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IndiFoodBev

Processing & Packaging

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Dear Readers and Advertisers,

We are delighted to bring you the inaugural edition of *IndiFoodBev* – Processing & Packaging. Aimed at building a world-class platform for an emerging world-class food industry, the bi-monthly B2B publication serves as a window to the latest innovations and developments in the food & beverage processing and packaging industry. Business development and growth together with new technology, equipment, government policies, testing instruments and laboratories, logistics, retailing and marketing strategies are the subject of this platform.

Food processing industry poised for growth

A MakeinIndia survey on the food processing sector reports that India's US$ 600 billion (approximately Rs 42,87,330 crore) food processing industry is at an inflection point in its growth. Currently second in terms of global food production, it leads in the production of pulses, mangoes, banana, milk, ginger and buffalo meat, and is the second-largest producer of rice, wheat, potato, garlic, cashew nut, groundnut, dry onion, green peas, pumpkin, gourds, cauliflower, sugarcane and tea. Only 10% of agricultural produce is processed, but given the potential this is an underachievement leading to much waste on the farm side itself. Only 2% of vegetables and fruits are processed in India in comparison to 90% in the USA and 40% in China.

Post-harvest wastage and government action

Although a big exporter of agricultural products, India's value addition in food and beverage products is still low. Much of the post-harvest wastage of fruits and vegetables of around 30 to 40% is attributed to factors such as the lack of a structured food processing, packaging, logistics and retail industry.

The food processing industry can halve this loss with a positive effect on the entire economy as around 55% of the Indian population is directly dependent on agriculture. Apart from its food industrial parks, the central government's ministry of food processing industries is building a strong cold storage infrastructure for the dairy, fish and horticultural industries. It is currently assisting 135 integrated cold chain projects in the country.

Improving the food and beverage supply chain with direct farming, contract farming and a negotiable warehouse receipt system are mechanisms to streamline, strengthen and shorten the food supply chain. India is the biggest producer of numerous fruits and vegetables, whose shelf life can be extended by investment in infrastructure such as cold storage, reefer vans and radiation plants. Indian food and beverage companies are keen to adopt new technologies for the sourcing, sorting, processing, packaging and distribution of innovative and nutritious food & beverage products.

Food quality and safety

Use of fertilizers, pesticides and other chemicals raise concerns about food quality and safety and consumer protection is needed from hazardous practices such as adulteration. The Indian Food Safety and Standards Act was enacted in 2006 to provide a single-point reference for all matters relating to food processing, packaging and labeling safety and standards.

As an industry platform spanning the food supply chain at just the right time, *IndiFoodBev* needs your ideas to establish the context for a targeted industry platform. With an economy and demographic in rapid transition, daily uploads on www.indifoodbev.com website will try to keep up with the excitement. Our previews and coverage of food and beverage industry exhibitions and conferences will also give us frequent opportunities to meet and interact with our readers and supporters globally.

– Mandeep Kaur, edit4@ippgroup.in

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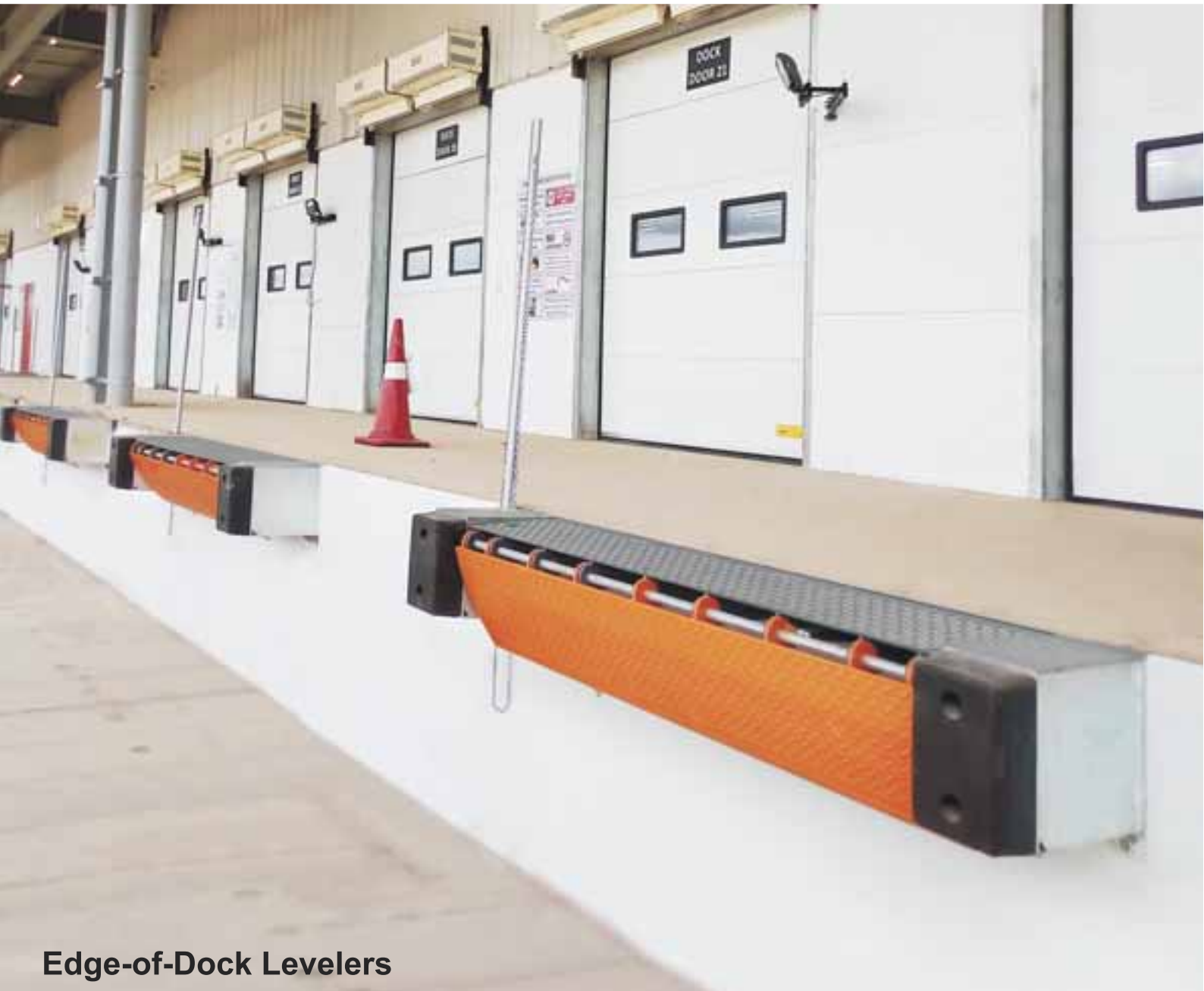

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AUG-SEP 2019

Almond Branding works on brand nourishment

A brand design should not only look good but also work well

SHARDUL SHARMA

A brand design should not only look good but also work well. This is the philosophy that drives Almond Branding, a brand and design agency based in Mumbai. Almond Branding has worked with multiple brands, both start-ups and established ones, and chalked out many success stories.

"A brand design should have a positive impact on the balance sheet; otherwise it does not make much sense," says Shashwat Das, founder-director of Almond Branding. To achieve this, Almond Branding works on the philosophy of brand nourishment.

Das argues that every brand needs nourishment at a certain point of time. However, the way the nourishment happens will differ in case of start-ups and established brands. A start-up requires brand nourishment to strengthen the foundations of the brand so that a flourishing and successful brand can be built on top of that. An established brand too needs brand nourishment from time to time, to rejuvenate and to remain relevant to the ever-changing consumer sensibilities.

"Brand nourishment works at the core of the brand, defining what the brand will stand for or revamping the brand's physique in line with the brand's DNA," he says.

Das has been working with this approach since the last decade or so when he founded Wow Design, which for all practical purposes was the predecessor of Almond Branding.

"Wow Design as an entity does not exist anymore but the ship is the same; just the brand has changed," Das shares.

Clear focus on start-ups

Although Almond Branding works with start-ups as well as well-established legacy brands, its clear focus is on start-ups.

"They are not big players, are not very well recognized and are not big payers. But we like the passion, grit and determination that they show. We help them in brand identity, brand positioning, communication and content strategy. We also create brand names for them," Das says.

Citing a recent example of Kolkata-based dairy start-up ProVedic, Das says Almond Branding helped the brand launch ghee under the ProVedic brand name. Almond Branding championed the idea of 'Traditional Vedic Recipes for Today's India' – drawing on ProVedic's expertise to tell the 'Taste of Purity' story that highlighted the product's holistic health benefits making it an essential for saatvik living in a modern, active world.

However, all this focus on start-ups does not mean Almond Branding is not seriously engaging with legacy brands. It has some of the biggest brands such as Amul, ITC and Dabur, among others as its clients.

Almond Branding recently helped Amul launch its line of fruit juices under the brand name Amul Tru. Amul and Almond Branding collaborated for end-to-end brand building, packaging design and communication design.

Since Amul Tru has been priced at Rs 10, Almond Branding designed the packaging in such a way that even a common person could associate with it, says Das. Almond Branding

Amul PinaColada can designed by Almond Branding

Tokla green tea package design by Almond Branding

recommended Amul to have transparent labels to the PET bottles where the fruit beverage inside can be flaunted. Also, the design language was kept simple to attract the attention of consumers.

Shashwat Das, founder-director of Almond Branding

Consumers now want greater brand engagement

Indian consumer tastes have evolved significantly over the last decade and so have packaging designs. The role of packaging back then was more of protecting and promoting a brand. Das believes this has now changed.

"The role of packaging is now not restricted to just promote and protect. Packaging now means something extra – to captivate, delight and engage. Customer expectation from packaging is increasing. The unboxing is now an experience," he concludes. ▮

Valvert 100% rPET bottle a milestone in achieving a circular economy

Valvert launches water bottle made of 100% recycled PET

Valvert, a natural mineral water brand of the Nestle Group, has launched its new bottle made entirely from recycled PET (rPET). This is the first natural mineral water brand in Belgium to do so. The innovation highlights Nestle's commitment to have the rPET content in its bottles to 35% worldwide, and to 50% in Belgium, by 2025.

The bottle is another milestone in Valvert's journey towards sustainability. Nestlé is already working in partnership with local farmers and communities to protect the Valvert natural mineral water source around its bottling facility in Etalle.

The bottle will be available in retail stores this month in Belgium and Luxembourg.

No new plastic needed

The new bottle, a first for Nestle in Europe, is made of 100% recycled PET or rPET. This means Valvert only uses old bottles to produce the new bottle, and no new virgin PET needs to be created. Valvert was able to secure a reliable supply of the high-quality, food grade rPET that is required for bottled water. This will allow not only the launch of the 100% rPET bottle of 150cl, but also a 50% rPET bottle of 50cl at the same time. The goal is to have the 50cl bottle also made entirely of rPET by the end of 2019.

"We believe the new Valvert 100% rPET bottle is a gamechanger in the next generation of sustainable packaging, stimulating a bottle-to-bottle circular economy," said Emmanuel Gruffat, general manager of Nestle Waters Benelux. "At the same time, we also continue to take our responsibility in further improving our collection and recycling rates in Belgium. That is why last year, Nestle pledged with 8 members of Fevia (the Federation of the Belgian food industry), to collect and recycle 90% of all drink packaging in Belgium by 2022."

Tackling packaging waste A priority for Nestle

In January 2019, Nestle laid out its vision that none of its product packaging, including plastics, should end up in landfill or as litter, including in seas, oceans and waterways.

"At Nestle we want to take up our responsibility towards our consumers and help shape a more sustainable future," said Michel Mersch, chief executive officer of Nestle Belgilux. "We are determined to look at every option available to solve the plastic waste challenge and we are embracing multiple solutions that can have an impact now such as developing new materials, improving collection and recycling schemes and driving new behaviors. R&D is in our DNA and we intend to leverage this expertise to serve this goal. We are therefore proud to launch the new Valvert 100% rPET bottle as another milestone in achieving a circular economy and in our journey towards sustainability." ▮

Valvert 100% rPET bottle

Light water bottles at highest production speed

Sidel introduces X-LITE Still

X-LITE Still is Sidel's latest innovative 500 ml PET packaging solution for non-pressurised still water. Thanks to its extremely light industrial bottle design, it is claimed to be the most cost-effective and sustainable packaging available on the market for this application. The solution addresses the still water market for small size PET bottles, in particular, for producers looking to optimize their packaging and production costs.

X-LITE Still by Sidel

With 6.5 grams of weight and a height of 195 mm, Sidel X-LITE Still is the lightest 500 ml PET bottle in the world for non-pressurised still water, offering the greatest level of performance – even at very high production speeds1 with a very light water neck finish. This bottle is complemented by a Novembal Novaqua RightCAP26 closure.

High packaging performance for non-pressurised still water

Sidel X-LITE Still integrates the proven StarLITE Still base solution, already implemented worldwide due to its increased stability and stress resistance through the value chain, its endless design flexibility and the clear lightweighting possibilities it offers. Moreover, the energy savings enabled by StarLITE Still – mainly achieved through a reduction in blowing pressure and heating power – are significant, with no compromises on the packaging performances. This base design can be adapted to all Sidel blowing platforms and applied to existing production lines to reduce the total cost of ownership.

X-LITE Still has been optimized by the company's engineers for the Sidel Super Combi, the single smart solution integrating five process steps: preform feeding, blowing, labelling, filling and capping and cap feeding. "Based on a dedicated preform design for optimal mechanical performances, this latest addition to our packaging portfolio is able to withstand label application on the empty bottle, in spite of its extremely light weight. It allows for the ideal bottle shape design for nested packs and enables an optimum top load resistance of 34 kilograms, able to match the supply chain requirements in terms of pallet stability," explains Laurent Naveau, Sidel Packaging Expert.

Cost-effective and sustainable packaging solution

As the lightest bottle in the world for still water, Sidel X-LITE Still dramatically reduces the consumption of PET resin: for example, when compared to bottles weighing 12 grams, the new solution can save a remarkable 1,485 tonnes of PET per year while generating energy savings of up to 335,000 kWh/year.1 Combined, these reductions amount to 3,000 tonnes of CO_2 saved, which equals 25 round trips between New York and Paris by plane with 200 passengers on board.2 For bottled water producers, this means that the cumulated savings of PET resin and energy can reach up to two million Euros per year.

"For our customers, the new preform design and neck finish featured by the X-LITE Still packaging solution translates to a very fast payback on their investment, even when the line retrofit includes a completely new injection stack",3 says Laurent Naveau. "By switching from a 12 gram PET bottle to the X-LITE Still 6.5 gram bottle, the payback time for a line upgrade would only be between two to four months."4 More information on Sidel X-LITE: www.sidel.com/x-lite-still ▮

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Bio composite lids for protection and waste reduction of food

Stora Enso and Valio to trial bio composite lids

Stora Enso and Valio are introducing reusable bio composite lids this Fall at Valio's sales demonstrations. This cooperation is intended to trial how this new material works when combined with a traditional food package and to encourage Finns to reduce their food waste.

Bio composite products in food packaging are one step Stora Enso is making towards their goal of replacing fossil materials with renewable solutions. Durasense by Stora Enso bio composites, made of wood fiber, can be used to replace over half of fossil-based plastics and, depending on the product, reduce a product's carbon footprint by up to 60% compared to conventional plastic.

"We were the first in the world to start using fully plant-based one-liter milk cartons in 2015. Last year, we converted all of our 250 million gable-top milk, yoghurt, cream and sour milk packages to fully plant-based ones. These packages are a part of a larger concept where Valio is aiming towards carbon-neutral milk, i.e. resetting milk's carbon footprint by 2035. We continue to think about new package innovation possibilities that we could try out and implement," said Tanja Virtanen-Leppä, head of Packaging Development at Valio.

Stora Enso continues to develop new replacements for plastic from renewable materials. Bio composite products claimed to have similar properties to conventional plastic ones, and these durable and hygienic reusable lids are dishwasher proof. The wood fiber used in this is said to bring the strength of wood and a pleasant feel to the bio composite material.

Bringing cabin food home in a cooler

Virtanen-Leppä added, "Roughly 6% of the food Finns buy ends up being thrown away, adding up to 150 million kilos of food waste annually. The packaging – and the lid – is meant to protect the food and help to reduce waste. In this collectible campaign, we intend to distribute 10,000 reusable lids to Finnish homes.

"With this pilot project, we want to encourage people to take small concrete actions to prevent food waste. For instance, the leftover crème fraiche sauce for fish, made on a cabin weekend, is now easy to pack away in a cooler with this lid instead of throwing the leftovers away. This new lid can be reused after it's been washed."

Stora Enso and Valio to trial biocomposite lids on crème fraiche and quark tubs

Huhtamaki's feel-good Impresso cup provides enhanced insulation

Huhtamaki launches compostable double wall hot cup

Huhtamaki has launched its new compostable Bioware Impresso double-walled hot cup. Adding to Huhtamaki's existing Bioware compostable range, this new cup in a mixed sleeve of white and green designs utilizes the unique Impresso bubble emboss, which claims to provide enhanced insulation and a tactile touch for the holder.

Huhtamaki is a global specialist in packaging for food and drinks. With a network of 79 manufacturing units and an additional 24 sales-only offices in altogether 34 countries in-

Huhtamaki's new compostable Bioware Impresso double-walled hot cup

cluding India, the company promises to support its customers' growth wherever it operates. The Huhtamaki group has its head office in Espoo, Finland.

