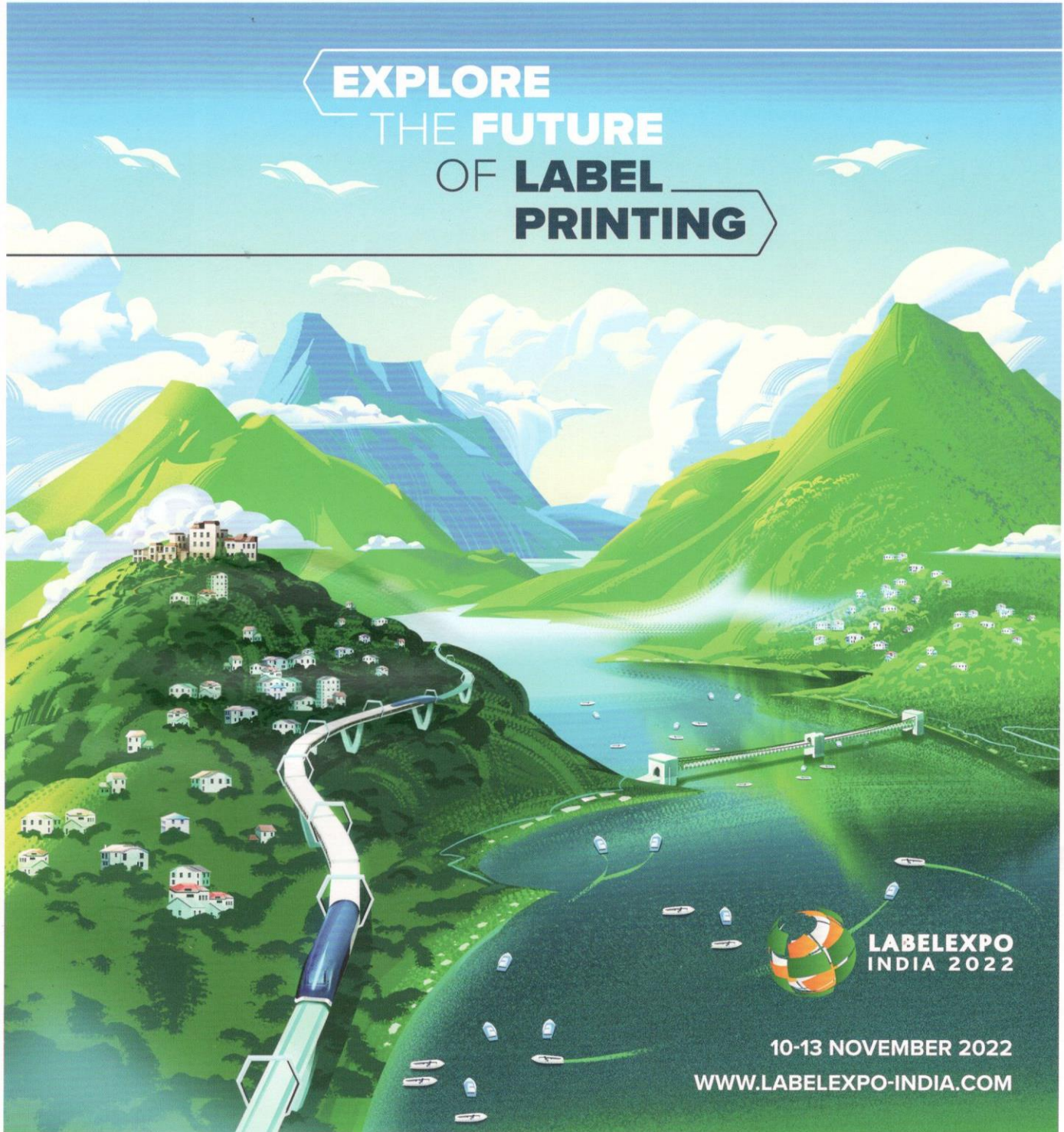


# WhatPackaging?

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**OPINION**

# Recycling is the only way

The following is the full text of the keynote address delivered by Ashok Chaturvedi of UFlex at the 9th edition of Speciality Films and Flexible Packaging Global Summit 2022

**P**ackaging, especially flexible packaging, is helpful to save food wastage. Everyone needs food and there is no alternative to it. To avoid food wastage, flexible packaging is the only way to transport and preserve the food grown by our farmers.

