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10 TRANSFORMATIVE TRENDS FROM PENTAWARDS



Ashok Chaturvedi highlights AI's role in tackling flexible packaging waste



SIG's Ahmedabad plant set to boost sustainable packaging solutions in India



Collaborative efforts crucial for tackling plastic pollution, says Satyendra Kumar

Ashok Chaturvedi highlights AI's role in tackling flexible packaging waste

Ashok Chaturvedi, founder, chairman, and managing director, UFlex Group, delivered a pivotal keynote address highlighting the role of artificial intelligence in solving the problem of flexible packaging waste, contributing to a cleaner and greener planet, at the world's largest business summit on flexible films and laminates for packaging and applications.

The flagship summit held at the Reliance Jio World Convention Centre in Mumbai, India, featured industry leaders, distinguished speakers, and delegates from over 25 countries. The event encompassed in-depth discussions and presentations on pressing topics including the evolving global packaging landscape, social responsibility, brand strategies in the FMCG sector, and recycling for circularity, amongst others.

In his keynote, Ashok Chaturvedi presented an insightful overview of the genesis and remarkable evolution of flexible packaging and the significant impact of AI on managing the problem of flexible plastic waste. He said, "With a global population of 8 billion, we cannot ignore our reliance on flexible packaging, essential for delivering food, pharmaceutical, and other consumer products while ensuring safety, durability, protection from contamination, safer transportation, and enhanced accessibility".

"The need of the hour is to deploy advanced AI sorting technologies that will use sensors to separate food-grade from non-food-grade plastics. UFlex is making significant investments in these technologies, and we will be ready to showcase our MVP in the coming months. These advanced technologies will



Ashok Chaturvedi, founder, chairman, and managing director, UFlex Group

be integrated into our global recycling infrastructure, which spans India, Poland, and Mexico. We are the only company that is working within India and globally on innovative solutions in flexible MLP materials and PCR and its applications," he added.

"By leveraging these AI technologies, we can enhance our recycling processes and contribute to a more sustainable future. The future of packaging lies in our ability to innovate sustainably and responsibly. We invite regulators, policymakers, brand owners, and other producers to witness this technology at our facilities in early 2025. We will be happy to collaborate with the industry to scale this and deliver on our Government's EPR and sustainability goals," he concluded.

At the event, Jeevaraj G Pillai, director – sustainability and president – flexible packaging and new product development, UFlex, moderated an important panel discussion: Drivers, Challenges, and Barriers to Recycling: Is India Ready?

Pillai shared insights into UFlex's sustainability initiatives, stating, "Our commitment to sustainability is not just about compliance; it is about innovating solutions that make a real impact on the environment and propel a circular economy. We promote environmentally friendly processes, evaluate the effect of raw materials on the environment, and opt for lower-emission sourcing

choices in flexible packaging. We are aligning our ESG targets with efforts to mitigate global warming and have initiated a strategy for carbon offsetting through community-based and biodiversity projects."

The summit also features specialized sessions focused on sustainability, including panel discussions that address the critical role of flexible packaging in green energy, as well as emerging film extrusion technologies and new developments. Distinguished speakers from the Ministry of Environment, Forest and Climate Change (MoEFCC), the Ministry of Chemicals and Fertilizers (MoCF), and the Department of Chemicals and Petrochemicals, will engage in discussions on aligning product development with circularity needs. ■



VENKATESH RAJAGOPALAN ON UFLEX'S SUSTAINABILITY DRIVE

Innovative tube solutions – UFlex eliminates aluminum foil for better recycling

MAHAN HAZARIKA

In a recent interview, Venkatesh Rajagopalan, senior vice president – Tubes, Flexible Packaging Business, UFlex, highlighted the company's strong commitment to sustainability and innovation in the packaging industry. "UFlex has always been at the forefront of sustainable practices," Rajagopalan said. "Back in 1995, we were the first company in India to champion multilayer recycling solutions, setting a precedent that we continue to uphold with certifications to this day."

UFlex focuses on delivering customized solutions, offering laminate structures tailored to meet individual customer needs, rather than using a one-size-fits-all approach. "We don't have one laminate structure that fits everybody," Rajagopalan said. He explained that UFlex customizes laminates based on each brand's specific requirements, such as aesthetic appeal and barrier properties. This flexibility has allowed UFlex to open new avenues, including a recent breakthrough in the food segment.

TRENDS IN THE TUBE PACKAGING INDUSTRY

When discussing trends in the tube packaging industry, Rajagopalan pointed to a shift in consumer behavior. Traditionally, Indian consumers have favored smaller pack sizes due to affordability concerns. For instance,



Venkatesh Rajagopalan, senior vice president – Tubes, Flexible Packaging Business, UFlex

the per capita consumption of toothpaste in India is only 150 to 160 grams per year, which pales in comparison to countries like Brazil or the Philippines, where consumption is three times higher. "Many consumers only budget a small amount for toothpaste, so they buy INR 50 worth at a time," he explained.