The Bioware Impresso cup claims to utilize sustainable 100% PEFC (Programme for the Endorsement of Forest Certification) certified paperboard with a plant-based coating on the inside. According to the company, as with all of Huhtamaki's Impresso double-wall cups, the innovative design means that the cup uses up to 25% less material than most other double- and triple-wall cups on the market. This claims to reduce the weight of packaging without compromising on performance. These new cups are manufactured in the UK and are available for customers across Europe. "We are experts in both cup design and manufacture, and our latest innovation, 'feel-good', adds a compostable double-wall cup to the Bioware range with our unique Impresso outer wrap that feels good to hold and provides enhanced insulation. The compostable Impresso has EN13432 certification, which means that it is compostable at approved composting facilities," says Becci Eplett, marketing manager, Huhtamaki Foodservice UK.

"The hot drinks market is extremely competitive and customers are looking for environmentally sound choices. For those with access to industrial composting, Huhtamaki's 'feel-good' Impresso cup is the ideal solution. Our new 'feel-good' Impresso cup offers the perfect solution for an operator to deliver an excellent drinking experience as well as a product that is made from PEFC paperboard, with a plant-based lining that is certified compostable," Eplett continues.

Re: Nourish offers soups in grab and go heatable and recyclable bottle. Photo Re: Nourish

Heatable and recyclable soup bottle

Re: Nourish soups in 'grab and go' bottle

Re: Nourish offers four fresh, delicious and healthy soups made only from natural ingredients including vitamins and micronutrients that deliver particular health benefits. A unique feature of the soups' offering is the 'grab and go bottle' that allows the contents to be heated in a microwave. This enables consumers to enjoy a tasty and nutritious snack whether at home, at work or on the move.

The distinctive rectangular-shaped bottle was conceived by Re: Nourish founder Nicci Clark and developed for manufacture by Design. Blow-molded in transparent polypropylene, it claims to create a strong impression on-shelf with the soups clearly visible to emphasize their natural properties. The large decoration area features high-impact black and white labels to establish a powerful brand identity.

In addition, the 500 ml bottle is said to be sufficiently strong but light-weight to ensure effective protection of the soups while providing safe and easy handling for the user. It is also claimed to be fully recyclable.

While explaining the soups and their packaging, Clark says, "With these soups, we are breaking all the rules and reinventing them. We see soups as the new 'juices' in delivering a flavor-filled experience that is both delicious and healthy. As part of this, the right packaging was essential. M&H Corby has done a fantastic job in producing a quality bottle that projects strong brand messaging, maintains the freshness of our soups and provides the simplicity and ease of use that busy consumers demand."

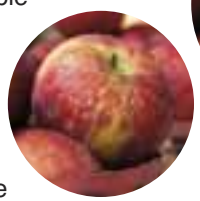
Re: Nourish claims that the soups are prepared using only fresh vegetables and plant-based ingredients. In addition, each one features a special ingredient that promises to deliver a particular health benefit. The four varieties currently available are Roasted Carrot and Ginger (Digest); Tomato, Basil and Pasion Flower (Calm); Spicy Lentil, Red Pepper and Maca (Power and Love); and Kale, Spinach and Turmeric (Immunity).

Harvest platforms increase labor efficiency by 15 to 60%

Apple harvest and infield sorting – An innovative approach

ANAND KUMAR POTHULA

Apple harvesting is a labor-intensive operation and accounts for about 15% of the total production cost. Across the globe, due to high seasonal demand and shortage of labor availability, there has been an increase in research on alternative methods of apple harvesting over the past decade. With the recent trend of apple growers moving towards highly dense structured orchard systems, robotics apple harvesting is emerging as the most sustainable future harvesting method. Over the last few years, big companies have invested millions of dollars for the development of commercial robotic apple harvesters. For instance, New Zealand based Abundant Robotics uses vacuum-based picking method while FFRobotics of Israel uses the robotic arm for apple collection. However, there are several challenges involved in harvesting of apples by robots, such as reaching the apples behind the leaves and picking the apples without damaging the fruits and trees. Even the companies have demonstrated and developed prototypes, but it may take a couple of years to see a commercially available apple harvesting robot in the market. Therefore, as an intermediate solution, mechanical harvesting platforms are gaining prominence and are being widely used worldwide, where apple picking workers stand on moving platforms, collect and dump apples in bins. Research indicates that depending on the design and use, the harvest platforms can increase the labor efficiency by 15 to 60%.



Innovative infield sorting of apples

Infield sorting is an innovative approach of sorting apples in the filed on a moving harvest platform where only the fresh apples are sent to packing houses for storage, compared to hauling the good and bad apples in the same bin. Mixing of bad quality apples with the fresh apples increases chances of diseases during posthar-

vest storage. Research on economic analysis shows that on a 50-acre orchard with a yield of 50 bins for one acre with 10% bad quality apples, there could be around US$ 34000 (approximately Rs 2341 thousand) gross savings in postharvest storage and packing if the bad apples were removed in the field. The USDA Sugarbeet and Bean Research Unit at Lansing, Michigan, USA was working on the infield sorting of apples for the last few years and has developed an innovative method of sorting (US patent 9,119,345 B1). Recently, the work was awarded Rainbird engineering concept of the year award during American Society of Agricultural and Biological Engineers (ASABE) annual international meeting 2019, Boston, USA.

Harvest and infield apple sorting machine

The self-propelled apple harvest and infield sorting machine was first designed and developed in 2016, with the help of a commercial harvest equipment manufacturer. The machine serves both as a harvest aid platform as well an automatic sorting system for separating good and bad quality apples. Around six workers can stand on the platforms at different heights to collect apples from the ground, middle and top level heights. The collected apples are placed on conveyors to further send them to an onboard machine vision system (MVS). MVS consists of a low-cost color camera, LED lighting in a closed enclosure. Apples are conveyed, singulated[1] and rotated for inspection under the camera. They are then tracked, identified and sorted automatically based on size and color into fresh and bad apples. The sorted apples are conveyed into different bins and filled automatically using the 3-bin fillers on the machine. Each bin filler movement in the bin is automatically controlled with the help of sensors. Each bin location on the platform and bin filler movement inside the bin is monitored using the distance and position sensors. Once the bins are filled, the automatic bin handling system replaces the filled bin with the empty bin. Automatic bin handling system consists of three sections of chain conveyors controlled by hydraulic motors, which are programmatically controlled for moving bins on the chain conveyor.

Apple harvest and infield sorting system developed by USDA Sugarbeet and Bean Research Unit, Lansing, Michigan, USA. The machine was field-tested during fall 2016 in a commercial harvest orchard in Sparta, Michigan. Further research to incorporate defect and bruise detection in sorting is going on with an ultimate goal to transfer the developed technology to the apple industry.

Anand Kumar Pothula, Research Fellow (Automation and Robotics) at University of Southern Queensland, Australia; Formerly he worked as a Postdoctoral Research Associate at USDA Sugarbeet and Bean Research Unit, Lansing, Michigan, USA.

Glossary

[1]Singulate - The act or process of separating conjoined units into individual parts or pieces. Typically used in manufacturing to describe the act or process of separating parts into individual units from larger conjoined batches or production runs

Exponential growth in demand for natural flavors

All about natural flavors – a primer

SATISH BHORKADE

According to the Mordor Intelligence report, India's food flavor and flavor enhancer market is forecast to grow at a CAGR of 3.5% from 2019 to 2024. The global market for natural flavors is witnessing an exponential growth over the past couple of years due to increasing demand for natural ingredients in food, growing health concerns and declining demand for chemicals and artificial food ingredients. All of these factors are fueling the growth of this segment and making it a huge contributor to its market share in the food industry. In addition, India's diverse culture and large variety of cooked food requires food flavors, enhancers and the use of spices and herbs – all combining to an evergreen demand for food flavors in the country.

As per CODEX there are three basic categories for flavor – artificial or synthetic, nature identical and natural. However, nature identical flavors constitute one or more artificial ingredients and this category is only accepted in a few countries.

Natural flavors

As per FDA's definition, natural flavor or natural flavoring means the essential oil, oleoresin, essence or extractive, protein hydrolysate, distillate, or any product of roasting, heating or enzymolysis, which contains the flavoring constituents derived from a spice, fruit or fruit juice, vegetable or vegetable juice, edible yeast, herb, bark, bud, root, leaf or similar plant material, meat, seafood, poultry, eggs, dairy products, or fermentation products thereof, whose significant function in food is flavoring rather than nutrition.

Natural flavors don't necessarily mean that flavor is prepared 100% from the actual source; for example, mango natural flavor may or may not be derived from mango fruit only. In fact, the flavor compounds can be derived from any other fruit, plant or microbial sources and used for preparing the desired flavor.

Natural and artificial flavors

Generally, consumers assume that natural flavors are safer than artificial flavors, but it is a myth. Artificial flavors are made in laboratories from non-food sources while natural flavors come from foods or other edible things. However, both end up being chemically the same and are safe to consume. Flavor Extract Manufacturers Association (FEMA) has laid down guidelines to decide if any given natural or artificial flavor is safe to consume or not as per generally recognized as safe (GRAS) regulations. The general sentiment is, if it is natural then it is good. However, this may not be 100% true. One must look at the nutrition facts label to understand if the food is good for consumption.

Labelling is based on the source

The flavors may be labelled as organic, vegetarian and vegan depending upon their source, for example, natural chicken or fish flavors may contain

natural compounds derived from some animal source. Moreover, it is worthwhile to note that none of the natural flavors adds any nutritional value to the product. Since some of the flavors are derived from natural sources like soya, nuts, milk, wheat, egg and fish, at times these flavors can cause allergies depending on the source and on the severity index for a particular source.

No more false claims

The rise in consumer concern regarding usage of food additives and preservatives has led to the demand growth for transparency and clean labels, thereby hindering the artificial flavor and additive market. However, the definition of the word 'natural' provides a big gray area when it comes to packaged foodstuff. At times it is misleading for consumers who feel that it is actually from the mentioned source and is 100% safe. Recently, FSSAI has brought out new regulations on advertisement and claims where the regulatory body has put some restrictions on the use of words like 'natural' and 'fresh' on labels. ▮

Satish Bhorkade is the business development manager at Oror Flavors and Chemicals for the Africa Region.

Givaudan to strengthen global leadership in fragrance market

Givaudan to acquire Drom

Givaudan, the global leader in flavors and fragrances, has recently announced that it is planning to acquire Drom to further extend its leadership in the global Fragrance market. Givaudan is headquartered in Switzerland with local presence in over 145 locations and has almost 13,600 employees worldwide including India.

Founded in 1911, Drom is a global perfume house creating fragrances for consumer products and fine fragrance customers across the world. Drom is headquartered near Munich in Germany and has manufacturing facilities in China, Germany, the USA and Brazil. The company employs 489 people globally.

While expressing the excitement over the acquisition of Drom Gilles Andrier, chief executive officer of Givaudan said, "The acquisition of Drom is very exciting for Givaudan as it further asserts our leadership position in the Fragrance market globally and is fully in line with our strategic ambitions. Like Givaudan, Drom has a long heritage in fragrance creation and their capabilities and strong culture will fit perfectly with ours. We look forward to welcoming Drom's employees to Givaudan and are confident that our combined capabilities will deliver a compelling valuable proposition for our customers across segments and in key markets."

Maurizio Volpi, president -Fragrance Division at Givaudan said, "Drom is a much-respected international fragrance house that has developed a strong customer base, in particular with local and regional customers, thanks to their creativity and excellent service levels. The complementary nature of both businesses will further enhance our capabilities in serving customers across all segments and geographies."

Ferdinand and Andreas Storp, co-owners and presidents of Drom, said, "We are very excited to have Givaudan as the new home for Drom. We are convinced that the combination with Givaudan represents an outstanding strategic fit and will allow Drom to further expand its customer reach and geographical footprint going forward."

According to Givaudan's press statement, the terms of the deal have not been disclosed. Drom's business would have represented approximately EUR 110 million (approximately Rs 8,700 crore) of incremental sales to Givaudan's results in 2018 on a proforma basis. Givaudan plans to fund the transaction from existing resources. The planned acquisition remains subject to formal approvals from the relevant regulatory authorities and the transaction is expected to close in the third quarter of 2019. ▮

Want to give up meat? Here is an option!

Vezlay offers frozen and non-frozen soy-based meats

MANDEEP KAUR

Increasing numbers of vegans are slowly making waves globally – with many opting for plant-based alternatives such as textured vegetable protein or mock meat to reduce their meat intake. This mock Resembling animal-derived meat in taste and cooking, mock meat is considered a healthier option for the environment. According to a study published in Science, while meat and dairy provide just 18% of the calories and 37% of the protein consumed, they use approximately 83% of world's farmland and produce 58% of the emissions in food production.

In India many mock meat brands are emerging in response to local consumer demand. Delhi-based Vezlay Foods produces a variety of mock meats such as soya seekh kabab, shami kabab, nugget, soya chop, soya chicken leg pieces, soya noodles (gluten-free), soya chikka, shawarma and mock mutton at its manufacturing plant located at Patparganj, Delhi. Amit Bajaj, owner of Vezlay, shares the story of starting his soy-based mock meats company, "I spent three years in Europe and there I found that people are extremely health conscious. However, when I came back to India, I realized how much junk food people consume here. That's when we decided to develop a healthy food option for our nation and after three years of intensive research, we developed these products that are not only nutritious but also tasty and affordable."

Amit Bajaj, owner of Vezlay Foods

Vezlay procures soya, which is the main ingredient for all its products from the local markets of Delhi, Madhya Pradesh and other parts of the country. The company has earned several recognitions and product innovation awards from the publishers of the Golden Book of World Records, Indian Book of Record and Asia Book of Records.

A tough journey

Explaining the challenges faced in the formulation stage, Bajaj says, "The soy-based products I had in western countries had a western taste but I wanted to give an Indian taste to my products. We did a lot of research to develop the right taste with Indian flavors and finally succeeded. In addition, we worked very hard to improve on texture. Today our products have a good texture, which can be complimented well by putting different flavors to get a unique dish."

Soya-based meat-like texture

Bajaj admits that it was not easy to provide meat-like texture to soya products but now they specialize in soya meat texture that is close to animal-derived meat. He says, "Meat eaters are so much used to the meat texture and

we offer similar taste and texture that are very close to non-veg. As a result, they are liked by both vegetarians and non-vegetarians. Moreover, our products offer a solution to those who want to give up on meat but find it difficult." Vezlay also claims to be the first company in India that has incorporated taste in soya meat.

Food safety certifications and accreditations

Bajaj says that the company ensures hygiene and quality standards at various checkpoints. He adds, "We follow all food safety norms at the time of processing, preservation and packaging. We use food-grade packaging for our products and have all the necessary certifications that are required for running a food industry." The company has various food safety certifications and accreditations from FSSAI, HACCP, WHO-GMP, ISO 9001:2015 and the FDA.

Frozen and non-frozen range without added preservatives

In the past few years, the demand for frozen food products has gone up particularly in countries like India due to the rapid increase in the number of consumers with higher disposable incomes and a growing number of nuclear families, which has resulted in paucity of time. Talking about his product portfolio, Bajaj says, "Vezlay offers various options for everyone. We have launched soya noodles, soya kababs, soya rogan josh, ready to eat, frozen and non-frozen products. Many of our products do not contain any preservatives and some of them are gluten-free."

Vezlay claims to have a strong distribution network in India, particularly North India, and its distribution channel includes hotels, caterers, modern traders and retailers. The company also exports its products to the UK and US and is now exploring business opportunities in the Middle East, Canada and European countries. In the future, Vezlay plans to add more options to its product portfolio. ▮

PepsiCo India to set up new snacks manufacturing plant in Uttar Pradesh

PepsiCo to set up new snacks manufacturing plant in UP

PepsiCo India has announced its intent to invest approximately Rs 514 crore over three years, to set up a greenfield snacks manufacturing plant in Uttar Pradesh. According to the company, the new investment plan is in line with PepsiCo's goal to double its snacks business in the country by 2022 and is expected to help create over 1500 direct and indirect jobs.

As part of this project, PepsiCo India plans to expand its backward integration with local farmers and help bring agricultural best practices to enable socio-economic growth for potato farmers in Uttar Pradesh. To enable the supply chain, the company aims to set up a cold storage facility which is expected to give an impetus to the development of ancillary and other support industries in the state.

At the ground-breaking ceremony of the investor summit in Uttar Pradesh, PepsiCo's senior leadership signed a Memorandum of Understanding (MoU) with representatives of the Uttar Pradesh government in the presence of the Hon'ble home minister of India, Amit Shah and Hon'ble chief minister of Uttar Pradesh Yogi Adityanath.

Speaking about the announcement, Ahmed ElSheikh, president and chief executive officer at PepsiCo India said, "PepsiCo is committed to growing its food and beverage business sustainably in India. We have a long relationship with the people of Uttar Pradesh. As we look to double our snacks business over the next few years, we intend to invest approximately Rs 514 crore to expand our footprint in Uttar Pradesh. Agriculture is at the heart of PepsiCo and our farmer friends are the backbone of our business. As we expand our operations, we will look forward to a fruitful association that will not only help create jobs and enable ancillary industries but also ensure the socio-economic progress of potato farmers in the state."

"We are grateful to the Uttar Pradesh government under the guidance of the Hon'ble chief minister, for their support to this project. PepsiCo's new facility, once finalized, will act as a hub to address the growing demand for our well-loved snacks products amongst consumers in the state and beyond," he further added.

PepsiCo India's intended snacks manufacturing operation in Uttar Pradesh claims to expand the company's footprint of collaborative farming for potato in the state.

PepsiCo India to invest approximately Rs 514 crore over three years to expand its footprint in Uttar Pradesh

According to the press statement, PepsiCo India's agri program presently benefits over 24,000 farmers across 14 states through various Agri and sourcing initiatives. All the potatoes used in Lay's and Uncle Chips are grown in India and sourced from Indian farmers. Through its 360-degree farmer connect initiatives for potato cultivation. The company provides training and seed support, advanced plant protection programs and assured buy-back with reasonable returns.