By opting for flexible packaging, we are helping our farmers, who are the backbone of any country. We respect farmers because they provide food for us. We all know that many things are changing — computers came, super-computers came, electric vehicles came but there is no alternative to food.

Human body needs food to survive on this earth. When food is so essential, multilayer packaging called flexible packaging is equally important to save it. Think hard and you will see that there is no substitute for multi-layer packaging. So, we have to look at the solutions to tackle its waste.

We found the solution ages back but it was never implemented because of many reasons but suddenly, the whole world has woken up and is talking about recycling. I always say whenever you wake up, that's your morning!

I have a lot of respect for Peter Steinbeck, CEO of Windmoller &



Ashok Chaturvedi, chairman and managing director, UFlex Group



# ahead: Ashok Chaturvedi

Holscher but I disagree with him absolutely that mono-layer packaging is the solution. It is another myth. Recycling is the only answer whether it is mechanical or chemical. We will spend another couple of years in it and come back to the same because we will find that waste from the planet has not gone down. Big companies are claiming that they are zero carbon neutral but the race is going up and it will continue unless we recycle waste.

Flexible packaging is not heavy weight yet collection of flexible packaging waste is very difficult; it's a mammoth job to collect it. I can assure that people who are present here (at Elite Plus) can set up a recycling unit where they find good potential for profitable ventures. Availability of raw material for a recycling plant is a pain. My sincere request to all the people here is please try and create a centre to speak to the government. Whosoever is in a position to talk to them. Let's speak to the authorities, municipal bodies, civic bodies, who can provide the raw material for such recyclers.

I don't have any doubt if recyclers get the raw material for recyclers, they will definitely recycle it. We did this 25 years ago and it is still working very well. In all our plants, we have set up a recycling centre and all the waste that we produce and whatever we can get nearby, we are recycling it and making an article of plastic later in the session.

The government also has come up with some EPR rules which are a bit stringent. Such rules will force people to recycle. Collection of waste is the main issue right now. Recycling is not easy. The whole world is worried about recycling.

Our request to the government is to

start working with municipal bodies of their own or with a PPP model. India needs 2,000 data centres to clean from this waste plastic. Such centres will provide waste plastic, both flexible and rigid to the recyclers and the job is over. So, I request everyone that we have to focus on how to collect the waste. We don't have to focus on how to recycle it. We have that solution already in place.

The whole world, the plastic processors, machinery manufacturers all are well aware of how to recycle mixed plastic waste, how to recycle more raw material, how to recycle flexible packaging. So today I think all of us should not worry at all about what will happen to waste plastic.

Government and municipal bodies should start encouraging people to collect the waste and start allowing people to set up collection centres. I've seen it myself in Poland, Germany and Hungary; we have films manufacturing plants there. I have gone to the municipal bodies over there and what a beautiful system they have. They separate the waste whether it is paper, plastic, glass or others and give it to the garbage collector accordingly and send it to their respective industries.

You will be glad to know that this October; we are coming up with a multi-layer flexible packaging recycling centre in Poland. By the end of this year, even in Mexico we are starting to show to the people that multi-layer flexible packaging does not have a negative value. The cost of the centre will be close to USD 25-26-million. We are doing it but as I told you, this is not a business for Uflex.

But believe you me, this USD 25-million investment will not go to waste. It will generate proper EBITDA for the company. It means the model is a do-

able model. It is a profitable model provided the businesses get the waste. It should get the raw material via a phone call or by reading a purchase order. There needs to be a supplier of waste material.

We have a recycling centre in Noida, please come and see how we handle waste plastic multi-layer flexible packaging and how the articles are being made. We have been exporting flower pots made out of waste material to Holland for ages. One can make other articles too out of flexible packaging waste and these articles have no dearth of demand.

That day is not far from when one will buy articles made out of plastic waste, when one goes to the market. Diwali is a big festival in India where companies distribute gifts to their employees. This time UFlex has chosen a trolley bag made by VIP. I met the supplier of these bags and told them that I want to use 30% plastic waste to make these trolley bags which I will provide them with from my own plant for its manufacturing. I said, let's use 70% virgin and 30% recycled raw material.

So, the future of flexible bagging is bright and please stop worrying about it. But we all have to work on recycling, as requested earlier. Also, all the converters should take one step and start recycling in their own ways. People follow the law only; people don't follow requests.