However, Rajagopalan noted that as India gradually shifts from a savings-driven economy to a more consumer-oriented one, larger pack sizes are becoming more popular. "Consumers are moving away from smaller diameter tubes toward bigger diameter tubes," he said. This trend, he believes, will reshape the packaging ecosystem in India. India is the largest producer of side-seamed tubes in the world, but 55-60% of all such tubes produced in India are less than 22 mm in diameter. With the evolving pattern cited above, tube manufacturers, many of whom predominantly produce smaller-diameter tubes, will need to invest in machines capable of producing larger ones to meet evolving consumer expectations.

UFlex, however, is ahead of this trend. "The company is versatile enough to produce tubes ranging from 19 to 50 mm in diameter with its existing infrastructure, enabling it to serve a broad spectrum of customer needs. We are already positioned to meet these demands," Rajagopalan said.

FOIL-FREE, SUSTAINABLE TUBE SOLUTIONS

A significant challenge in today's global tube industry, particularly in India, revolves around multilayer tube formats. About 60-70% of tubes worldwide, including those in India, cater to oral care and pharmaceutical needs. Aluminum foil is a crucial barrier layer in these applications, offering unmatched oxygen and water vapor transmission rates (OTR and WVTR). However, its use complicates recycling efforts, aligning with



strict plastic waste management regulations.

UFlex addresses this challenge with alternative barrier solutions that eliminate the need for foil. "Our innovations achieve acceptable OTR and WVTR values to aluminum foil through specialized coatings, ensuring product integrity and shelf-life preservation while maintaining recyclability. For example, our custom barrier solutions in the Films division achieve impressive OTR and WVTR values as low as 0.1, closely matching foil performance," said Rajagopalan.

In critical applications like oral care, where high WVTR values are essential for products such as fluoride-based toothpaste, traditional solutions like EVOH

alone fall short and affect the shelf life of the product. UFlex's advanced barrier technologies provide robust solutions for such demanding applications, ensuring both regulatory compliance and product performance.

Furthermore, UFlex's monolayer tube designs keep the barrier layer content below 10%, meeting stringent recycling norms. This commitment extends across its entire product line, including PCR materials used in caps, shoulders, and the flexible laminate body of its tubes.

TRANSITION TO WATER-BASED INKS

One of the major concerns in the packaging industry,

particularly in the rotogravure and flexible printing sectors, is the use of solvent-based inks, which emit volatile organic compounds (VOCs). UFlex has taken proactive steps to address this issue by transitioning from solvent-based inks to water-based inks.

"The shift to water-based inks not only improves air quality for workers but also aligns with broader sustainability goals. Rajagopalan assured that these inks offer the same properties as solvent-based inks without harmful emissions. "Water-based inks are much more sustainable compared to solvent-based inks because the emissions are not there," he said, highlighting the dual benefits of enhanced employee safety and reduced environmental impact. ■

ELITEPLUS CONFERENCE 2024

SP Ultraflex highlights technology innovations for a sustainable future

At the ElitePlus conference, SP Ultraflex delivered an impactful presentation on advancing sustainability through cutting-edge slitting and rewinding technologies. The presentation followed a unique format, introduced by managing director Biku Kohli, where the SP Ultraflex team engaged in a dynamic Q&A session. Sukh Kohli posed questions that were addressed by Rohan Pankar and Gatik Arora, creating a dynamic exchange.

"We have defined six pillars of sustainability: efficiency, quality, user-friendliness, safety, versatility, and waste management," explained Biku Kohli. He emphasized that these principles drive SP Ultraflex's technology development, ensuring sustainable outcomes across various industries.

As the printing industry faces challenges like fluctuating order quantities and more SKUs due to the rise of startup culture and customization demands, the sector has shifted toward CI flexo and digital printing for more cost-effective short-run volumes. This shift has presented unique challenges for slitter rewinder manufacturers.

Pankar explained how manufacturers have responded



Biku Kohli, managing director, SP Ultraflex. Photo: The Packman

with innovations like automatic knife positioning systems to manage the increasing number of SKUs. However, a complete solution requires aligning the web guide, knives, and rewind cores according to package design. "Our Automatic Job Setup addresses this by aligning all three areas, reducing setup time and increasing machine availability by up to 14.5% for an 11-up job," Pankar said.

Arora added, "Based on user feedback, we have also introduced Quick Cutter Changeover, which enables faster transitions between different setups, such as razor to rotary or vice versa. This cuts the setup time to just six minutes for an 11-up job, addressing a key pain point for operators."

Operator safety and comfort were also highlighted as key concerns. "Features like automatic nozzle positioning not only improve efficiency but also enhance operator safety," Pankar noted. Reducing manual intervention lowers operator fatigue, and SP Ultraflex has optimized systems to ensure smoother material flow, which lightens the operators' workload.

Arora also provided an overview of various material handling options, such as Floor to Operator, Floor to Conveyor, and Floor to Pallet. He explained how SP Ultraflex has streamlined the entire process, from loading input reels at floor level to delivering them to operators, conveyors, or pallets, depending on the end process requirements. This versatil-