PepsiCo's planned investment is in line with the Uttar Pradesh State Government's industrialization-led growth focus and, if built, will create broader socio-economic opportunities for farmers, youth and the skilled workforce in the State. ▮

Disrupting food categories for healthier lifestyles

Storia plans to reach 1 lakh retail outlets by 2020

MANDEEP KAUR

Mumbai-based Storia Foods is a two-year-old company with a vision to drive innovation across food and beverage categories for creating value and inspiring a healthier lifestyle. "The idea behind starting Storia was to come into categories that already exist and to disrupt them with better options," says Vishal Shah, founder and managing director, Storia Foods. Spread across 38 cities in India with 50,000 retail outlets, Storia aims to increase its retail presence to 1 lakh outlets by 2020 with a wider product portfolio. Its product range includes shakes, 100% natural packaged coconut water, beverage whitener and street-style juices.

Coconut water - Storia's fastest growing segment

Storia launched its first product, 100% natural packaged coconut water, in April 2017 and at present, it is the fastest growing segment of Storia. Shah explains, "The idea to start packaged coconut water was to come up with a product that is convenient, sustainable, affordable and available throughout the year. It is 100% natural and contains no added sugar, flavor or preservatives. We offer two different variants in packaged coconut water - 100% natural coconut water in a Tetrapak (Rs 40) and a PET bottle (Rs 25)." To maintain a smooth supply of coconuts throughout the year, Storia grows its own coconuts with contract farming in South India.

Storia's product portfolio also includes nine variants of shakes – three are fruit-based (mango, strawberry and banana); three are Indian (kesar, rose and badam); two international flavors (coffee and chocolate); and the ninth is elaichi chai shake. Beverage whitener, the base for Storia shakes, is spray-dried, trans-fat free milk with added unsaturated fatty acids (omega-3 and omega-6). Explaining the formulation of shakes, Shah says, "We do not use milk in shakes at all; shakes are made up of beverage whitener, and that's why they are trans-fat and cholesterol free. Aseptic packaging of shakes makes them last over six months without refrigeration. Shakes are healthier alternatives to flavored milk because they contain milk substitute with fruit that gives the goodness of milk and the taste of fruit."

Storia has recently launched street-style drinks in eight different flavors which contain fruits and a zing of spices. These include tomato pepper, green mango masala, pani puri, watermelon masala, mosambi masala, pomegranate masala, pineapple masala and guava chilli.

Food safety, quality and innovation – aseptic PET

Storia claims to be a staunch believer in innovation – not only in terms of product but also in terms of technology, packaging, processing and retail distribution. Shah adds, "Storia also has an in-house innovation center equipped with an aseptic PET lab where we invite research scholars and PhD students to innovate new prod-

Vishal Shah, founder and managing director, Storia Foods

ucts. Storia is one of the only two companies to have aseptic PET technology in India today." The company uses aseptic packaging technology for its beverage products to minimize nutritional losses, retain flavor and taste and to make them shelf-stable for over six months without refrigeration.

On quality and food safety, he further says, "Storia has all the necessary certifications to ensure safety and high-quality products for consumers. Our manufacturing standards comply with Food Safety System Certification

A bottle full of happiness

Storia launches preservative-free and trans-fat free shakes

With a surge in demand for healthier beverages, Storia foods and beverages have come out with a range of natural shakes with a refreshing twist to them. The fruit shakes are available in nine exciting flavors and contain natural fruits and ingredients with mango, banana and strawberry being the highest fruit content shakes in India. Storia states that shakes contain no preservatives and are trans-fat free. They are shelf stable for 6 months, without refrigeration, and use Aseptic PET technology which helps to reduce nutritional losses and retain most of the flavors and fragrances from its natural ingredients.

Storia claims that it has also curated India's first Elaichi Chai shake, which it says to be perfectly portioned to satiate the taste buds of the Indian consumer without having to compromise when craving strikes. Storia's portfolio comprises ready-to-drink shakes, 100% natural coconut water, beverage whitener and street style drinks.

Storia foods and beverages was launched in April 2017. Storia believes in celebrating togetherness that brings joy through the emotions of food and stories. It boasts of a robust R&D-driven product portfolio and a strong professional leadership team with extensive experience in FMCG and domestic brands that has increased Storia's presence across 33+ cities in India at 50,000+ retail outlets.

Storia Shakes is a continuation of the brand's long-term vision of driving innovation across major food and beverage categories with products that will help to build a nutritionally stronger nation. They work towards adding ease, creating value and inspiring a healthier lifestyle. By offering the health benefits associated with natural fruits and ingredients, at an attractive price, the company is offering a healthier alternative to flavored milk.

Storia shakes are available at all leading supermarkets and retail stores, like Godrej Nature's Basket, Spencer's and More as well as on eCommerce sites and come at an attractive price range of Rs 30 and Rs 25. ▮

(FSSC) 22000 and Hazard Analysis Critical Control Points (HACCP) principles. In addition to this, we are Star-K Kosher certified and Halal certified from MUI (The Indonesian Council of Ulama-Halal)."

Upcoming trends

FSSAI has recently come up with a draft on labelling regulations. Commenting on the agitation created by these regulations among the food and beverage industry stakeholders, Shah says, "We started with market surveys to check the gaps in the food industry as well as to find emerging segments in the industry that are bound to grow in the next 8-10 years, and we tried to come up with innovations within that. Fortunately, because we know the trend for coming years and our products meet all of these guidelines, we will not come under any major scrutiny of these."

"When the consumer sees Storia caring about their health and wellness compared to other brands, we will get a much stronger base for brand acceptability," Shah continues.

Distribution, export and the future roadmap

For distribution Storia works in two channels – one works on trade including kirana stores and the other channel includes institutions, schools, colleges, hospitals, corporates, HoReCa and modern trade (Nature's Basket, KBRL and Spencers). Shah mentions that Storia recently started an eCommerce platform as well, where the company has tied up with Bigbasket in six cities.

Commenting on Storia's export beginnings, Shah says, "We feel India itself is a big market. We have presence in more than 38 cities including metros, Tier-1 and -2 cities. However, we have started export to Myanmar, Burma and we are almost ready to export to the US and UAE.

"Storia plans to disrupt the current food system by launching new products in the next five years within the same categories but with differentiation of value. We are planning to enter the food core very soon. There are already a lot of products that are up in our pipeline; we are only waiting for the right time to introduce these categories." ▮

Trends and sustainable practices drive innovation

Baking for customer appeal and profits

RAJ KAPOOR

The ancient art of baking has evolved from the first time that humans combined flour, water and heat to make bread. Dietary and nutritional trends, cost-saving measures and increased interest in environmentally responsible, sustainable practices all drive innovation and changes in the baking industry.

The primary drive behind innovation in the industry is to reduce costs and increase sales. By responding to customers' changing tastes and health needs and by increasing plant efficiency and reducing costs through sustainability measures, both goals can be achieved.

Changes in formulations and ingredients

Changing consumer demands have led to changes in formulations and ingredients. To make baked products healthier, many bakers fortify their products with vitamins such as thiamine, riboflavin and niacin in addition to minerals such as iron and zinc. In recent years, Vitamin D fortifications have gained popularity. There has also been an increased interest in using 'superfruits' and other natural additives to provide health benefits as well as improved quality.

Gluten-free flours

The rising popularity of gluten-free products has fueled the use of wheat-alternative flours. Until recently, persons with Celiac disease or wheat allergies or intolerances had limited (if any) choices in baked goods. Fortunately, there are newer options for bakers and consumers of baked goods, including bean, sorghum, rice, soy, potato, tapioca, amaranth, quinoa and millet flours.

Bread and other bakery products are constantly reformulated to add beneficial ingredients that increase their flavor and health-supporting properties, satisfying customers' de-

Photo courtesy Bosch

sires for products that are both delicious and healthful. By incorporating regionally produced ingredients, bakeries can both improve products' flavor and lower plant operation costs, in particular transportation expenses.

Smaller portions

In addition to the popularity of reduced-fat, gluten-free and low-sodium items, product trends are shifting toward smaller portions and 'bite-sized' products. A number of new, highly popular, 'snack-sized' and calorie-portioned products have arrived on store shelves in the past few years. Pies on a stick, pie pops and pie bites have all added to an overall increase in bakery sales. Catering to consumers who enjoy baked goods but want to monitor their caloric, fat and sugar intake, smaller portions of these items not only influence consumers' baked good choices but also offer alternatives to larger portion sizes.

Consumers are also seeking new flavor options, especially in chips and other salty snack foods. Health-conscious innovations in salt and fat reductions have led snack manufacturers to offer reduced and salt-free lines while finding creative ways to ensure that products remain flavorful through the use of other ingredients. Local and regional consumer preferences strongly influence innovations in ingredient content.

Commitment to sustainability

As a cost-saving and an environmentally responsible effort, bakery operators are becoming increasingly committed to sustainability measures in their operations. Ingredient sourcing is of particular interest in terms of sustainability. Bakeries are increasingly looking toward using regionally grown and produced ingredients that not only support local producers but also reduce transportation costs.

The use of organic and seasonably available produce in baked goods is increasing, along with trends toward using environmentally friendly packaging. Moreover, bakeries are following practices to minimize waste that are both cost-effective and environmentally responsible.

Assuring food safety

Large-scale baking equipment permits food producers to automate much of their work at bakeries, thus reducing waste and producing baked products more efficiently. Innovation in equipment design (ovens, proofers, dryers and even pans) is gearing towards ease of use for equipment operators, improved safety and sanitation and energy efficiency.

High-efficiency equipment not only assists in sustainability efforts and cost-lowering efforts, but it is also beneficial in reducing food safety risks. Maintaining consistency in the baking process assists in ensuring that the finished products are produced in a sanitary environment with appropriate temperature controls and packaging methods employed in production.

Appeal customers and generate profits

Innovations in baking are driven by industry needs to satisfy customers' increasing desires for healthful, good-tasting products, while reducing costs and increasing profits. Changes in baked product formulation can increase sales while sustainability measures and automated equipment help cut costs and increase food safety measures. While baking is a traditional craft, modern facilities and production lines are employed to create baked products that appeal to a variety of consumers while generating a profit for the baking industry. ▮

Raj Kapoor is the managing director of Assocom Institute of Bakery Technology & Management (AIBTM)

Prasuma – HACCP and ISO 22000:2005 certified meat processor

Prasuma to launch new meat products

Prasuma Seekh Kebab

Lisa Suwal, chief executive officer of Prasuma

MANDEEP KAUR

Gurugram-based Prasuma has pioneered the fresh and chilled delicatessen meat segment since 1985 in India. Lisa Suwal, chief executive officer of Prasuma, inherited the business from a family in delicatessen business for over 30 years. Prasuma claims of having over 250 stock-keeping units (SKUs), including bacon, sausages, cold cuts and gourmet meat in modern retail outlets across India. With a current product portfolio including smoked chicken jams, bacon-flavored jam, and other ready-to-eat products, Suwal is also looking forward to launching new meat products.

Exposed to the nitty-gritty of the business and the art of making good food products, she says, "In India, there are customers who know the value and importance of quality and safety parameters when it comes to meat. At Prasuma, we are committed to providing you with the highest quality delicatessen products. We use only the finest ingredients sourced from around the globe. Our commitment to quality and safety has made Prasuma the deli brand that people have been trusting for 30 years." The premium deli meats offered by the company do not contain gluten, artificial colors or flavors and added monosodium glutamate (MSG).

Meat production in India is largely an unorganized activity. The presence of unregulated meat markets, tropical climate, inadequate hygiene measures and the absence of surveillance of slaughterhouses enhances the risk of meat-borne diseases. Spokespersons for the Ethical Treatment of Animals (PETA) claim that India has more than 30,000 unregistered slaughterhouses, which is considerably higher than the number of registered slaughterhouses. Moreover, many of these slaughterhouses lack in basic amenities such as light, ventilation and water.

"Our products are vacuum skin packaged using barrier films. Our packaging is recyclable and environmentally friendly which also helps us to cut our business' carbon footprint."

Consumers tend to buy meat from local meat and butcher shops that they trust. However, butcher shops are often exposed to dust and pathogenic bacteria, which leads to contamination and potential health hazards.

Quality is Prasuma's brand pillars

According to Suwal, Prasuma acknowledges that quality is the utmost criteria for consumers today and she claims that the company promises to deliver the highest quality food from the farm to the consumer's table. Adding more on quality practices and safety measures performed at Prasuma, she says, "Our production unit complies with all the best practices and product quality and food safety regulations. In addition to this, we are HACCP and ISO 22000:2005 certified, which ensures that we also meet international food safety and quality standards. We do not compromise food safety. Our products undergo several inspections and quality checks to meet customers' expectations and for providing them with safe and quality products." According to Suwal, the company believes in the natural growth of the animals and they do not give any drug or medication to accelerate any animal's growth. She claims, "Our products are hormone and residue-free."

Prasuma Wiener Sausage and Mini Frankfurters

Prasuma believes in sustainable packaging of meat

Increasing consumer demand and preferences for sustainable products are reshaping the food, beverage and restaurant industries and along with them the food packaging industry. As of today, consumers all across the world take recyclability, sustainability and biodegradability of packaging into account while buying products. A survey states that consumers believe that it is important for retail packaging to be recyclable and reusable.

Packaging plays a crucial role in protecting meat to remain fresh and retain its flavor over longer periods. It tries to limit the external factors such as temperature or hygiene in the end product quality for the time taken to reach the end consumer. Prasuma claims that it provides a longer shelf life while leaving the flavor and freshness of the meat unscathed. While sharing details about the type of packaging used at Prasuma, Suwal says, "Our products are vacuum skin packaged using barrier films. Our packaging is recyclable and environmentally friendly which also helps us to cut our business' carbon footprint." According to her, chilled vacuum-packed meat is one of the safest and most convenient ways for a meat processing plant to supply to both the foodservice and retail sector.

Prasuma proudly states that its distribution system differentiates it from other competitors in the market, where they ensure delivery of fresh products quickly and safely at the right temperatures with its own cold storage units in Gurgaon, Mumbai and Bengaluru. The products are available in supermarkets and gourmet stores throughout India. ▮

Growth rate of meat-producing animal and poultry in India

Species	Livestock Census 2003 (no. in million)	Livestock Census 2007 (no. in million)	Livestock Census 2012 (no. in million)	Growth Rate (%) 2007-12
Cattle	185.2	199.1	190.9	-4.10
Buffalo	97.9	105.3	108.7	3.19
Sheep	61.5	71.6	65.07	-9.07
Goat	124.4	140.5	135.2	-3.82
Pigs	13.5	11.1	10.3	-7.54
Poultry	489	648.8	729.2	12.39

Source: Int.J.Curr.Microbiol.App.Sci (2018) Special Issue-7: 4627-4634

Ideal coffee roasting machine for labs and small batches

STA Impianti launches specialty coffee roasting machine

STA Impianti, a Bologna company specialized in the designing and manufacturing of coffee roasting plants and machines, has launched the RBL 15 – a technologically advanced unit designed for the roasting of specialty coffee, small production batches or as a lab machine.

Small footprint, big on technology

RBL has been developed in response to the demands of labs and small or medium roasters, as a unit for the roasting of small coffee batches or, alternatively, as a platform for the development of roasting curves to be then replied on machines with a bigger production capacity. For this reason, RBL can be used for the production of 'pilot' batches, for testing the optimal conditions for the roasting of different types of coffees, so as to set up the parameters to process medium or large production batches on machines with a bigger production capacity such as the Futura and Millenium series, also produced by STA. At the same time, the machine is ideal for the processing of 'Speciality Coffee', very high-quality products for specific market niches or for 'micro roasting', the production of small batches by roasters with small production needs. RBL is designed and assembled with the same reliability and security characteristics claimed by the bigger and more sophisticated roasting machines developed for industrial level production made by STA.

STA Impianti launches RBL 15 for specialty coffee roasting

Technology tailored to roaster's requirements

Flexibility, which is in the DNA of STA plants, is also a distinctive feature of RBL. In addition to effectively supporting the needs of different types of roasters, it's configurable with a series of assemblies which can expand its potential. Among other things: a meter measuring gas consumption that can offer real time accurate energy performance values, control software for setting optimal parameters and an inverter to control and adjust the speed in the drum rotation and heat extraction stages. Among the roasters who have already chosen RBL are Caffe Morettino, Dicaf and Caffe Griso. The machine provided to this latter roaster is a special version of the RBL 15, configured for the roasting of a wide variety of coffees, including high-quality ones, in a range from 2 to 19 kg. This unit is able to effectively help Griso's staff in finding the perfect roasting: a process that, given the variable characteristics of the raw product, requires not only a perfectly optimized technology but also great management flexibility.

DOM pizza checker improves pizza quality by 15%

Domino's to tackle pizza quality consistency issue with AI technology

Domino's latest product quality innovation, DOM Pizza Checker, has now used artificial intelligence and machine learning to successfully scan more than 13 million (1.3 crore) pizzas in order to boost product quality scores by more than 15% (as rated by customers) since launch. In the end of May 2019, Domino's Australia launched the DOM Pizza Checker in Australia and New Zealand. With this launch the company plans to tackle another store-level issue with AI technology, that is, consistency of pizza quality. DOM Pizza Checker is a smart scanner that checks each pizza against a dataset that shows what a 'perfect' pie should look like.

Now in the latest update to this technology – a first for the industry – customers will be shown a real-time image of their pizza before it's cut, boxed and hustled out the door, ensuring there are no more 'surprises' when it comes to pizza quality and consistency.

Customers will now have complete visibility over their meal from the moment they order – everything from where it is in the making process, to whether it has passed a quality test, what it looks like fresh out of the oven and when it will be delivered.