However, I request to the fraternity be it in Europe, whether America, or across the globe, that they should respectfully talk to the government and tell them that they have to come out with a clear simple system, a systematic legislation which allows people to collect waste and this will need municipal body or civic bodies to do the same. ■



## AWARDS

# Sustainability sets the age

Many technologies have improved circular economy efforts. The IFCA Awards in September focus on

## HUBERGROUP PRINT SOLUTIONS INDIA



Suresh Kalra of Hubergroup receives two IFCA awards

The Hubergroup Print Solutions bagged two awards for two products. The products were: Hydro-Lac GA Oxygen Barrier Coating and the offset ink MGA Contact.

An independent jury of experts on behalf of Indian Flexible Packaging and Folding Carton Manufacturers Association jury members evaluated the innovative and creative character of the Hubergroup products.

As per the Hubergroup spokesperson, "The reason the product won the award was due to the oxygen barrier coating that stands out due to its sustainability efforts. It protects packaged food from oxygen and, thus, enables mono-material packaging for oxygen-sensitive foods such as nuts. Consequently, the packaging is easier to recycle and can be returned to the material cycle."

In the case of the sheetfed offset ink MGA Contact the reason was its creativity. The Hubergroup press note said, "Thanks to carefully selected raw materials, the ink series is suitable for safe printing on the inside of paper and

cardboard food packaging. Thus, brand owners and packaging designers receive twice as much space for information and creativity."

Suresh Kalra, the managing director India and president Asia at Hubergroup who attended the event along with his colleagues in Mumbai was "very pleased about this recognition".

Kalra told WhatPackaging?, "At Hubergroup, we place great emphasis on driving the advancement of sustainable, safe packaging. We, therefore, put a lot of energy into the research and development of innovative as well as creative products such as our Hydro-LAC GA oxygen barrier coating or MGA Contact."

Today flexible packaging is on the rise in a wide variety of forms, with a wide variety of demands. Hubergroup offers a broad portfolio of environmentally friendly liquid inks and varnishes. In 2021, the global ink major generated an annual turnover of about USD697 million and employs approximately 3,500 employees worldwide in nearly 30 countries. ■

## HUHTAMAKI INDIA



Huhtamaki's entries focused on functionality, creativity and end-user experience

The IFCA innovation award for Huhtamaki was for a biodegradable barrier PE pouch for dry pet food. As per Huhtamaki India on their website, "This is a PE based biodegradable stand up pouch for dry pet food packaging. This pack is capable of degrading naturally in open-air or a standard terrestrial environment without generation of micro plastics."

This means it requires no specific condition to degrade; just moisture, oxygen and sunlight. This pack also offers time-controlled pack degradation and desired shelf life for dry pet food.

It adds more convenience with a press-to-close

## MIRACLON INDIA



With PureFlexo, converters have an opportunity to optimise packaging



# Agenda at IFCA Star Awards

focus on the industry's sustainability story

zipper that helps in maintaining freshness between usage events. The zipper is made with the same biodegradable technology as that of the pouch to offer a total biodegradable packaging solution. This mono-material biodegradable PE pouch serves as an efficient and sustainable alternative to existing PET/PE solutions, helping brands and consumers extend more care by reducing pack waste everywhere, naturally.

The second IFCA innovation award was for a paper-based soap wrapper. As per a Huhtamaki India briefing, "These soap wrappers were launched with an objective to eliminate usage of conventional PET based wrapper and go plastic free with paper-based soap wrappers. It offers our brand partners the choice of switching from conventional and non-recyclable pet/paper/hot melt to a PET-free recyclable monolayer structure."

PE pouches for dry pet food and insulator pouch for online food deliveries

This solution offers easy recovery of paper for repulping during recycling, when compared with laminated soap wrappers (PET-based) where paper is sandwiched.

Our offering is designed with FSC certified paper and has a repulpability index of 80%, boosting recyclability and waste reduction.

Meanwhile the IFCA Innovations and Creativity Awards were for an insulator pouch for online food deliveries and soft thermoformable lidding for wine/juice cups. As per a Huhtamaki India briefing, "This pack is a multipurpose reusable insulator thermal bag for delivering warm and cold foods. Made with high-performance thermal insulation it maintains the food temperature and quality."

The insulator pouch consists of foam and nylon PE to provide excellent cushioning for shock and vibration protection during transit and is moisture-resistant/waterproof with appropriate sealing ensuring hot food deliveries reach customers piping hot.

