," he adds.

Setting targets

Do the companies conduct wider footprint assessment to help identify parts of the supply chain that are responsible for a high amount of carbon?

Pillai says UFlex does it on a periodical basis. "With that, we have been able to transform all our packaging plants into zero emission plants. The by-products are recycled and reused. The water is recycled, treated and reused. We have maximised the use of clean energy. Also, most of our plants are built closer to the customer base thereby reducing CO2 generated from freight/shipment cost," he said.

Debnath says Chiripal will start carbon footprint assessment during implementation of ISCC from April 2022 onwards.

Meanwhile, Cosmo Films has recently created an assessment, and identified 20 new projects. These are underway to improve the company sustainability standards. "We already have several sustainability practices in place, which are helping us to reduce our carbon footprint," Poddar says.

These include optimising its truck load capacities to improve fuel efficiency and to reduce gas emissions. The company is also working towards rainwater harvesting, and reducing water consumption at the production level to become water positive.

It has also partially shifted to renewable power sources, such as wind and solar energy at all its plants, which has helped in reducing its production of carbon footprint by a large margin.

"We are constantly innovating to manufacture products which are mono material, are easily recyclable, and that the post-recyclate polymers garner better value in the system since they are close to virgin polymers," Poddar explains.

Switching to green energy

Poddar says Cosmo Films is working on a hybrid energy model at its plants, where the company partially uses solar and wind energy to power its plants, along with some amount of coal-based energy. "We are making a Rs 100-crore investment to include several new practices and projects to improve our sustainability standards," he adds.

Debnath says Chriripal has already established a 4MW solar plant and a 2MW wind energy plant on site. "We are also focusing on purchasing more renewable energy," he says.

The company is also switching from conventional light to LED. It is also providing training to its employees on energy management.

UFlex has made 100% LED lighting across all its plants. All its energy production at plants is through clean gas like PNG. "Moreover, the energy usage in processes has been reduced by substituting it with efficient process aids like electron beam curing, LED curing,

> **"We are focusing on purchasing more renewable energy"**
>
> **Bikash Debnath**
> senior general manager, QA & TS, NPD, Chiripal Poly Films

transitioning to water-based inks," Pillai says.

Sustainability champion

Pillai says UFlex has an active sustainability department that evaluates every project, every process, each initiative, and suggests actionable upgraded plans to achieve a greater sustainability footprint.

"We have a full-sized recycling plant in Noida that recycles close to 30,000 tonnes of plastic waste per year as part of our sustainability goals in India. Our target is to recycle 100,000 tonnes of plastic waste every year. This we will achieve as we commission our recycling projects in Mexico and Poland. We have committed an investment of over Euros 15-million in expanding the packaging infrastructure between 2021-23 with sustainability at the core," he explains.

Poddar says the entire management team at Cosmo Films is responsible to identify and implement best practices, which are to be followed for an eco-friendly environment at its manufacturing facilities. "Having said that, we are in the process of appointing people who would dedicatedly work towards suggesting and implementing sustainability best practices," he adds.

Procurement practises

Including environmental requirements in procurement practices is an easy way of driving the right behaviours internally. What are the steps these companies follow?

Poddar says, "During procurement, we have a thumb rule. The raw material we procure has to be energy-saving, one which uses less water during the production process. We are also wary of harmful chemicals which might affect the environment. In fact, in our subsidiary, Cosmo Speciality Chemicals, all the raw material we procure is eco-friendly, and all our products are either GOTS certified or in process of getting certified."

Debnath says Chiripal considers the supplier registration and evaluation. It also communicates its OHS guidelines with its suppliers.

Meanwhile, Pillai adds, "We are quite conscious of the suppliers that we work with. Most of our supplies and material is procured from big MNCs like Exxon Mobil, and Dow, which have robust and comprehensive sustainability practices in place."

A part of the company's DNA

Pillai says sustainability is very much a part of the company's DNA. "At UFlex, we have been worried about the planet and economy. We have had zero emission and zero waste discharge plants since 1995. In fact, all our factories are designed to be zero emission and zero discharge both in terms of waste by-product and effluents," he says, adding, "Moreover, we have moved towards offering a product portfolio in every business that is largely backed by the double helix of best technology and sustainability."

Debnath explains, "Conducting business in a sustainable manner is the responsibility of any organisation, and we are no different. We believe that sustainability is a business approach which creates long-term value for us, our stakeholders, including customers and most importantly, the society we live in. So, for us, sustainability and working towards a circular economy is a part of our DNA."

Poddar concurs that it is an essential part of the company. He says the company has set goals for itself and are working towards achieving them year on year. "We have several sustainability practices already in place, and are working towards several more in the years to come. One major portion of our investment goes into sustainability," he says.

Some of Cosmo Film's sustainability efforts includes improving waste collection and re-granulation process to increase production of usable RPG; design products with better process ability and standard formulation; maximise the use of reprocessed granules to manufacture other alternate usage components; buying waste and converting them to usable RPG; reducing quality return from customers by 25% and minimising waste reduction in the process, among others.■

> **"Plastic, if collected, segregated and recycled in an orderly fashion, is truly a wonder material"**
>
> **Pankaj Poddar**
> Group CEO, Cosmo Films