Domino's Australia and New Zealand chief executive officer Nick Knight mentioned that DOM Pizza Checker would work alongside team members to increase product quality and consistency. He added, "There's nothing more disappointing than opening a pizza box to find a poorly made pizza, whether it be a lack of cheese, uneven topping distribution, or incorrect toppings all together. Our team always strives to get it right, but the reality of a busy store can sometimes mean pizzas go out which are below the high standards we pride ourselves on – and we want to fix that."

He further added, "With DOM Pizza Checker keeping an 'eye' on product quality, our customers can have greater confidence that their pizza will look as it should – and if it doesn't, we'll make it right by making it again."

DOM Pizza Checker is a smart scanner that sits above the cut bench and uses advanced machine learning, artificial intelligence and sensor technology to make a real-time assessment as to whether a pizza is quality approved – based on pizza type, correct toppings and even distribution.

"There is currently no quick service restaurant in the world that can assure customers their order has passed a quality test and send them an actual image of the meal they will receive," Knight said.

"When we first announced the concept, people questioned whether the technology would work. One month since our national launch and we're really pleased with the results but we want to keep improving, because we're hungry to be better," he said.

The company stated that from 15 July 2019 onwards, all customers across Australia and New Zealand will be able to view a real-time image of their pizza on the cut bench via the Live Pizza Tracker page and as part of this process it will be notified whether it has passed a quality test or is being remade. ▮

Domino's pizza checker system

"When we first announced the concept, people questioned whether the technology would work. One month since our national launch and we're really pleased with the results but we want to keep improving, because we're hungry to be better."

Nick Knight, Domino's Australia and New Zealand chief executive officer

Artificial tongue can taste subtle differences between whiskies

Whisky tasting using a bimetallic nanoplasmonic tongue

The paper titled 'Whisky tasting using a bimetallic nanoplasmonic tongue' has recently been published in the Royal Society of Chemistry's journal Nanoscale. The research was conducted by engineers and chemists from the Universities of Glasgow and Strathclyde was supported by funding from Leverhulme Trust, Engineering and Physical Sciences Research Council and Biotechnology and Biological Sciences Research Council.

Scottish engineers describe how they built the tiny taster, which exploits the optical properties of gold and aluminium to test tipples. An artificial 'tongue' which can taste subtle differences between drams of whisky could help cut down on the trade-in counterfeit alcohol, scientists say.

Sub-microscopic slices of the two metals, arranged in a checkerboard pattern, act as the 'tastebuds' in the team's artificial tongue. The researchers poured samples of whisky over the tastebuds – which are about 500 times smaller than their human equivalents – and measured how they absorb light while submerged.

Statistical analysis of the very subtle differences in how the metals in the artificial tongue absorb light - what scientists call its plasmonic resonance – allowed the team to identify different types of whiskies. The team used the tongue to sample a selection of whiskies from Glenfiddich, Glen Marnoch and Laphroaig.

The tongue was able to taste differences between drinks with more than 99% accuracy. It was capable of picking up on the subtler distinctions between the same whisky aged in different barrels, and tell the difference between the same whisky aged for 12, 15 and 18 years, scientists say.

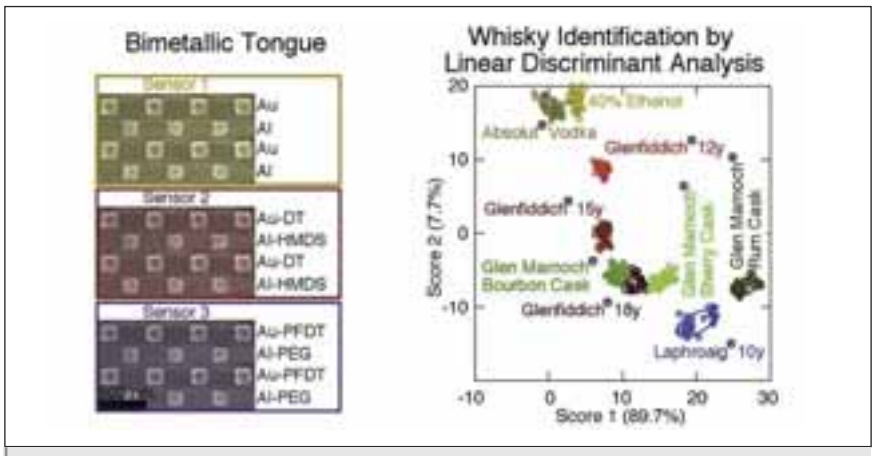
While describing about the artificial tongue and its capabilities, Alasdair Clark, paper's lead author from the University of Glasgow's School of Engineering, says, "We call this an artificial tongue because it acts similarly to a human tongue – like us, it can't identify the individual chemicals which make coffee taste different from apple juice but it can easily tell the difference between these complex chemical mixtures."

"We're not the first researchers to make an artificial tongue, but we're the first to make a single artificial tongue that uses two different types of nanoscale metal 'tastebuds', which provides more information about the 'taste' of each sample and allows a faster and more accurate response."

He further adds, "While we've focused on whisky in this experiment, the artificial tongue could easily be used to 'taste' virtually any liquid, which means it could be used for a wide variety of applications. In addition to its obvious potential for use in identifying counterfeit alcohols, it could be used in food safety testing, quality control, security – any area where a portable, reusable method of tasting would be useful."

Alasdair Clark holding a scaled-up version of the materials that make up the 'tongue'

"We call this an artificial tongue because it acts similarly to a human tongue – like us, it can't identify the individual chemicals which make coffee taste different from apple juice but it can easily tell the difference between these complex chemical mixtures."



Electron microscope image of the checkerboard-patterned nanoscale metals

FSSAI to reduce industrial trans-fat content in a phased manner

Display of trans-fat free logo is voluntary, says FSSAI

FSSAI is committed to eliminating industrial trans-fats in fats and oils and foods containing fats and oils in a phased manner. The food regulatory authority has recently issued an order stating that bakeries, sweet shops and other food business operators which uses trans-fat free fats and oils and do not have industrial fats more than 0.2g per 100g of food can voluntarily display 'trans fat free' logo on food products and in their outlets.

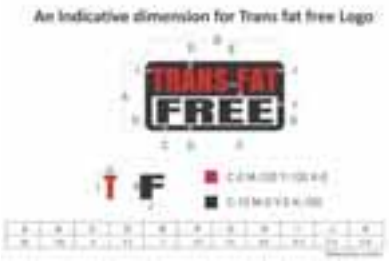
The order also states that it will be the responsibility of the food business operators to comply with the requirements as specified in the Food Safety and Standards (Advertising and Claims) Regulations 2018.

FSSAI is running a campaign to limit the maximum amount of industrial trans fat in fats and oils to 2% as part of its goal to make India 'trans fat-free' by 2022. It has already limited trans-fat content in fats and oils to 5% and the notification to further reduce it to 3% by 2021 and 2% by 2022 is under process.

FSSAI also says that industrial trans-fats are toxic compounds that are one of the main reasons behind cardiovascular and other related diseases. They are formed during hydrogenation of vegetable oils and other processes such as heating of oil at high temperature and bakery shortening and in Vanaspati.

The regulator has released an indicative dimension for trans-fat free logo. However, the dimension is only indicative. It can be increased and decreased in the same proportion.

According to WHO, the increased intake of trans fat is associated with increased risk of coronary heart disease mortality and events. Every year, all across the world the access intake of trans fat leads to more than 500,000 premature deaths from coronary heart disease. REPLACE action package offered by WHO also provides a strategic approach to eliminate industrially trans fat from the global food supply by 2023. ▮



Indicative dimension for trans fat free logo issued by FSSAI. The dimension is only indicative. It can be increased and decreased in the same proportion

FSMA FSVP certification sets a new milestone in global trade

SGS issues first FSMA FSVP certificate in China

SGS has issued the first accredited certificate in China under its FSMA FSVP scheme to Yantai Shuangta Food – China's largest Longkou fan, pea starch and pea protein processing enterprise. Certification to the Foreign Supplier Verification Program (FSVP) serves as evidence of third-party verification of foreign facilities under the US Food Safety Modernization Act (FSMA). Compliance with FSMA is a prerequisite for all suppliers and importers looking to market food products in the US.

Headquartered in Geneva, Switzerland, SGS provides inspection, verification, testing and certification services. The company has more than 97,000 employees and operates over 2,600 offices and laboratories worldwide, including India.

Congratulating Yantai Shuangta Food and its employees on this significant achievement, Hank Karayan, program director at SGS Global FSMA said, "FSMA FSVP certification sets a new milestone in global trade. It creates common ground for compliance with supplier verification requirements of US food imports, thus facilitating trade and ensuring the safety of food entering the US market."

SGS has gained accreditation from the American National Standards Institute (ANSI) to certify the food safety systems of foreign facilities for the purposes of supply chain compliance verification under the FSMA FSVP rule. US food importers can now rely on SGS FSMA FSVP certification as evidence of the verification and compliance of their foreign suppliers.

Li Yulin, general manager at Yantai Shuangta Food said, "We are extremely proud to have led the way in gaining FSMA FSVP certification with SGS. The SGS team was very knowledgeable and rendered the certification process a positive experience for us. As a foreign supplier, achieving compliance with US food safety regulations will be transformative for our business, creating new opportunities to significantly expand our export activity." ▮

SGS issues the first accredited certificate in China under its FSMA FSVP scheme to Yantai Shuangta Food. Photo SGS.com

SGS helps execute successful process validation

Validation of microbial reduction processes for spices and low water activity products

Low-moisture foods are being generally perceived as safe from pathogenic contamination due to low water activity and dry processing environments. However, consumer illnesses caused by the survival of Salmonella in low-moisture foods have raised food safety concerns.

Since pathogens like Salmonella can survive in low-moisture conditions and may grow if a processing facility is unable to effectively manage the introduction of moisture, low-moisture products cannot be considered immune.

Common low-moisture foods which can become potentially unsafe include chocolate, cocoa, confectionary products, dried milk, tree nuts, peanuts, peanut butter, flours, cereals, spices, pet treats and other foods.

Impact of Food Safety Modernization Act (FSMA)

With the implementation of the FSMA, there is an increased focus on the validation of preventive controls for all products regulated by the US Food and Drug Administration (FDA). This includes food production environments where, traditionally, concern about pathogenic organisms has been minimal because of the low water activity of the products. The product recalls caused by Salmonella have clearly proven that manufacturers should now aim to validate their control processes for products including nuts, spices, cereals, milling and dairy powder.

What is process validation?

The preventive control rule for human foods defines validation as - 'Obtaining and evaluating scientific and technical evidence that a control measure, combination of control measures, or the food safety plan on a whole, when properly implemented, is capable of effectively controlling the identified hazard.'

Process validation is establishing documented evidence which provides a high degree of assurance that a specific process consistently produces a product meeting its predetermined specifications and quality attributes. In other words, process validation attempts to:

- Ensure that the process parameters are the right ones and assures that a specific process will consistently produce the product;
- Find out any deviation from established parameters; and
- Identify control points in the context of preventive maintenance.

Validation should not be confused with verification where the applicable methods, procedures, tests and the other evaluations, in addition to monitoring, are intended to determine whether a control measure or the combinations of control measures is or has been operating as intended as well as to establish the validity of food safety plan.

How SGS can support

SGS's laboratory experts, located in Chennai, claim to have a considerable expertise in the domain of process validation for low water activity products. They work with numerous clients in the confectionary, spice, cereal processing and nut sectors to design and perform robust process validation studies to confirm the critical times and temperatures needed for sterilizers, ovens, dry-roasters and oil roasters to reduce the level of Salmonella spp or a surrogate microorganism in ingredients and finished products by at least 5 log CFU/g.

This log reduction requirement varies based on the nature of the product. Process validation requirements as per Grocery Manufacturers Association (GMA) for Log Reduction of Salmonella is mentioned in the given table:

Low-moisture product	Required log reduction
Spice	5-log
Almonds	4-log or 5-log
Peanut butter	5-log
Pistachios	5-log
Meat products (e.g., beef jerky)	6.5 log
Poultry products (e.g., chicken or turkey jerky)	7.0 log

SGS's R&D team begins the development of a process validation study by looking at the client's production techniques and products. This will often involve a site visit or comprehensive information gathering phase, which is undertaken with the client. Once the complete understanding of the individual factors involved in the client's processes is achieved, SGS's experts identify the challenges involved in the process and product. They proceed with the necessary process parameters and procedures allowing them to execute a successful validation.

SGS Chennai laboratory collaborates with the SGS global networks to expand their global reach and meet the needs of the spice industry and other low water activity product processors. The R&D center of SGS located in North Sioux City, US claims to have highly skilled professionals extending services to the spices industry globally, thereby harmonizing the process across the globe and ensuring the suppliers with products that are safe to consumers.

SGS food testing laboratory. Photo SGS Global

Validation helps to produce pathogen-free products

Apart from the regulatory and statutory aspects, this validation will help the processors of low-moisture foods, who may not have inhouse expertise on food safety or microbiology professionals employed with them, to manufacture pathogen-free products. It provides a complete understanding to the customers regarding the process effectiveness which can subsequently be adjusted based on the outcome of the validation performed.

Customers can use the data from validation to implement process controls, conducting verification activities and documenting control measures in food safety plans which in turn protects brand reputation and consumers' confidence.

SGS is the world's leading inspection, verification, testing and certification company. With more than 95000 employees, SGS operates a network of over 2600 offices and laboratories around the world.

International PACKAGING CONCLAVE 2019

INTERNATIONAL CONCLAVE FOCUSING ON

"PAPERING" FOR THE FUTURE OF PACKAGING

Will paper laminate based flexible packaging succeed in replacing flexible plastic packaging?

Friday, 30 August 2019
Pragati Maidan, New Delhi

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THE PROGRAMME

"PAPERING" FOR THE FUTURE OF PACKAGING

Will paper laminate based flexible packaging succeed in replacing flexible plastic packaging?

12:30 – 02:00 pm: Lunch & Registration of Delegates

02:00 – 02:30 pm: INTRODUCTORY SESSION

Challenges of PWM Rules & EPR for Brand Owners

The key provisions of the Plastics Waste Management Rules and their intent and evolution will be discussed from a policy makers stand point. The mechanisms for their implementation and consequent impact on society will be examined.

2:30 – 04:00 pm: SESSION 1: REDUCTION & REUSE

4:00 – 04:30 pm:

Brand Owner Case Studies of Substance Reduction, Recycling and Waste Management.

Actual experience of popular consumer product brands in achieving packaging material usage reduction and post-consumer use recycling will be presented as case studies. Challenges faced and innovations made during the course of meeting the objectives will be the subject of Q & A during the session.

4:30 – 05:30 pm: SESSION 2: MATERIAL INNOVATION SHOWCASE

Wonder Materials to meet Active Packaging Challenges

New materials innovated by paper and chemical raw material manufacturers in a bid to meet the brief for a viable substitute to plastic flexible packaging will be presented. Such materials would include heat sealable paper substrates with barrier properties comparable to flexible laminates and suitable for use as primary packs or secondary overwrap materials.

5:30 – 06:30 pm: SESSION 3: CONVERSION & WASTE MANAGEMENT EXPERIENCE

Realities of Conversion & Environment Management

Flexible packaging convertors will present their experience of running paper based laminate materials and the practical issues that need to be overcome. Recommendations to brand owners and material manufacturers for viable solutions will be made and discussed in Q & A.

The perspective of an EPR Agency charged with the responsibility of collecting packaging waste and disposing it responsibly will be presented.

6:30 – 07:00 pm: CONCLUDING SESSION

A panel of veteran packaging industry professionals drawn from a cross section of brand owners, policy makers, material manufacturers and convertors will review the key points of previous sessions and present key action points needed. Q & A will follow.

7:00 – 07:15 pm: FELICITATION OF SPONSORS & SPEAKERS

The Conclave will offer an opportunity to network across a wide cross-section of the industry and share knowledge and build relationships.

7:15 – 08:30 pm: High Tea & Networking

Changing the future of Uflex – The start of a new era

Asepto in Sanand – For liquid food and beverage packaging

In 2018, we had an opportunity to visit the brand new Uflex Asepto plant in Sanand in the state of Gujarat in Western India. At the time, we didn't really have an idea of what to expect although we knew it was a large greenfield project for liquid food packaging and that it used a Gallus wide web flexo press. Now as we write, the plant has completed a full year of commercial production.

NARESH KHANNA AND AKANKSHA MEENA

In our meeting with Ashwini Sharma, president and chief executive officer of New Business Initiatives at Uflex, in June, he updated us on the Asepto project, "The initial stages of the investment have been encouraging. We have good brands under our belt and the good part is that the new brands are seriously exploring doing business with us. We offer an attractive product to the market and people see a lot of value in what we do."

Sharma says the liquid packaging market in India is over 10 billion packs, adding, "Last year's growth was 17% and this year we see the growth rate improving. The three large consumption segments in India are non-alcoholic beverages, alcoholic beverages and dairy products. In the beverage segments, healthy drinks seem to be popular. . . Our converting plant is designed with a capacity of 7 billion packs but at present our maximum converting capacity is 3.5. billion packs." Designed for growth, Asepto's converting capacity can be augmented or optimized when feasible with minimal additional capex on the infrastructure.

Our visit to Sanand took place when brand owners were still conducting trials. The situation now has progressed to the extent that the Asepto laminate is being supplied to several brand owners in the juice, dairy and alcobev segments. The Asepto laminate has also already found export customers on other continents. In addition, more than half a dozen of the Asepto Smart 78 filling and sealing machines manufactured by Uflex's Engineering Division in Noida have also been placed at customer sites.

According to Sharma, most of the Asepto customers are using the popular 200 ml packs. "When you look at the beverage market, over 90% of beverage is sold in portion packs of 200 ml, 165 ml and 100 ml, while the larger packs make up for a small percentage of the market. In the alcoholic beverage segment, the 100 ml packs are growing in a big way."