It is specially designed to minimise the heat escaping from packs and prevents cold ambient temperatures from entering from the surrounding environment, maintaining consistent food quality at every time of delivery. This tamper evident pouch enables extended duration ship-

ments and provides high-performance protection for temperature-sensitive foods.

Paper-based soap wrappers and soft thermoformable lidding for wine/juice cups

The fourth IFCA award for Huhtamaki is for a soft thermoformable lidding for wine/juice cups. As per a Huhtamaki India briefing, "This product is a ready to serve, pre-filled communion cup with both, wafer and juice. This product contains a double peelable lid. There is an unleavened wafer under the top lid and the second lid reveals the grape juice."

This development uses two lidding films, foil based primary lidding for juice in the cup and PET-based lidding for wafer over the cup. This lidding material imparts smooth peelability of the lid for accessing the grape juice. The lidding materials also offer required barrier and suitability for soft thermoforming. This provides easy access to the elements without spillage.

This kind of packaging is a preferred option for serving single dose communion or wine cups and is the most sanitary way to distribute the elements for communion. ■

PureFlexo Printing from Miraclon, the technology that won the IFCA Star Award 2022 for printing innovation in flexible packaging, addresses a fundamental challenge in traditional flexographic print unwanted ink spread.

As Mahesh Kode of Creative Graphics told WhatPackaging? magazine, "Without compromising on solid ink density and enabling CI flexo presses to run at higher speeds, and for longer runs, PureFlexo Printing supports even more challenging graphics which are typically the domain of gravure."

The evolution of flexo has been quick, with flattop dots, Digicap NX patterning and Advanced Edge Definition, and now PureFlexo Printing (2021) as part of Miraclon's Print Suite. Mahesh Kode shared with WhatPackaging? that "converters have the option of matching gravure-class output by implementing latest in flexo."

So why did PureFlexo Printing win? As per the adjudicators of the IFCA Awards, "Unwanted ink spread into areas of print where ink is not wanted is a common issue, leading to dots filling in. As graphics

get more challenging, this gets even harder to manage. The only option printers have is to stop the press often and clean the plates, then start the process up again. These frequent start-stop cycles lead to wastage of precious press hours, while also adding significantly to make-ready and start-up waste. It also leads to delays downstream in other converting activities."

Mahesh Kode points out, "PureFlexo Printing addresses this fundamental challenge by advancing its Advanced Edge Definition (AED) technology to create a



channel for allowing ink to flow within the dot structure on the surface of the plate and reducing this effect of dirty print." This means that converters can expect the same solid ink coverage, with cleaner highlights and shadows, but with much lower dot gain. The result is clean, sharp print, with fewer unscheduled press stops, fewer defects. All translating into the printers running their flexo presses faster and more efficiently.

Prior to the Awards ceremony, Mahesh Kode spoke to the delegates. Today, Creative Graphics is one of India's largest flexo pre-press and plates service providers with multi-site presence to cater across regions and segments. CG Premedia, a new startup under Creative Graphics, which is an integrated studio that can enable turnkey design projects to speed up and support sustainability and speed-to-market goals of brands that are looking to transition existing/potential gravure jobs to flexo. ■

## PRINTMANN

The Tugain is an Anti-Hair Fall Solution and the packaging concept used was developed in-house by Printmann. As per a company spokesman, "Printmann Group not only developed but also managed to successfully commercialise this concept with other brands as well."

Tugain is an embedded carton in which the leaflet is prefixed within the carton through a fully automated process, allowing for faster packing line speeds, improved efficiency and other benefits. As per Printmann, this automated technology includes a three stage inspection system; a leaflet with a barcode, an easy peel glue and right combination of carton and leaflet

The IFCA jury was impressed by the USP of the carton which included: an embedded carton with a leaflet; self-partitioning; MetPet lamination; embossing and lock bottom; as well as UV varnish and Met with drip off and spot UV on images.

The tech specs of the Tugain carton as per the Printmann team is the 410 GSM whiteback board (NR Unit I/Gayatri/BK Paper Mill). Overprinting area to be left unvarnished. And a matt silver MetPet lamination with silver foil stamping, embossing and debossing. The highlight is the spot UV on marked and drip UV effect on grey background.

Meanwhile the 60,000 sq/ft Printmann factory in Navi Mumbai is "ready in spite of the market slow down during the lockdown phase, the group has been able to pull through without much dis-



**An embedded carton in which the leaflet is prefixed within the carton**

ruption."