Uflex's elegant backward integration for aseptic beverage packaging. Photo IFB

Ashwani Sharma, president and chief executive officer, new business initiatives, Uflex, at their stand at PackEx 2017. Photo IFB

Heidelberg Gallus 7-color Intro 1320 mm wide unit to unit flexo press capable of running at 500 meters a minute and equipped with a Martin Automatic unwinder, autosplicer and rewinder in the Asepto Sanand plant.Photo IFB

The Asepto WOW! factor

Sharma explains that the company has divided the market and devised strategies to deal with each segment separately, "What the customers want is to know how to build a brand and how to sell the maximum units. In order to do that we created these holographic effects and commercialized the packs. Nobody in the world is using the foil stamping effects on liquid packaging pack that we are. It has a cost obviously and initially customers may resist, but we are moving ahead and have brands such as Fresca and Juicico. Today our laminate is already running with top brands on high speed machines and we have over 50 customers. At the same time, our first shipment will run outside India this month."

The Asepto laminate sets itself apart from others because of its premiumization using a range of metallic and embossed decorative effects. Using a unique transfer technology, the laminates contain a range of metallized sparkling, shining and raised surfaces that evoke holographic and 3D effects. This premiumization is the Wow factor to make Asepto a successful, value-added laminate provider. The effects are innovative because they are done using only a 6-layer laminate.

The value-adds and metallic effects have already helped some of Asepto's dairy and juice brand customers such as Fresca to make their products stand out on the shelf. The premium metallic and embossing

Anantshree Chaturvedi on the Uflex Asepto project in Sanand

Soon after we visited Sanand in 2018, we asked Anantshree Chaturvedi a couple of questions about his views of the new greenfield plant, the new line of business and the future use of the site itself. His response was included in our February 2018 cover story.

"The aseptic liquid packaging project is yet again another example of Uflex taking on a massive challenge and utilizing a gap that exists in the market to provide a niche solution to large set of customers who have not imagined a different way to package liquids in flexible packaging containers for the last 40 years. Asepto is the start of a new era of not only products, but of a business philosophy that will change the future of Uflex from being a flexible packaging and polymer science company to a product development and material science company.

"The state-of-the-art production facilities of Asepto are the latest and best example of a philosophy that Uflex has always followed – never buy a used machine, when you can buy a new one. Also, never buy old technology when a new one exists or is on the cards to be implemented and deployed in the future. This combined with our product creation philosophy is what enables Uflex to take on ambitious and groundbreaking challenges.

"With regards to the remainder of the three-fourths of the land at Sanand, Gujarat, there are certainly many businesses within Uflex that are interested in expanding in that space. My estimate is that the most profitable businesses – holograms, chemicals, and engineering – might get the right of first refusal to go into the rest of the land. However, nothing is really off the table including new ideas and concepts that Uflex is currently working on."

The 6-layer structure is assembled on a Davis Standard extrusion laminator in one go at Asepto, Sanand. Photo IFB

combinations certainly add a bit of zing or Wow factor to the easy to carry, single serve and tamper-proof Asepto packs, which have also become popular for the sale and consumption of alcoholic beverages.

Producing the laminate

The objective of the Asepto plant is to provide laminate rolls that can be aseptically formed and filled by liquid food and beverage manufacturers on specially designed liquid filling and sealing machines such as the Asepto Smart 78 that is manufactured by the Uflex Engineering Division in Noida. In order to ensure that the packaging is totally aseptic, these machines pass the laminate through a hydrogen peroxide bath before the forming, filling and sealing operations. Sharma says, "We have already sold 6 filling and sealing machines; we are in the process of building another three and we will start building another one soon. We are receiving enquiries in the commercial segment from outside India for the laminate and the machines as well."

Asepto's laminate for aseptic liquid food and beverage packaging consists of six layers. The top layer is a protec-

Elegant industrial architecture

When we arrived at the Asepto plant in Sanand, about 75 minutes by from Ahmedabad airport, we were surprised by the project's magnitude and its purpose-built but imaginative architecture. The two main structures and their service spaces use up approximately 22 acres of the 72-acre site. The architecturally stunning 100,000 square foot glass-walled executive block of the Asepto plant with landscaping and a fountain first come into view. The two buildings make up a total of 400,000 square feet of extremely modern and purpose-built industrial spaces.

A production block of 300,000 square feet contains the raw materials and finished goods stores, services, printing, laminating, slitting and rewinding machines, materials testing and quality control laboratory and automated logistics. The space is completely air-conditioned and hygienically maintained to keep the microbiological load of the production environment to global standards. Designed for growth, converting capacity can be added or optimized with minimal additional capex on the infrastructure. The Asepto liquid packaging plant is the first major piece in the 72-acre Uflex site. The 72-acre site itself can accommodate three or four such plants depending on the company's growth strategy.

Drone photograph of the Uflex Asepto plant in Sanand. Courtesy Uflex Asepto

Manoj Nair, vice president of operations at Asepto, Sanand

The standard slit reels of laminate are stacked on pallets and wrapped by an automated robotic logistics system from ITW Signode with 16 stations helping to maintain the end-to-end hygiene of the process. Photo IFB

tive PE layer and the second layer, which gives the package its shape, stand-up and stackable stiffness, is made of paperboard that is imported from the BillerudKorsnas and Stora Enso paper mills in Sweden. The third layer is of aluminum foil, which provides additional high-level oxygen, moisture and light barrier properties. The fourth is a PE tie-layer which binds the outer layers of the composite laminate to the inner 5th and 6th layers of PE.

The printed decoration of the paperboard layer of the laminate is done on a 7-color Gallus Intro 1320 mm wide unit to unit flexo press capable of running at 500 meters a minute and equipped with a Martin Automatic unwinder, autosplicer and rewinder. Regarding the technology, Sharma says, "For this particular flexo application, you need to have a high-end machine and Gallus is the best machine today that money can buy. In the liquid packaging segment, Gallus is undisputedly the best machine."

The Gallus press contains an inline tooling unit that is used for creasing, perforation and punching the holes required for the use of straws with many of the beverage products. Water-based flexo inks designed for food laminate production are provided by DIC, which also has an ink kitchen within the plant.

As Manoj Nair, the vice president of operations at Asepto, explained to us in Sanand, "The 6-layer structure is assembled on a Davis Standard extrusion laminator in one go. This machine has been future enabled with an unwinder for films as well. Slitting and rewinding is done on an IMS Goebel slitter-rewinder, which produces the standard reels for the Asepto Smart 78 filling and sealing machines or those of other manufacturers." The standard slit reels of laminate are stacked on pallets and wrapped by an automated robotic logistics system from ITW Signode with 16 stations helping to maintain the end-to-end hygiene of the process.

Best practices including the ISO 22000 Food Safety Guidelines and the BRC Issue 5 standards are maintained. Apart from these, there is an integrated quality management system. The plant also has ISO 9001, 14001 and 18001 certifications. The well-equipped lab maintains the globally accepted product quality standards at the Sanand plant with measuring instruments from L&W and Instron and more than a dozen others. All the process owners at the Sanand plant and key machine operators have rich experience in the liquid packaging industry and have contributed significantly in establishing the unique Asepto laminate in the market.

Additionally, Asepto has built up strong engineering and technical teams in Delhi, Mumbai and Bengaluru for servicing its Smart 78 liquid packaging filling and sealing machines. The Engineering Division in Noida, which manufactures the filling and sealing machine, also contains a demonstration machine as well as a testing laboratory for proving the total efficacy and performance of the laminate and packaging. Materials are also periodically sent to internationally approved labs for establishing globally accepted norms and certifications for the laminate and the process. ▮

"The 6-layer structure is assembled on a Davis Standard extrusion laminator in one go. This machine has been future enabled with an unwinder for films as well. Slitting and rewinding is done on an IMS Goebel slitter-rewinder, which produces the standard reels for the Asepto Smart 78 filling and sealing machines or those of other manufacturers."

Manoj Nair, vice president of operations at Asepto, Sanand

A food processing story that drives packaging

The growth of Parakh Agro and Parakh Flexipacks

When we wrote our first story about Parakh Agro and its flexible packaging plant in Bhandgaon near Pune, exactly ten years ago for our July 2009 issue, Prakash Parakh said to us, "There is no doubt about the existence of a real food processing industry in the country and in the packaged food market there is scope for everyone, as it is not a fully mature market. From this comes our packaging story."

NARESH KHANNA

We retell and update our story on Parakh Agro and its Parakh Flexipack division based on a recent visit to its new office building in the center of Pune and to the modernized and expanded packaging plant in Bhandgaon. At the Pune headquarters we had a long discussion about the company and more specifically how its sees flexible packaging growth and sustainability with the third generation director of Parakh Agro, Harshal Parakh and the chief executive officer of Parakh Flexipacks, Vinay Nalawade. It is always inspiring to revisit a company that has grown its businesses and continues to explore new markets with the new generation emerging with real leadership and responsibility.

In 2017-18, the Parakh Group was named as the fastest growing mid-size Indian FMCG company by Fortune India magazine. At its fabulous new office building in Pune, Harshal Parakh described the Parakh group as one that began 54 years ago as a Maharashtra-based trading house that traded everything, right from cloth to grain. "In the early 1980s we started manufacturing food products in our own plants with a focus on traditional products such as wheat flour and dals (lentils) and edible oil that require hygienic processing, sorting, packaging and distribution." It pioneered the use of flexible packaging pouches for edible oil and entered a joint venture with Cargill for edible oil. The joint-venture also set up a flexible packaging plant with a W&H blown film line and a W&H CI flexo press. Parakh's stake in the Cargill-Parakh joint-venture was divested to Cargill in 2005 which acquired the edible oil plants along with the flexible packaging plant.

In 2006 Parakh Agro renewed its focus on manufacturing and distribution of wheat flour and pulses.

Parakh says, "In 2008, we started a new packaging unit as a backward in-

tegration for our food plants. With our understanding from a food product brand owner's point of view, we understood the need for good packaging and especially with need of a good pack for our 10 kilogram atta (wheat flour) distribution and retail. Many converters were producing 5 kilo packs but the 10-kilogram pack was a challenge." We were the first to produce a 10 kilogram atta pack and the only ones for a long time.

Parakh Agro continued to grow its food business from milling 150 tons a day of wheat to becoming the largest wheat flour supplier in the country with a wheat milling capacity of 2,100 tons a day currently. Its milling capacity for pulses has also grown to what is now 1,000 tons a day.

Although Parakh Agro's non-compete clause with Cargill expired in 2012, it re-entered the oil segment several years later, in August 2017. "We started refining edible oil again from zero and in the first full year of production till March of this year we clocked at about Rs. 700 crore," says Parakh, adding, "We are also in the downstream side of edible oil processing producing by-products that are used in paints and pharmaceuticals. Apart from the food and edible oil segments and flexible packaging, we are also in the renewable energy industry with windmills, real estate development and stationery."

Sustainability & 'Growing Together'

Parakh continues, "In 2016 we came up with a new logo and concept – 'Growing Together' which also incorporates our sustainability initiatives. This has its origin with our grandfather who believed in growing together with our product suppliers who are seen as partners. At the packaging end all our suppliers are our partners. When we started this initiative we also came up with our windmill strategy. Initially our 8.3 megawatts of windmill power which can supply the electrical energy to 12,500 houses was part of the grid and now with the changes in regulations, we are increasingly using this clean energy for our captive needs.

"Sustainability was also our outlook on the packaging side as proponents of CI flexo which we thought would catch on in the country much sooner than it actually has. Flexo has eventually arrived in the past couple of years in a big way and now seems to be finally catching on.

"Over the years as food brand owners we look at how we are selling our products. Our own people are personally visiting about 200,000 shops each week and we get first-hand information of which retailers are buying product and at what frequency. Our google map also shows us who is not buying our product at all. The point of having this integration and sales force automation was that we wanted first-hand information from our customer. In the last couple of years green packaging is being demanded from a small segment of our customers and these are not just the cosmopolitan large organized retailers. We've started going that way and have for instance introduced our atta in reusable plastic jars and in some cases started using paper packaging with the appropriate barrier coatings.

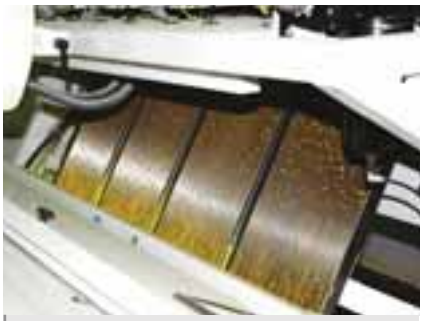
Paper sacks

As a food brand owner, Parakh Agro has explored various sustainable options. As Parakh explains, the company is ready for small packs and even larger packs with paper sacks. Trials with 100% paper sacks with coatings developed in Sweden by BillerudKorsnas were packed with food products in the factory and loaded on trucks to Pune and Chennai. However apart from the successful logistics trials, one of the issues is whether the smaller shopkeepers can keep this kind of packaging in a dry place and whether this kind of packaging can withstand being kept out in the sun day after day. Parakh Flexipack has done a great deal of development and R&D with EB coatings as well and there is ongoing development in this area.

Parakh Agro is open to discuss and to share its developments with the industry. Parakh says, "We want to learn from each other. To create or come up with a new film or packaging is one thing but we have always wanted to share what we are learning with brand owners and our suppliers and others in order to get closer. In the last one year, we have tried to engender a more structured cooperation style within the flexo industry. Other companies also have insights that could help us." Training, food safety and new materi-

Vinay Nalawade, chief executive officer, Parakh Flexipacks and Harshal Parakh, director, Parakh Agro. Photo IFB

Parakh Flexipacks' 4th W&H blown film line, a Varex 7-layer line



Buhler Sortex device at Parakh Agro's dal plant at Bhandgaon in 2010. Photo IFB

"We want to learn from each other. To create or come up with a new film or packaging is one thing but we have always wanted to share what we are learning with brand owners and our suppliers and others in order to get closer. In the last one year, we have tried to engender a more structured cooperation style within the flexo industry. Other companies also have insights that could help us."
Harshal Parakh, director, Parakh Agro

als are where the Indian converters could learn from each other. Both Parakh and Nalawade would like to support the growth of the flexo technical association in India and feel that more converters could take part. The focus of the new IFIA would be mainly on training and knowledge sharing in the Indian flexo industry as that's the missing link.

Extended producer responsibility – EPR

The Parakh group is one of the very few in Maharashtra today that has been paying a fee to the government for collection of plastic waste at both ends – as brand owners and as a flexible packaging company. Nalawade explains, "We have been doing this for long before the waste control order implementation. It came to us in the packaging side first and then we took it up on our food processing and retailing side.

"However, as a part of EPR it is sometimes unclear if we are collecting 20% of the waste (or paying for that amount to an agency for collecting plastic waste), if that is adequate or if we are doing enough. We are filling out quarterly reports on this on the basis of the government nominated agency that we are paying for what we believe is 20% of the flexible packaging we are supplying within Maharashtra."

Packaging growth based on detailed strategies

Parakh Agro has grown in double digital in its food business and at an even higher rate in the packaging business. However, although the packaging business requires the highest investment the margins and profits have not kept up with its growth according to Nalawade and Parakh, who says, "When we were smaller, 20% compounded growth was easier and although it's not as easy now we still want and can achieve 20-25% growth. Being innovative and avoiding delays in expansion is not enough. We need to be profitable and since our strategy is very specific and detailed we can look only two or three years ahead. We tend to make quarterly, 6 monthly and annual plans although nowadays with the longer lead times for delivery of machines we do need to think a bit further ahead in some cases."

Pioneers in flexo and barrier films

The demand for packaging from the consumer product companies has become increasingly fragmented. "However our direction is right," says Parakh, "Since we have a constant spend on how to make each and every product sustainable. We have a focussed sector penetration and are ready for changes. We are more and more known in the market and we are known in the right way because we are pioneers in the segments of barrier films and high resolution flexo printing on various substrates"

Nalawade explains further by saying, "Many of the barrier film innovations in partnership with the polymer suppliers in the past decade such as 105 micron film going down to 65 microns were done with large CPG companies at Parakh Flexipacks. Even our in-house prepress using Kodak Prinergy and Kodak Flexcel NX were path breaking as is our in-house automated ink making plant from Siegwerk. We want to be known as innovators in flexo and barrier films."

Parakh Flexipacks has increasingly become an exporter of packaging materials in search of more challenging projects and better margins and profitability. Nalawade affirms the need for growth with reasonable margins, "It is important for us to grow at a CAGR of 20% and this could be maintained if we are the innovators in driving down the cost of flexo. This could be done by incorporating a variety of innovations – in process engineering, or using our in-house automated Siegwerk ink formulation plant to reduce flexo ink costs or by producing innovative and sustainable barrier films."

The modernization of Parakh Flexipack at Bhandgaon

On our first visit to the Parakh Flexipacks plant just over an hour's drive from Pune, ten years ago, there was just a single W&H blown film line and a W&H CI flexo press with a laminator and an Atlas Titan slitter rewinder. The Kodak prepress with the Flexcel NX was there even then. There was also a single Bosch FFS machine to test the packaging with real products. There were large open spaces used by Parakh's toor dal processing plant next door.

The growth of Parakh Flexipacks by more than four times in the past decade is both comprehensive and astounding. It is ready for change and adaptation to the market and clearly poised in an attitude of looking at the future.

The Bhandgaon plant has had a total architectural, landscaping and production workflow makeover that makes it a world class operational and safety compliant facility. It now has four W&H blown films lines, the latest just added in the past quarter, a 7-layer Varex line from W&H. (In 2017 Parakh purchased back and re-installed the original W&H blown film line and Primaflex CI flexo press which it had divested to its former joint-venture partner Cargill.) Both of these are working to extremely high quality and production standards.

Two more higher speed CI Flexo presses have been integrated, a W&H Miraflex and a Bobst F&K CI flexo 10-color 500 meters a minute press with GPS automation. Fast Nordmeccanica combination laminators and SP Ultra flex slitter rewinders have also been added. A completely new converting section with extensive pouching equipment gives an added value dimension to the plant.

Parakh Flexipack now has a capacity of producing 1000 tons plus a month of innovative and high barrier blown films. It has controlled its own flexo platemaking right from the start in 2010 it was the first company in India (and possibly still the only one) to put in an fully automated ink dispensing plant from Siegwerk that allows it formulate its own inks from standard components and to reuse its own left-over inks. which is a strong support for it going further by innovating. Colour standardisation and reduced colour matching times and low inks wastages are a major achievement and a step towards sustainability.

In 2009 Parakh partnered Finnish company Elecster which is the world's largest for producing UHT milk pouches. It counts about top 20 dairy brands in India as customers as well as several overseas UHT milk producers. The company has implemented good practices and a very high standard of safety as it has redesigned and expanded the plant with the requisite compliances and certifications that make it a major exporter of high value and high resolution printed flexible packaging materials. It has also made its name in the personal hygiene films and laminates sector with polymer to pouch concepts.

Parakh Flexipacks is seen by industry professionals as one of the best, technically proficient, customer and supplier friendly companies in the industry. It is seen as a humane and fair company, in short, 'as a good place to work' with the lowest employee attrition in the Indian packaging scenario. It could be considered as having the lowest employee attrition rate in the Indian packaging scenario.

Overall Parakh Flexipacks has built up in the past decade a strong group of professionals who tackle the day to day operations and departments within the company. With a high level of in-house technical capability, apart from flexo prepress, innovative blown film production including UHT films, flexo printing and converting and the automated ink mixing plant there are trained resources for the maintenance of the Varex dies. This is fairly unusual for a flexible packaging company in India, but extremely handy for a company with four multi-layer blown film lines.

Poised for growth and sustainability

When we ask Parakh Flexipacks' chief executive officer Vinay Nalawade about how the company is looking at the coming future, it is clear that sustainability, innovation, reduced carbon footprint and exports are high on the list. He is keen to innovate to make flexo more competitive but also to keep good margins. "We want to produce high level quality flexo print with a reduced number of colors to optimize packaging costs. Our new W&H 7-layer line can also yield innovative high barrier and sustainable films. And exports where we are already above 25% of our output is an area that we plan to grow. We went into exports when we felt ready to compete with the best in the flexo markets in the world and this had a positive impact on our profitability and growth. Parakh Flexipacks is very close to minimizing the gap between flexo and roto in print resolution and overall operational costs. Lastly, there may be some interesting surprises from us in days to come." ▮

Parakh Flexipacks has an in-house automated ink formulation and mixing plant from Siegwerk for its entire CI flexo printing needs. Photo IFB

"Many of the barrier film innovations in partnership with the polymer suppliers in the past decade such as 105 micron film going down to 65 microns were done with large CPG companies at Parakh Flexipacks. Even our in-house prepress using Kodak Prinergy and Kodak Flexcel NX were path breaking as is our in-house automated ink making plant from Siegwerk. We want to be known as innovators in flexo and barrier films."

Vinay Nalawade, chief executive officer, Parakh Flexipacks

Value-added liquid carton packaging

SIG Combibloc enters Indian beverage packaging market

SIG carton packaging solution for the beverage industry

SIG high-performance filling machine CFA 1224-36 with Drinksplus option suitable for aseptically filling CombiblocXSlim in up to nine different volumes ranging from 80 to 200 ml.

SIG high-performance filling machine CFA 1224-36 with Drinksplus option

SIG Combibloc, a solution provider of aseptic packaging for the beverage industry, has entered into a collaboration with Kandhari Beverage, an authorized franchise bottlers of Coca-Cola India, for its mango drink brand 'Maaza Refresh' in combiblocXSlim carton packs (125 ml and 150 ml).

Rolf Stangl, chief executive officer of SIG said, “We work in partnership with our customers to bring food products to consumers around the world in a safe, sustainable and affordable way – now also in India. With our portfolio of solutions, we can help food and beverage manufacturers in India to offer consumers the perfect product and packaging solution, while boosting sales and growth.”

Commenting on the market entry in India, Vandana Tandan, country manager for SIG India said, “Young, middle-class urban Indian consumers are changing the requirements of the food and beverage industry. Conveniently packaged healthy and high quality beverages are increasingly in demand. With SIG’s product and packaging solutions, manufacturers have significantly more flexibility and scope to meet these requirements. Our drinksplus solution and the volume flexibility of SIG’s filling machines make it possible for food and beverage manufacturers to create completely new product segments. There will be products on the market that have never been seen before in India.”

Kandhari Beverage has opted for SIG CFA 1224-36 filling machine with drinksplus option, suitable for aseptically filling combiblocXSlim in up to nine different volumes ranging from 80 to 200 millileter. The first product in India available in carton packs from SIG is Maaza Refresh 125 ml and 150 ml.

The filling machine can adapt itself to the package size as per consumers’ purchasing power, allowing brands to operate at crucial price-points. With SIG’s drinksplus option, the manufacturer can include value-adding extras such as real fruit or vegetable pieces, nuts or cereal grains to beverages in carton packs, with no preservatives. ▮

Compostable food service packaging sales expected to grow

Compostable food service packaging market study for 2019-2029

According to the latest report by Future Market Insights (FMI), worldwide sales of compostable food service packaging reached approximately 6,400 tons in 2018, equalling revenues worth US$ 16.7 million (approximately Rs 115 crore). As end users' quest for sustainable packaging intensifies, manufacturers are likely to witness a period of sustained demand in the future.

Expansion of the food service industry, along with the emergence of 'takeaway' and 'grab-and-go' services, will continue to provide potential growth prospects for the market. However, the price of producing compostable materials for packaging continues to be higher than the conventional variants, which is likely to represent a threat to the growth of the compostable food service packaging market.

With plastics becoming one of the biggest challenges in the world right now, brands prolifically using such materials will need to act quickly to find reliable alternatives. Technological innovations are being made to reduce the price of compostable food service packaging and study assesses that the global efforts to become a more sustainable society will be instrumental in creating new growth opportunities for the market vendors.

Trays continue to gain preference over other packaging format

According to the study, the composite food service packaging market is estimated to grow at a CAGR of approximately 5% through 2029. One of the key growth drivers is a notable spike in the number of quick service restaurants (QSRs), especially in developing countries, which align with today's convenience and on-the-go culture. In addition, surging adoption of food service disposables, in the view of an increase in the demand for pre-packed food, has been preparing the grounds for compostable food service packaging penetration.

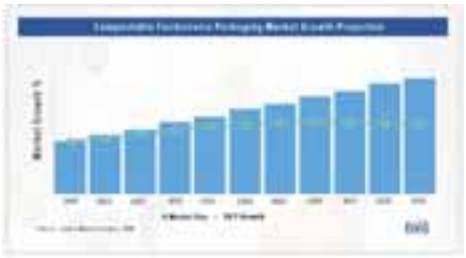
The study finds that compostable trays continue to account for relatively large share of manufacturers' bottom lines, while more focus has been placed on increasing the production of compostable cups, as the category is witnessing rising demand from a multitude of end-use sectors. As the search for sustainable solutions scales up, companies operating in the packaging industry are starting to launch a number of products made entirely from plant-based materials, including mushroom roots, bagasse, seaweed and starch derived from maize.

Customization in the compostable food service packaging

As per the study, the wave of 'customization' is also approaching in the compostable food service packaging space. To fulfil the individual packaging needs while promoting sustainability, manufacturers are targeted towards offering custom products of all sizes, ensuring food safety and minimizing leakage. Demand from non-chain restaurants continues to influence growth strategies, and as identified by the study, market stakeholders are tapping into opportunities in chain café and independent food service operators. Rapid expansion of international chain café in developing countries along with growing consumer preference to eat out, especially from food trucks and street stalls, is also likely to work well with the manufacturers' growth strategies.

Growth prospects are high in EU5 and the US

Growth prospects of the compostable food service packaging, as the report opines, are high in EU5 and the US. Greater awareness and easy access to innovative solutions along with favorable regulatory framework and higher availability of compost facilities in these regions have worked to the advantage of the stakeholders. In addition, market consolidation in Asia Pacific, particularly in the southern region, will remain a key to gaining distinct competitive advantage, as trends of eating out and online ordering have spiked across the region.



The business intelligence report also offers an incisive outlook on competitive landscape by analyzing the key development strategies of the market players. According to the study, the market shows a high level of consolidation, with local and regional players catering to domestic and urgent demands, while leading players with strong regional presence account for relatively small share in the market. ▮

These insights are based on a report on Compostable Food Service Packaging Market by Future Market Insights.

Multilayer packaging helps to reduce food wastage

Innovative and sustainable multilayer packaging

Multilayer packaging reliably ensures high quality and fresh food products. Thanks to its properties, it protects products and keeps them hygienic, thereby extending the shelf life of food. This is of particular importance in light of global food supply – one-third of all food produced worldwide is spoiled before it reaches consumers' plates. Smart solutions with multilayer packaging can play a part in reducing this unnecessary waste.

Multilayer packaging is sustainable - it does not require much material and can now also be produced from chemically recycled material.

"Today's high-tech film packaging solutions consist of multiple materials and layers with different properties, such as an oxygen barrier. Thanks to the optimized use of materials, we were able to reduce the packaging volume to a minimum," said Johannes Remmele, managing director of Südpack.

Multilayer packaging consists of up to 11 individual, ultra-thin layers, making it considerably lighter and thinner than comparable packaging. In addition to reducing the amount of raw materials used, this also contributes to considerably lowering CO2 emissions during transport. Overall, multilayer packaging claims to be more resource efficient than its alternatives.

However, multilayer packaging could only be recycled to a limited extent, because mechanical recycling processes are not suitable for composite materials. "Within the ChemCycling project, BASF is working on advancing the chemical recycling of plastic waste, because this will make it possible to process and reuse previously non-recyclable plastics such as mixed plastics. In collaboration with our partners, we have now for the first time produced a prototype packaging made of chemically recycled polyamide and polyethylene. This goes to show that the recycling of multilayer packaging could soon come full circle," explained Christoph Gahn, who is responsible for the polyamide business at BASF.

BASF, Borealis, Südpack and Zott present prototypes of food packaging made from 100% recycled material

This pilot project was made possible because of the collaboration between the four partners - BASF, Borealis, Südpack and Zott. BASF supplies chemically recycled polyamide, while Borealis provides sustainably produced polyethylene. Südpack, one of Europe's leading producers of film packaging for food products, uses these materials to produce multilayer film for a specially sealed Mozzarella packaging for Zott Gourmet Dairy.

Zott enjoys numerous benefits thanks to this multilayer film. "In our dairy, we continuously review the entire value chain to determine where we can be even more sustainable and how we can sensibly extend our sustainability standards. Now more than ever, customers expect that the packaging of their high-quality and sustainably produced food is as resource-efficient as possible. This is why it was important to us to be part of this pilot project right from the start in order to share our experience as well as our high-level requirements on packaging and its barrier functions, and to contribute to the development of a solution with identical functionality and increased environmental performance. We are very optimistic and hope that this project will make it to series production," explained Andreas Strunk, head of Production, Technology & Supply Chain Management at Zott.

"What is special about this pilot project is that both components of the packaging – polyamide and polyethylene – are made from chemically recycled material," emphasized Maurits van Tol, Borealis senior vice president - Innovation, Technology & Circular Economy Solutions. He added, "This innovative solution came about thanks to the selection of special polymers. In addition, the collaboration between the companies involved made it possible for the first time to consistently certify each step up from the raw material to the finished packaging."

The raw materials for polyamide and polyethylene were produced in very small quantities as part of the 'ChemCycling' project. The pyrolysis oil derived from plastic waste was supplied by a partner and fed into BASFs Verbund production site in Ludwigshafen as feedstock. According to the certified mass balance method, both plastics have an allocated 100% share of recycled materials. ▮

GEA to launch SmartPacker TwinTube at Pack Expo, Las Vegas

GEA will launch the redesigned vertical packaging machine GEA SmartPacker TwinTube at Pack Expo at its booth LS-5905 in Las Vegas, USA from 23 to 25 September 2019. The entire machine was redesigned as a future-proof modular system with increased functional efficiency promoting higher operational uptime and ease of use, the company said in a press statement.

Established in 1881, GEA is a technology supplier for food processing and a wide range of other industries. The global group specializes in machinery, plants, as well as process technology and component.

The SmartPacker TwinTube is said to be a continuous motion vertical machine, suitable for packaging small-sized, food products such as candy, nuts and dried fruits and other on-the-go products in pillow bags of different sizes. The machine is said to be a part of a complete packaging process with upstream and downstream equipment operating in a dry manufacturing unit. It operates with two parallel forming tubes, claims to achieve combined speeds of up to 500 bags per minute (weighing 10 to 18 grams each). As per the company press note, it is also possible to run a different film reel for each tube, meaning calorie packs of different widths or designs can be simultaneously filled. A new feature to the machine is the Jumbo Roll, which claims to allow film reels of up to 100 kg to be used for long production runs, which boosts operational efficiency.

"The new TwinTube has a modular construction which allows customers to easily add new options and upgrade their machine, thus prolonging the life span of the system. Also, we've increased operator friendliness by introducing toolless adjustment features which helps achieve shorter changeover times and proven and error-free setup of the machine – this includes printers, labelers and the vertical sealing unit," explained Martijn van de Mortel, product manager- Vertical Packaging at GEA. "With these new updates, we're able to meet our customers' demands in terms of automated process control, less operator dependence, more uptime and operational efficiency," he added.

Automatic web tracking

The new SmartPacker TwinTube is claimed to be equipped with automated web tracking. This means that if the film deviates from its path, due to - for example - variances in the film roll, the feature will correct the direction of the film automatically, without the need of manual adjustment. Ultimately this is said to safeguard the quality of the resulting bags while saving on downtime.

Reinforced sealing for more flexibility

According to the company, the new SmartPacker features a new jaw-closing mechanism, optimized heating unit and a vertical rotational seal unit, promoting robust packing performance and excellent tightness of the pack seals. The jaw closing mechanism claims to offer more than triple sealing force as the previous one and can apply 6000N. This claims to allow using thicker films or films with more diverse characteristics in terms of sealing requirements. Due to the said more stable suspension of the longitudinal seam unit and the reproducible and precise positioning by spindle and ruler, shorter changeover times are possible when switching formats or foils. "With this development, producers will be able to work with more challenging films thus able to give retailers and consumers what they are looking for in terms of bag quality with an even wider range of film materials." states van de Mortel.

TwinTube bagging machine by GEA

Easy labeling, operation and maintenance

The new GEA TwinTube is optionally equipped with a new, fully integrated GEA TiroLabel unit, which claims to make the machine even more compact on the factory floor. The dedicated labeling unit claims to deliver a speed of up to 180 labels in a minute at a width of 150 mm and achieves millimeter precision during labeling. The label roll claims to have a quick-release operation, which means it can be changed in seconds with minimal downtime. ▮

Portfolio of system solutions tailored to customers' needs

Bosch to exhibit new packaging systems

Bosch Packaging Technology will showcase its latest packaging system solutions for bars, biscuits and bakery at two global packaging trade shows in September. At PackExpo in Las Vegas, USA, Bosch will showcase a high-speed integrated system solution with features that take efficiency to the next level. At FachPack in Nuremberg, Germany, customers will experience a scalable mid-range system from Bosch, which is said to be ideal for fast-growing companies to expand their capacities.

"We have decades of experience in engineering packaging systems. We carefully analyze the requirements of our customers to ensure that they get a system tailored to their needs," says Martin Tanner, director of product management at Bosch Packaging Technology. "No matter if manufacturers need an entry-level system, a flexible high-speed solution or anything in between, we are able to provide the ideal solution."

Efficient integrated system

At Pack Expo in Las Vegas, Bosch will showcase one version of its highly efficient seamless bar packaging systems. The said exhibit consists of a high performance, indirect distribution station, a cardboard inlay feeding unit, a high-speed Sigpack HRM flow wrapping machine and a flexible Sigpack TTM1 top load cartoner. "This system is one example of our seamless systems portfolio that provide manufacturers with highest levels of efficiency, productivity and flexibility," Tanner explains.

The system features an optional cardboard inlay module. The Sigpack KA forms flat, U-shaped or O-shaped cardboard inlays that are fed into the high-speed flow wrapper. The Sigpack HRM is equipped with an HPS high-performance splicer and is able to wrap up to 1,500 products in a minute. One of the highlights of the system is the Sigpack TTM1 top load cartoner. It claims to stand out for its high product and format flexibility. In this configuration, the machine either loads the flow-wrapped products into 24-ct display cartons or fills them directly into a work in process tray. In addition, the integrated bar system is equipped with the mobile device-friendly operations and maintenance assistants that are both part of the Industry 4.0 based digital shop floor solutions portfolio. These user-friendly, intuitive assistants claim to boost operators' capabilities and guide them through maintenance and operative tasks in a quick and easy manner.

Bosch high-speed system to be displayed at Pack Expo. Photo Bosch

New all-round system

At FachPack, Bosch will launch its new all-round packaging system, which is said to be suited for bars, biscuits and bakery products – but can also be adapted for other products. It

New Pack 403 horizontal flow wrapper at FachPack. Photo Bosch

features the new Pack Feeder 4 and the new Pack 403 horizontal flow wrapper with an output of up to 800 products in a minute. The chain feeding system claims to stand out for its easy cleanability with tool-less belt removal and gentle product handling. The Pack 403 claims to achieve consistent flow wrapping results because of its upgraded cross and fin-seal units. With decals and scales, the machine is said to be operator friendly and features a removable discharge belt that reliably rejects faulty packages.

"Our new system is a modular and scalable solution that is able to grow with the customers' needs," Tanner says. "Manufacturers can easily upgrade and complement the system with extra options such as a cartoning machine."