The Tannas have invested in a KBA seven-colour brand new press, two Bobst die-cutters, two folder-gluers with multiple glue guns plus the team is shifting some of the existing kit to the new plant.

The Printmann Group will exhibit at CPHI Frankfurt 2022, the biggest international pharma industry event from 1 to 3 November. ■

## SIEGWERK INDIA



**Siegwerk team receiving two IFCA awards**

Siegwerk India, global providers of printing inks and coatings for packaging applications and labels, was honoured at the IFCA Star

extrusion lamination for woven sack and novel lamination.

Ramakrishna Karanth, CEO, Siegwerk

Awards 2022 for its breakthrough in the flexible packaging sector. Siegwerk was recognized by industry experts at the award ceremony for creating solutions using cutting edge technology.

The group won two awards for providing products that offer printing solutions in terms of its quality, print and production speed. Siegwerk developed a flexographic packaging solution for PP

India said "It is an honour for Siegwerk to be recognised at the IFCA Star Awards. Despite the intense competition from seasoned industry players, Siegwerk's novel innovations have made the grade. Our products have gone through extensive evaluations keeping in mind all the factors necessary to make them market ready."

Karant believes, "Our inks not only represent our company but the values we believe in - quality, dependability, and sustainability. Siegwerk consistently strives towards developing innovative solutions and improving the quality of the products by enhancing their intricacies."

The HD ink series and the packaging solutions of Siegwerk combine the economic and sustainability factors making the products attractive for the present and future. ■



## UFLEX

The jury members of the IFCA evaluated the products of UFlex for innovation and creativity plus best branding.

UFlex won an award for high-barrier transparent recyclable laminate which was created for packaging of the milk powder. The spokesperson from UFlex said, "Products like milk powder need high oxygen and moisture barrier that enhances its shelf-life. UFlex has developed a transparent packaging structure made with layers of Polyester and PE that gives high barrier properties and can be upcycled."

UFlex won an award for developing a custom profile pouch with v-notch and d-shape handle for MTR Idli Batter. "This stand-up pouch comes with a d-cut handle for easy dispensing and can be easily recycled. This packaging structure can be easily identified on the shelf and provides convenience for storage," said the spokesperson.

The third award for UFlex was for designing a 100% recyclable transparent barrier laminate in PP mono-polymer. It is used for the packaging of snacks such as chips and wafers. The spokesperson said, "UFlex developed a 100% PP based mono-polymer packaging structure that offers enhanced barrier properties. The design is focused on sustainability which can be fully recycled."

The fourth award for UFlex was for developing a high barrier PE-based flexible packaging structure which was designed for Vicks Action 500. As per UFlex, "The structure has reduced the usage of Aluminium foil from the laminate without compromising on the appearance and aesthetics. The laminate is sustainable, easily tearable and can be sealed at less temperature which helps to save thermal energy."

Their PE based mono-material laminate packaging structure won the award for innovation and R&D which is designed for P&G Gillette Guard. The flexible packaging business of UFlex said, "The laminate is made from a mono family of polyester and complies with the mandates stated by Central Pollution Control Board (CPCB). It offers good seal strength, elongation stiffness to the packed product and it is 100% recyclable."

Next, UFlex won the award for a holographic lens effect with a floating image.



**UFlex team members collecting their IFCA awards from Suresh Kalra, managing director India and president Asia region of Hubergroup**

The lens was made to prevent counterfeiting which has been the cause of concern for the brands.

UFlex bagged an award for its holographic impact. The highlight was the lidding foil for pharma packaging.

The next award was for innovation and R&D for supreme security master fresnel & sterling stamping foil for anti-counterfeiting applications and premium aesthetics.

The ninth award for UFlex was for an artificial leather effect on PVC/PU/paper which is developed through laser embossed printing cylinders for the decorative textile industry.

The next award for UFlex was for designing a 3D flower design on artificial leather such as PVC, PU or paper.

The 11th award for UFlex was for developing and achieving a 3D decorative design on textile, PU/PVC and leather materials.

The packaging film business of UFlex won two awards, one being for F-1SB PET film which is used for cold blister packaging

applications.

The second award for packaging film business was for B-TGM Oxygen barrier transparent BOPP film.

UFlex won its 14th award for Combi Laminator for packaging lamination applications.

The aseptic liquid packaging business won the award for developing a structure with holographic effect for Nutricharge Refresher for best branding.

The 16th award won by UFlex was for Flexcoat Aquaban which is a water repellent coating for Kraft paper used as an inner-liner in the corrugation board.

They also won two awards for best branding for layer met PE-based recyclable laminate. The laminate is designed for P&G Head & Shoulders shampoo sachet.

The second award for best branding and the 18th award of UFlex was for flexitubes with high-end graphics and matte finish developed for Denver. ■

## ECOPLAST INDIA

Ecoplast won the IFCA award for the Ecopreserve 100-A1 for innovation category. Ecopreserve 100-A1 is a speciality PE film that contains 20% to 40% PCR materials that are reprocessed plastics from household or commercial waste, the majority of which were used for packaging. PE film helps companies and brands to achieve their sustainability goals, without relying on the consumer to recycle or compost the package after use. PCR films are a considerable packaging option for brands looking for eco-friendly flexible packaging and can be developed into stand-up pouches, lay flat pouches and roll stock. These films can be used in industries including confectionery, coffee, baked goods, snacks, herbal remedies, pet treats and sports nutrition.



## SPOTLIGHT

# The ground reality of EPR and recyclings

All 1,550 pair of eyes were on the panel discussion at the 9th edition of the Speciality Films and Flexible Packaging global summit as the panelists dived deep into sustainability. But as Abhay Avadhani of WhatPackaging? magazine discovered there are no easy answers

**Jeevaraj Pillai (JP)** (opening comments): Addressing the complex circularity, it has got a few distinctive features, unlike the ones which are published by the global fraternity; It lays down a roadmap for the future. It recognises the lack of infrastructure for collection and recycling and hence provides a five to ten years time frame for 100% compliance; It comprehensively addresses the issue of both the collected as well as uncollected waste; It fosters an ecosystem where the producers, importers and the brand owners all come on a single centralised digital platform to transact business.

The manufacturers of the product, create and design a product which can be put to reuse easily and can be restored multiple times through either recycling or upcycling; It allows sale and purchase of the surplus EPR certificates. This triggers the market mechanism, any guideline and enforcement which does not trigger a market mechanism is bound to fail. We have a panel today to discuss the ground realities of environmental issues, how the EPR will help reach the projected circularity and demystifying certain elements of the EPR guidelines.

**JP:** Vijay Habbu, there has been a grave concern and worry amongst the stakeholders that in the absence of a robust collection



(l-r) Vijay Habbu; Jeevaraj Pillai; Aditya Dalmia; Mani Vajipey; Ashok Kumar Tyagi and Srikrishna Balachandran

system, how effective will the EPR compliance be?

**Vijay Habbu (VH):** I think it's been said already since morning that an essential ingredient of recycling is the collection then comes segregation, cleaning and transportation. These are the four basic ingredients before the material reaches the recycling structure. We heard that unless collection is in place, no technologies such as recycling, mechanical recycling, chemical recycling and end of life are doable. The problem is if there is no collection of waste, then there is no recycling and hence, the system has to be redesigned on how to manage the waste after it goes to the litter. If we want to extract value out of resources, then bringing it back into the recycling stream is essential.

India has a robust recycling collection system, which is called Rack because waste pickers give about 60 to 65% of recycling rate for plastics. The industry should think about it as a cohesive unit to tackle this problem. Therefore, the focus of everybody should be how to make the plastic packaging, whether it's rigid or flexible; more collectible, more remunerative and more easy for collection.

**JP:** So there are two elements to it. One is the regulator and the other is the industry which

is facilitating recycling. But the missing element is an organised collection infrastructure, which is essential to the success of EPR. Ashok Kumar Tyagi, the success of EPR will depend on how good or bad the collection cost is. What have you factored in as a cost impact of the EPR implementation on the ground? Are the brand owners aware of this? Will it be passed on to the end consumer?

**Ashok Kumar Tyagi (AT):** EPR implementation is a very new game to our industry, which we have implemented in the last few years. The cost is somewhere between five to seven rupees per kg depending upon the location from where you are collecting the EPR waste. We are not passing this cost of EPR collection to our end consumer and we don't plan to do so in the future as well. We are bearing this cost to our bottom line.

**JP:** So, we have heard that tax avoidance is smartness and tax evasion is crime. In EPR, also, there is a possibility of EPR avoidance by using biodegradable plastics, but certainly there is no provision for EPR evasion. Srikrishna Balachandran, as always will the industry look for possible loopholes? Or would they genuinely make an attempt for compliance?