Profound competence and expert consulting

Bosch Packaging Technology also claims to offer a dedicated project consulting – beginning with early planning, the choice of technology, system layout up to service packages and beyond. One major competence area is sealing technology, which is key in the packaging process. "Which sealing technology achieves the best results always depends on the product and film characteristics," Tanner adds. "Based on many years of experience, we offer in-depth support at our sealing testing labs, where we conduct tests together with customers to identify the best option."

Heat-sealing technology will be shown as part of the packaging system at FachPack, while cold-sealing will be shown at Pack Expo. Both systems are available with a wide range of modern sealing technologies.

Global customer services network

Bosch Packaging Technology provides access to their comprehensive global network of customer services. At Pack Expo, customers can learn about Bosch's asset life continuation solutions, which include upgrades for obsolete control systems, the refurbishment of older machines and the relocation of equipment. Two machines will be on display for visitors to experience the solutions firsthand – a refurbished JSL hand sealing machine and a Stratus wrapper with a new control platform as well as a stand-alone OEE dashboard. ▮

Design helps achieve highest sanitation standards for meat and poultry industry

WeighPack unveils new USDA sanitary weigh filling machine

WeighPack Systems has designed and delivered its new USDA Sanitary PrimoLinear V-25 bulk weigh filling machine for frozen poultry.

The machine is engineered using solid tubular stainless steel as opposed to angled steel or a hollow frame. This sanitary design was engineered specifically for the meat and poultry industry to achieve the highest sanitation standards for its customers.

The PrimoLinear V-25 weigh filling system is designed to automatically weigh and dispense products up to 50 pounds (approximately 22.67 kilograms) into corrugated cases or bags at rates of up to 40,000 pounds (approximately 18143 kilograms) in an hour.

WeighPack Systems is a manufacturer of automated food packaging solutions including weighing, bagging, wrapping, container filling and conveying. The company was established in 1991 and has been delivering packaging systems to over 30 countries. WeighPack machines are currently operating in a variety of industries including food, beverage, hardware, electronics and pharmaceuticals. While WeighPack's customers are primarily in the USA, Canada, Mexico and South America, installations can also be found in many European countries, the Middle East and now even in Asia, New Zealand and Australia. ▮

WeighPack Systems' new USDA Sanitary PrimoLinear V-25 bulk weigh filling machine for frozen poultry

Traceability boosts competitive growth

Track and trace for monitoring food safety and recalls

MANDEEP KAUR

According to the World Health Organization (WHO), approximately 60 crore people (that is, almost 1 in 12 people) worldwide fall sick after consuming contaminated food and approximately 4 lakh people die every year. In India, the majority of food-borne disease outbreaks often go unrecognized or un-investigated. In many cases, they receive significant attention only after major health or economic damage. Moreover, controlling outbreaks, detection and removal of affected food, identification of the factors that contributed to food contamination, prevention of future outbreaks and strengthening of food safety policies are not possible without having proper traceability measures in place. From tracking supplies to monitoring safety issues like food contamination and recalls – track and trace capabilities are critical in the food and beverage industry supply chain. In the absence of a good track and trace system, it is almost impossible to competently or legally operate a food or beverage business.

The supply chain is lengthening

Globalization has triggered consumer demand for a variety of foods, resulting in an increasingly complex and longer global food chain. The increasing demand for food creates both opportunities and challenges for food safety. Tracking systems installed on the product packs ensure integrity as well as food quality, and are becoming extremely popular. According to the recent Acumen Research and Consulting report, the global track and trace solutions market is estimated to grow at a CAGR over 18.0% from 2019 to 2026 and is projected to reach US$ 7.2 billion (approximately 50,000) by 2026.

Barcode and RFID tracking

At present, food and beverage track and trace deliveries use two methods – barcoding by inkjet, laser or thermal printing and Radio-Frequency Identification Technology (RFID) tagging. An RFID label or tag is a smart label which replaces traditional paperwork and is used for tracing and tracking the origin, location and the product's journey throughout its life cycle from production to storage, transport and delivery. RFID labels are readable from a distance and often considered an ideal solution since their chip can receive and store data at any given point. As far as barcode tracking, while consumers think that the barcode is a way to add speed and accuracy in payment at the grocery store, it is actually also used to help track various goods, enhance consumer safety and ensure product quality. In the case of a recall, barcodes provide immediate tracking.

Mandatory implementation of track and trace solutions

Reports suggest that the food industry has experienced several losses in the past owing to the sale of counterfeit goods. Contaminated and adulterated food products have detrimental effects on consumer health. According to the WHO report, contamination of infant formula with melamine in China in 2008 affected 300,000 infants and young children; the Enterohaemorrhagic Escherichia coli[1] outbreak in Germany in 2011 linked to contaminated fenugreek sprouts (cases were reported in eight countries in Europe and North America) led to 53 deaths and significant economic losses.

Considering such scenarios, the implementation of adequate track and trace solutions were mandated across several countries to ensure public health and safety. Moreover, the introduction of the Food Safety Modernization Act (FSMA) has driven the adoption of these solutions into supply chain logistics.

Tive's multi-sensor tracker tracks temperature, humidity, location, and shipment integrity, and sends the data to the cloud in real time, where it can be accessed from the Tive software platform

Tracking identifies issues before it's too late

At present many large companies are active as track and trace solution providers. In October 2018, US-headquartered rfxcel, a track and trace solution provider for the pharmaceutical

HCL Technologies' cloud-based track and trace solution offers complete visibility of the food supply chain

market, announced the extension of its solutions for the food and beverage industry. Closer at hand, India-based HCL Technologies' Cloud-based track and trace solution offers complete visibility of the food supply chain. The solution is capable of inspecting problems and ensuring compliance of food safety regulations. Tive, a US-based in-transit supply chain tracking solutions provider, has recently received the '2019 Food Logistics Champions - Rock Stars of the Supply Chain' award. Tive works with food companies to ensure safety of their perishable products by avoiding harmful temperatures, humidity and costly shipping delays. Interamerican Coffee uses Tive's multi-sensor trackers for complete visibility of the humidity of its high-quality coffee shipments. Such traceability data helps companies to identify and fix the issue before it's too late.

Traceability boosts competitive growth

The food industry is fast-paced and competitive; it faces many challenges that other industries do not, such as numerous government regulations to comply with and the high possibility of overstocking products that might expire soon. Apart from food safety and accountability benefits, supply chain traceability allows food and beverage companies to secure their position in the competitive industry. ▮

Glossary

[1]Escherichia coli strain, which causes a severe intestinal infection in humans, is known as enterohemorrhagic E. coli (EHEC). This is different from other E. coli because it produces a potent toxin called Shiga toxin, which damages the lining of the intestinal wall and causes bloody diarrhoea.

Open blockchain technology for supply chain transparency

Nestlé tests open blockchain technology

Nestlé announced the collaboration with OpenSC, a blockchain platform that allows consumers to track food right back to the farm, for supply chain transparency. Through this collaboration, Nestlé claims to become the first major food and beverage company to announce that its open blockchain technology. The collaboration is part of Nestlé's journey towards full transparency.

Founded by World Wide Fund For Nature Australia and The Boston Consulting Group Digital Ventures, OpenSC has developed a platform that will give anyone access to independently verifiable sustainability and supply chain data from anywhere.

The initial pilot program will trace milk from farms and producers in New Zealand to Nestlé factories and warehouses in the Middle East. Later, the technology will be tested using palm oil sourced in the Americas. These initial plans will allow Nestlé to understand how scalable the system is.

Magdi Batato, executive vice president, Nestlé SA said, "We want our consumers to make an informed decision on their choice of products – to choose products produced responsibly. Open blockchain technology might allow us to share reliable information with consumers in an accessible way."

Nestlé has piloted blockchain technology since 2017, most prominently with IBM Food Trust. In April 2019, it gave consumers access to blockchain data for the first time, through Mousline puree in France.

"This open blockchain technology will allow anyone, anywhere in the world to assess our responsible sourcing facts and figures," said Benjamin Ware, global head of Responsible Sourcing, Nestlé SA.

"We believe it is another important step towards the full disclosure of our supply chains announced by Nestlé in February this year, raising the bar for transparency and responsible production globally," Ware added. ▮

Nestlé tests technology to trace the origin of its products

Food safe & removable inkjet inks for recycling packaging

Regulations and trends are making manufacturers 'think ink'

The changing regulatory landscape with regards to inks used in the coding and marking of products and packaging can cause significant challenges for manufacturers across a wide range of industries. While many will be aware that food-contact inks are highly regulated, a similar level of control for handling and use is in place for most other manufacturing sectors.

"Changes to safety and environmental classifications and regulations for the inks used in product coding and marking, along with changing trends in packaging design and materials, create production headaches for manufacturers in a variety of industries. In-house ink innovation holds the answer," said Josie Harries, technology manager – Ink Development, at Domino.

Ink designs are complex formulations and contain many different compounds which are individually selected by formulators to give certain performance to the final ink. From time to time, reclassification of ink 'ingredients' occurs which can have significant consequences on the availability of inks, either because a component is no longer suitable for use, or a more restrictive reclassification leads to a run on alternative options.

Often, it's not as simple as swapping one component for another as it can have significant impact on the ink performance, such as code legibility and durability; printer efficiency; and, frequency of nozzle cleaning that can impact product quality and production reliability. If raw materials become unavailable due to supply chain issues or reclassification, it could result in a lack of ink supply and cause an inability to code. Consequently, this could lead to costly production stops and cause manufacturers to look for alternative coding solutions. Where specialist substrates or packaging are in use or where special performance characteristics are required, sourcing new coding solutions can be a lengthy and costly exercise.

"It might seem surprising to those outside the coding and marking sector that something so innocuous can have such an impact on throughput, profits and contractual compliance. This is why at Domino we recognize the importance of developing inks with agility with respect to supply chain processes," said Harries.

The trends

Product packaging is constantly evolving, and this has an impact on the suitability of existing inks and drives ink innovation. Current trends include an increased consumer focus on reducing single-use packaging, which has hastened the introduction of more sustainable packaging—plastic alternatives—and a move towards products which can operate within a circular economy, designing out waste. Engaging with customers and studying market trends is key to producing innovative and reliable ink products solutions.

For example, an increasing number of organizations are seeking inks that will prove durable and last the full lifetime of the product but can also be removed at the end-of-life point if it is to be recycled. This can be quite challenging, but Domino's inks teams are currently focusing on innovative solutions for environmentally benign and sustainable inks as well as developing proof of concept designs to see how an ink's environmental footprint can be reduced.

Along with the knowledge and expertise Domino's ink formulators have, the in-house analytical teams study the substrates of customers' packaging and, using a variety of techniques, identify the right raw materials that will result in high-quality codes being printed.

A further trend is the drive to improve product integrity to safeguard consumer confidence in the supply chain. There is an expectation that everyone involved in producing, processing, transporting and marketing goods is doing everything reasonable to prevent problems and ensure consumer safety.

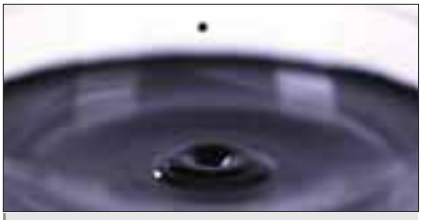


Photo courtesy Domino Printing

"Membership of EuPIA and other key industry-informing associations means that we consider the risks and undertake exposure assessments in accordance with internationally recognized scientific principles. The principles of continuous improvement align with respect to consumer safety and being members of several interest groups ensures we can stay abreast of any impending market changes," said Harries.

Throughout the ink development process, it's important to collect data such as individual compound make-ups and overall ink performance. It's also important to keep up to date with upcoming regulatory changes to ensure ink compounds can be substituted with minimum disruption should a re-classification of an ink occurs. By developing inks this way, customers can experience little or no disruption to their supply.

In a world where quick ink development responses are required, automated systems with statistically designed experimentation mean that new or updated inks can be brought to market fast, reducing the risk of downtime for customers. The ability to build flexibility into the ink development process allows the provision for quick solutions to the ink challenges that stakeholders may face.

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Scope for growth and innovation in food retailing

Food retailing sector in India — US$ 500 billion and growing

AJIT SINGH BHATNAGAR

Food retailing can be defined as the selling of food commodities that are purchased and consumed by consumers, excluding sections like food-service, restaurant and eatery foods. A recent Business Standard report pegged India's food retail market at US$ 487 billion (approximately Rs 33,11,600 crore) in 2017, with a CAGR of 9.23%. The food retailing sector constitutes around 16 to 17% of India's GDP. On the other hand, the region-wise distribution of India's food retailing sector reveals highest market share for northern India at 29.56% followed by southern India at 27.19%, western India at 25.39% and eastern India at 17.86%.

Socio-economic significance of food retailing in India

One of their most important expenditures, consumers purchase retail food commodities every week including vegetables, fruit, milk, bread, eggs, meat and snacks. Surveys indicate that the food retail market in India is mostly unorganized at 97% wherein the organized sector accounts for only 3%. More than 15 million general (kirana) stores, convenience stores and street markets constitute the unorganized food retail segment in India. The organized segment includes supermarkets, hypermarkets, gourmet stores, eTailers as well as cash-and-carry set-ups – all of which are numbered around 50,000 in India. The food retail market in the country is growing rapidly owing to three main factors:

- Supply, which includes infrastructure development, food processing, multi-channel marketing, easy credit availability and private labeling;
- Demand, which includes increasing urbanization, increasing disposable income, growing middle-class population, increasing working women, inclination towards a healthy lifestyle, consumer awareness and changing preferences towards international trends, increasing foreign travel, international TV shows, food festivals and Internet penetration;
- Regulatory, which includes foreign direct investment (FDI) policy in the multi-brand retail sector and implementation of GST and increased activity of FSSAI in food safety and packaging regulations.

Growth of India's food retailing sector

In India, the urban youth aged from 16 to 40 years spend over 40% of their income on food commodities and are happy to pay a premium for better quality, variety and taste. The most significant and rapidly emerging trends in the Indian food retail consumers are:

- Rise in demand for imported food products;
- Increasing popularity of gourmet food products; and
- Rise in demand for organic foods and health-promoting food products. Ready to cook frozen foods, cheese, creams, chocolates, cakes, wine, alcoholic beverages, cookies, croissants, nachos, tortillas, burritos, juices, dips, sauces, honey, fruit, truffles, artichokes, asparagus, Australian lamb meat, Norwegian salmon, packed tuna and whey-protein shakes are the most sought after exotic food products in the Indian food retail market at present.

Challenges before India's food retailing sector

The major challenges holding back India's food retailing sector include overwhelming competition from the unorganized segment, uncertain resource base, poor sourcing efficiency, land availability, catapulting of capital cost, unavailability of skilled manpower, inadequate distribution network, shortage of cold chains and high spoilage and wastage of food. Also challenging are factors such as the rise in the ultra-nationalistic indigenous (swadeshi) narrative, currency fluctuation, rising consumer proclivity for fresh home-grown food, managing diversity of Indian palates, fluctuating consumer price index, abrupt shifts in food choices and preferences of consumers due to inflation, tough and inflexible FSSAI norms, harsh import duties and unfavorably high custom duties and taxes.

Scope for innovation in India's food retailing sector

The Indian food retail sector has a great scope for modernization and innovation that could help foster growth in the future. These innovations include integration of the total agri-value chain for proficient procurement and efficient supply chain management, inclusion of traditional Indian foods, customized food products for targeted consumer segments, establishing stores of fresh produce, tele-retailing and internet retail. The scope for innovation includes the use of artificial intelligence, convenient self-scan checkouts to ease consumers' shopping experience, tracking of in-store movement patterns of products to reduce inventory stock management costs and occurrence of stock-outs, and the use of predictive analytics to gain insights into customer buying behavior. ▮

Ajit Bhatnagar is visiting faculty at department of Home Science at Govt. Girl's PG College, Durg, Chattisgarh. Formerly, he worked as an assistant professor at Food Engineering and Post Harvest Technology, Ambo University, Ethiopia.

New chocolate bar with no added artificial sweeteners, colors or preservatives

Mondelez launches Cadbury Dairy Milk bar with 30% less sugar in India

Cadbury Dairy Milk has launched a new bar with 30% less sugar. According to the company, this new bar will offer consumers a wider choice and the delicious Cadbury Dairy Milk taste. Cadbury Dairy Milk 30% less sugar claims that it will have no added artificial sweeteners, and will sit alongside the existing portfolio of Cadbury Dairy Milk products on shelves. The innovation aims to underscore the company's commitment to empower consumers to snack right and to provide them with choice, by creating new eating experiences.

Deepak Iyer, president, Mondelez India said, "We are delighted to be launching this product in India, given the love and following Cadbury Dairy Milk has in our country. This is the most significant innovation in the brand's history in India. As we continue to define the taste of chocolate, we understand our consumers, and are conscious of our commitments to them. Cadbury Dairy Milk 30% less sugar is another very special innovation that will provide our Cadbury Dairy Milk fans with a less sugar option without compromising on our world-renowned taste and quality. We expect this innovation to strengthen our portfolio as it will complement our other much-loved brands, including core Cadbury Dairy Milk."

Anil Viswanathan, director - Marketing (Chocolates) at Mondelez India said, "We understand our brands play a special role in people's lives. Increasingly consumers want products that reflect their lifestyle and we have always been at the forefront in creating unique products and platforms to address this need. Cadbury Dairy Milk 30% less sugar is a product with no added artificial sweeteners, colors or preservatives. It is created to ensure the right texture and taste of the original Cadbury Dairy Milk bar to keep the consumer eat experience the same. Throughout this project we have had a strong sense of duty to create a product that retains what makes Cadbury Dairy Milk so special for millions of Indian consumers. Our brand proposition will focus on 'Wahi swaad, wahi mithaas'."