**Srikrishna Balachandran (SB):** It's an inter-



# Hot topic at flexible packaging summit

esting question. I think it's both ways. Industries would want to comply, but they want to comply at the lowest cost with the lowest impact in the margins. We cannot generalise industry, because there are a variety of industries that take proactive steps and wait for the rules to come in.

Also there are industries which trade and therefore, I think in terms of compliance, nobody wants to be non compliant. Because it affects the business. Everybody wants to comply but what is the cost of compliance and how that compliance can also be turned into a business advantage? This is what the industry works towards as well. But if there are some loopholes, companies will try to gauge the risk and take a record to measure in the case they need legislation. EPR is no different from that.

**JP:** The PCR plastics collected from the MRF's in India have a lot of oil and food elements which are normally not found in the western world. Hence, the recycling system has to be properly designed for Indian conditions and it has to be customised to handle the plastic waste available in our country. Aditya Dalmia, how can designing help recycling?

**Aditya Dalmia (AD):** Designing can help recycling in a large way. As Vijay Habbu said, we have a very robust collection system that includes the rack picker and the housekeeping staff. These people only pick up something that has value and the non-value things will find its way to the landfill. The landfills will only find non recyclable products.

The designing should be done in a way where it creates value, whether it's for rigid or flexible packages. Both would get picked up to the chain of collectors that we have and the stress on the landfill would reduce substantially.

**JP:** The EPR draft, first in January, had two components to it. One is the responsibility to collect, and then there are obligations which would mean that some portion of the mate-

rial has to be recycled. This was mandated from 2023 - 2024. But in the final guidelines, it has been shifted to 2024 - 2025. So, Mani Vajipey, by allowing MLPs to be sent to submit claims for till 2024 - 2025 and encouraging brands to do more of the same, what would incentivise brands to switch from MLPs to recyclable or generally more sustainable materials? How do we catalyse design for recyclability in flexibles?

**Mani Vajipey (MV):** Perhaps the same way we've catalysed design for rigids. In the last 12 months, over 500 million FMCG bottles for shampoos, lotions and other home personal care applications in India were recycled and the bottles that you find on the shelves in India are made from recycled plastic. The packaging made from mono materials catalyses the informal recyclers to pick the materials and bring them to recyclers like Banyan nation or Dalmia Polypro.

I think in the EPR regulations, enforcement of use of recycled material back in packaging is a tremendous driver for companies to make packaging recyclable in nature. If you don't design for recyclability, it's going to come and bite you in the back. As much as other companies are innovating in paint removal and ink removal, design for recyclability and use of recycled plastic back again in the packaging is a great catalyst.

**JP:** How does the regulatory system distinguish between the users of certified biodegradable materials and claimed biodegradable materials in India? Do you think the enforcement will be critical and difficult?

**VH:** It is difficult to identify which one is biodegradable and which one is not. Not only by using visual looks but also using analytical tools, we cannot identify the difference. Because these biodegradable materials are additive based materials. There is a gap of what samples are submitted for testing to get approval and what actually gets added because the industry will always work to

save costs.

Plastic is a material invented after 2,500 years. So far a new material that has been with us only for 100 years; to find all remedies to all these problems within a fraction of 10 years because there is a global noise against plastic litter is not doable. Industry uses the word plastics without knowing that plastics are based on polymers. There is very little polymer science being used to address various problems.

Innovation is different materials and different combinations of materials to bring about a certain set of properties and functionalities. Therefore, the more complex we make the more difficult it becomes to recycle. And hence, innovation and recycling are not happening together. The only remedy is the use of polymer science.

So, therefore, we are in a state where we need to go back to basic polymer science. Otherwise, things and concepts like biodegradable material will only be avenues for evading enforcement.

**JP:** We are in the middle of the EPR regime and we have to comply. My question is to Ashok Tyagi, in terms of compliance, what is the ground reality?

**AT:** Compliance has always been a top priority for us. We not only do compliance but also check whether we are contributing to the environment. We have made a joint venture with HR Recycling. The waste we collect from the market next year will be given to HR Recycling and have the plastic removed. And this waste will be used for making different products like furniture.

The panel discussion on ground realities of EPR and sustainability brought about points such as; its implementation process, the waste management and waste collection.

Habbu said that the need for recycling plastics will be fulfilled with the start and application of basic polymer science. Hence, creating opportunities for sustainable development. ■