Cadbury Dairy Milk 30% less sugar has been in development for almost two years with a team of scientists, nutritionists and chocolatiers at the company's research and development facilities in India and the UK. The team was working to find a way to achieve the same Cadbury Dairy Milk taste whilst delivering 30% less sugar with no added artificial sweeteners, colors or preservatives. The company stated that the team successfully replaced the physical functionality of sugar in solid chocolate in a way that preserves the structure of chocolate and stays true to the unique texture and taste profile of Cadbury Dairy Milk. The new Cadbury Dairy Milk 30% less sugar is priced at Rs 50 for 43 gms, and will be retailed across modern trade, traditional trade and eCommerce platforms.

Nestlé and Starbucks coffee alliance to launch Starbucks creamers in the US

Starbucks enters the refrigerated creamer category

Nestlé and Starbucks recently announced the launch of Starbucks creamers, allowing the Starbucks brand to enter the refrigerated creamer category for the first time, which is projected to top US$ 7.8 billion (Rs 53773 crore) by 2023 in the US.

The products were said to be developed by combining Starbucks' well-loved flavors with Nestlé's expertise and leadership in the creamer category to give consumers a new way to enjoy their Starbucks coffee at home.

Earlier this year, as a part of the global coffee alliance, Nestlé launched a range of 24 Starbucks products across various platforms. Nestlé and Starbucks claim to drive strong momentum and bring a premium coffee experience to consumers in the grocery aisle and via the Foodservice channels.

David Rennie, head of Beverages Strategic Business Unit, Nestlé SA said, "The global coffee alliance has allowed us to develop and launch new Starbucks products at an unprecedented speed. We are very pleased to expand the Starbucks brand into the creamer's category less than a year after we closed the deal. We will continue to move fast to deliver great Starbucks coffee experiences to our consumers around the world."

Starbucks creamers claim to offer a great taste and creamy texture that celebrates the coffee in the finished cup. The creamers will be available in three flavors such as caramel, white chocolate and cinnamon dolce. They are said to be inspired by customer-favorite handcrafted beverages served at Starbucks cafés such as Caramel Macchiato, White Chocolate Mocha and Cinnamon Dolce Latte. According to a press statement, these products will be available in the US groceries stores and at selected online retailers from August.

"We know that Starbucks customers are passionate about their coffee, and with Starbucks creamers, we are delighted to give them another way to enjoy their favorite Starbucks experience and flavors at home and outside our cafes," said Duncan Moir, president - Global Channel Development at Starbucks.

First-ever non-dairy coffee lattes and certified by vegan society

Nestlé launches plant-based latte coffees in the UK and Ireland

Nestlé has recently launched three plant-based frothy coffees under its iconic Nescafé Gold brand. The almond, oat and coconut lattes are all certified by the Vegan Society as suitable for people following a vegan diet and carry the sunflower trademark on the pack. The premium Nescafé Gold lattes are said to be the world's first plant-based soluble coffees mixes and are available exclusively from Tesco until February 2020, after which they will also be available in other retailers across the UK and Ireland.

As per the press statement, blends of 100% Arabica coffees have been specially crafted to mix perfectly with the plant-based ingredients to create smooth creamy tasting lattes and each mug contains a source of calcium.

This latest frothy coffee innovation from Nestlé aims to help meet the growing consumer demand for plant-based and non-dairy products. Neil Stephens, head of the Nescafé business in the UK and Ireland, said, "Our new premium Nescafé Gold frothy coffees bring the plant-based, non-dairy trend out of the coffee shop and into the home. The three delicious flavors, oat, almond and coconut are also vegan-friendly as well as being a source of calcium. Nescafé is the world's favorite coffee, but we do not take our position for granted. We are quick to spot and embrace fast-moving coffee trends and tastes in this highly competitive and innovative market. Our new plant-based vegan latte mixes are the latest in a long list of innovations to bring new and exciting sensory experiences to our loyal Nescafé consumers."

The plant-based lattes are being launched first in the UK and Ireland before being rolled out in several markets across Asia, Europe, Latin America and Oceania.

Coffee is one of Nestlé's high-growth categories. The company continues to invest to lead in the business, create more value for its brands and make a difference for consumers with innovative high-quality coffee products. Last month its premium Nescafé Azera brand launched roast and ground coffee bags in the UK and Ireland, which are the first coffee bags specially formulated to be enjoyed as a hot or cold brew, the press statement says.

Last year the Nescafé brand entered the growing 'Origins' arena with the launch of its Nescafé Gold Origins range, which allows consumers to explore authentic and exciting coffees originating from different parts of the world. The new vegan lattes will complement the existing range of 17 Nescafé Gold frothy coffees. ▮

Closing nutritional gaps of children

Mars Edge launches GoMo Dal Crunchies snacks in India

Mars Edge, the newest segment of Mars, is built to help improve human health, by bringing together food and nutrition. The company recently launched a new product – GoMo Dal Crunchies – in India, with a brand and packaging strategy by London agency Straight Forward Design.

The new product, GoMo Dal Crunchies, is rich in protein and micronutrients and has been designed to help close nutritional gaps of children aged from 6 to 18 in India.

According to Mars, the science-based, affordable and enjoyable product was designed together with nutrition experts in India, Europe and the US and brought to life through the company's uncommon collaboration with Tata Trusts - one of India's leading philanthropic organizations.

GoMo claims to provide 6 grams of protein by consuming 35 gram in a serving and from 15 to 100% of the Recommended Dietary Allowance (RDA) of key micronutrients for this age group, including iron, vitamin A, vitamin B12, vitamin C and vitamin D. The legume-based GoMo also claims to provide a significant amount of lysine, a limiting amino acid in the Indian diet. The bar is being offered in three local flavors such as Masala Mix, Green Chutney and Chili Lemon Pepper. According to Mars, the chili lemon pepper, green chutney and masala mix flavors are tailored to suit local tastes and to ensure that GoMo is enjoyable as well as nutritious.

GoMo is currently offered at two price points – Rs 10 and Rs 20 – which will help bring nutrition within the reach of more people. Mars has also opted for a novel distribution network with self-help groups for women, rural village shops and other last-mile entrepreneurs to reach rural areas of India, starting from the regions of Uttar Pradesh and Maharashtra. ▮

VG Siddartha letter lists assets that can cover debt

Liquidity crunch pushes Café Coffee Day founder to death

The Café Coffe Day (CCD) founder-chairman, VG Siddhartha, who was missing for the last two days, was found dead and his body was recovered today early morning [31 July 2019] from the Nethravathi River near Mangaluru – 350 kilometers from Bengaluru – following a massive search operation lasting approximately 30 hours. Siddhartha was in the news for the past several months due to his debt and tax liabilities. We also recently reported that Coca-Cola plans to acquire CaféCoffee Day. CCD was in talks with Coca-Cola to sell some of its equity, although Siddhartha intended to keep the controlling stakes with himself. The CCD and Coca-Cola deal was still in the negotiation phase.

To reduce his financial burdens, Siddhartha sold his 20.32% stake in two CCD affiliate firms (Coffee Day Enterprises Ltd. and Coffee Day Trading Ltd.). He also divested his shareholding in software services company Mindtree to Larsen and Toubro earlier this year for Rs 3,200 crore.

However, recent reports reveal that CCD shareholders had doubts about the CCD's debt. The Mindtree deal was supposed to be a lifesaver for reducing the company's debt but it didn't turn out to be so. There were questions from investors on the relatively high debt as well the unusually high cash held by the company's realty subsidiaries. While the questions about debt continued, the answers from CCD were apparently unconvincing.

Siddhartha mentioned in his last letter addressed to the Café Coffee Day board of directors and the Coffee Day family, that he gave up as he could not take any more pressure. He wrote, "I have failed to create the right profitable business model despite my best efforts. I fought for a long time but today I gave up as I could not take any

more pressure from one of the private equity partners forcing me to buy back shares. There was a lot of harassment from the previous DG income tax in the form of attaching our shares on two separate occasions to block our Mindtree deal and then taking position of our Coffee Day shares, although the revised returns have been filed by us. This was very unfair and has led to a serious liquidity crunch."

He took the responsibility for all the financial transactions and mentioned in the letter, "The law should hold me and only me accountable. My intention was never to cheat or mislead anybody, I have failed as an entrepreneur." He enclosed a list of assets and the tentative value of each asset with his letter. According to him, the assets outweigh the company's liabilities and can help to repay all debts. ▮

– Mandeep Kaur

NCLT tribunal seeks clarity on source of Patanjali funds

NCLT approves Patanjali's takeover of Ruchi Soya

The National Company Law Tribunal (NCLT) has approved Haridwar-based Patanjali Ayurveda's Rs 4,350 crore resolution plan for debt-ridden Ruchi Soya, an edible oil manufacturer based in Madhya Pradesh.

Established in 1986, Ruchi Soya is one of the largest edible oilseed extraction and refining companies in India. However, in December 2017, Ruchi Soya Industries entered the corporate insolvency resolution process because of its total debt of around Rs 12,000 crore, which included over Rs 9,345 crore to financial creditors and another Rs 2,750 crore to operational creditors. The company has many manufacturing plants with leading brands in cooking oil and soya foods categories – Nutrela, Mahakosh, Sunrich, Ruchi Star and Ruchi Gold.

Shailendra Ajmera was appointed as resolution professional (RP) to manage the affairs of Ruch Soya and undertake the insolvency proceedings. Adani Wilmar, a branded edible oil player, was the preferred bidder for Ruchi Soya with a higher bid of Rs 5,500 crore, followed by Patanjali

Ayurveda with a bid of Rs 4,160. In December 2018, Adani Wilmar wrote a letter to the resolution professional and lenders to Ruchi Soya withdrawing its offer and stating that a delay in closing the insolvency process was causing deterioration of the asset. The letter also mentioned that the delay was detrimental to the interest of stakeholders.

The Committee of Creditors (CoC) had approved Adani Wilmar's resolution plan in August 2018, but Patanjali challenged the bidding process with an argument stating that the process violates Section 29 (A) of the Insolvency and Bankruptcy Code (IBC)–; it deals with related-party provisioning and aims to prevent defaulting promoters from taking back their companies.

Following this, Patanjali Ayurveda – the only other bidder – expressed its interest in matching Adani Wilmar's bid. After Adani Wilmar's exit, Patanjali increased its bid from Rs 4,160 crore to Rs 4,350 crore.

According to reports in the financial press, Patanjali proposed a resolution plan, which mentions that out of Rs 4,350 crore, a sum of Rs 4,235 crore will be paid to different classes of creditors while the remaining Rs 115 crore will be used for improving the operations of Ruchi Soya. In April, the resolution plan was already approved by the CoC with 96% of votes.

NCLT said in its order dated 24 July 2019 that the bankruptcy tribunal has approved Patanjali's resolution plan, but it is subject to certain conditions and modifications. Its tribunal is seeking clarity on the source of about Rs 600 crore (which was part of the bid amount) before the next hearing on 1 August 2019. Whereas the counsel for Patanjali reiterated that Rs 600 crore of the Rs 4,350 crore fund would be met through internal accruals, no detailed break-up was provided.

Ruchi Soya's wide brand portfolio and exports are expected to fit well into Patanjali's growth vision as the company plans for expansion in West Asia and the US in the near future. ▮

– Mandeep Kaur

Bengaluru spends more on eating out

Indian food service industry worth Rs 4.23 lakh crores

The Indian food service industry is evolving rapidly with a tech-savvy consumer base with double incomes and less time to cook at home. The National Restaurants Association of India has released India Food Service Reports (NRAI IFSR) 2019 for Mumbai, Delhi, Bengaluru and Kolkata chapter, which reflect an eating out frequency of 6.6 per month. The implication is that the Indian market provides food service players with an exciting opportunity to expand with this large consumer base.

The 4th edition of the National Restaurants Association of India's research study includes mapping of trends, opportunities and challenges of the restaurant sector in India. To conduct this study, comprehensive data was collected by detailed interactions with food service sector players, including more than 130 restaurant chief executive officers and 3500 consumers across 24 cities in India.a

Growing food industry

As per NRAI IFSR 2019 reports, the Indian food service industry has grown at a CAGR of 11% from 2016, with the current market size being Rs 4.23 lakh crore in 2018-19. The report estimates the industry's growth at a CAGR of 9% to reach Rs 5.9 lakh crore by 2022-23.

India's food sector is growing rapidly as Indians seldom look for an occasion to dine out and are always on the lookout for different cuisines. New eateries are opening every other day such as Quick Service Restaurants (QSRs) and affordable casual dining restaurants (ACDRs). These are the fastest growing sectors and the new concepts like cloud kitchens are also getting popularity. The report quotes that in FY2018-19, the market size of QSRs, ACDRs and cloud kitchens stood at Rs 32,880 crore, Rs 60,255 crore and Rs 928 crore, respectively.

Unorganized food service sector

The Indian food service sector is mainly unorganized and the organized segment accounts for only 35% of the total market. The unorganized food sector in India is estimated to be Rs 2,75,512 crore, while the organized sector is at Rs 1,48,353 crore. The organized sector is expected to grow at a CAGR of 15% to reach Rs 2,57,907 crore over the next three years if the unorganized sector becomes organized. The survey conducted in different cities reports the market size of organized food service in Mumbai at Rs 40,880 crore, Delhi at Rs 31,132 crore and Bengaluru at Rs 20,014 crore.

Bengaluru spends more than Mumbai, Delhi and Kolkata

According to the NRAI report, the average spending per household per month on eating out in Bengaluru is Rs 3,586, in Mumbai Rs 2,890, in Delhi Rs 1,381 and in Kolkata Rs 1,372. The estimates suggest that on an average, Indian families spend Rs 2,500 per month on eating out. It is also stated

that Mumbaikars dine out or order less than Delhiites do, but they spend more when they do. Bengaluru's food service industry's growth is largely attributed to the city's cosmopolitan culture and IT sector.

According to the report, in 2018-19, the Indian restaurant industry employed 7.3 million people. Mumbai's food service industry (which employs 4,28,358 people), that had long been trailing to Delhi's (which employs 3,01,715 people), is the biggest (42% higher than Delhi) in the country. Bengaluru generates direct employment of 1,17,660 people whereas Kolkata employs 66,234 people.

Single-window system for food safety licensing

The report also reveals that the food service industry has hurdles and challenges such as high real estate and manpower costs, inadequate supply chain infrastructure, financing issues and importantly – policy formulation. The report is meant to aid entrepreneurs and investors to make informed decisions and unite the industry under one roof. In the report, NRAI urges government agencies to provide a single-window system for all food and beverage service outlets as it feels that there are multiple departments responsible for licensing and renewals.

– Mandeep Kaur

Acquisition strengthens customer base and offerings in Bengaluru

Milkbasket acquires PSR Supply Chain

Milkbasket, a daily grocery delivery firm, has acquired Bengaluru-based eGrocery distributor PSR Supply Chain to strengthen its customer base for an undisclosed deal amount.

PSR Supply Chain was set up in 2015 by Nagarjuna Reddy Chagamreddy and Sai Abhishek Velukuru. The company ceased its operations in June 2019. In these four years, the company has established a network of over 4,000 registered customers. The last reported annual turnover was over Rs 2.5 crore.

Milkbasket told ET that it has integrated the start-up's customers and offering into its portfolio. Anant Goel, co-founder and chief executive officer, Milkbasket said, "The acquisition of PSR Supply Chain helps us in further strengthening our customer base and offerings in Bengaluru. While we are growing phenomenally on our own, we are always on the lookout for strategic acquisitions to help us shorten our learnings in specific regions or technologies."

Milkbasket Founders (L-R) Anant Goel, Ashish Goel, Anurag Jain, Yatish-Talvadia

Earlier this year in March, Milkbasket had acquired Noida-based Veggie India to strengthen its foothold in Delhi/NCR region. Milkbasket had launched its operations in early 2015 to become a daily micro-delivery service. The company has built a new-age technology platform to enable a smooth grocery buying online experience for its customers, with unique features like one-click buying, no checkout and contactless delivery. The packages are delivered to homes the following morning.

The company has successfully raised close to the US$ 26 million (approximately Rs 180 crore) in equity funding till date and counts Mayfield India, Beenext, Kalaari Capital, Lenovo Capital and Blume Ventures among its investors.

EVENT CALENDAR

August 2019

23-25 August 2019

Foodpro
Chennai
Confederation of Indian Industry
Chennai, India

27-29 August, 2019

Ice Cream Convention & Expo
NSIC Exhibition Complex, New Delhi, India
Website: http://icecreamconvention.in-/EVENT MANAGERS India

28-31 August, 2019

Pack Plus
Pragati Maidan Delhi
Website: https://www.packplus.in/

29-31 August, 2019

Annapoorna Anufood India
Bombay Exhibition Centre (BEC), Mumbai, India
Webiste: https://www.anufoodin-dia.com/contact.php

29-31 August, 2019

Chocotea Expo
Bombay Exhibition Center Goregaon (East), Mumbai
Website: http://tradeshows.tradein-dia.com/chocoteaexpo/

Aug 30 - Sep 1, 2019

MeatTech Asia
BIEC - Bangalore International Exhibition Centre, Bengaluru, India
Website: Media Today Pvt. Ltd. India
Tel.: +91-11-29535593 / 2953 5848

Aug 30 - Sep 1, 2019

India Foodex
BIEC - Bangalore International Exhibition Centre, Bengaluru, India
Website: Media Today Pvt. Ltd. India
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Dairy Tech
BIEC - Bangalore International Exhibition Centre, Bengaluru, India
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Aug 30 - Sep 1, 2019

Asia Food Tech
Eco Park, Kolkata, India
Website: https://asiafoodtech.org/-contact/Vintage Media

September 2019

5-7 September, 2019

Agritex Hyderabad
Hitex Exhibition Center, Hyder-abad, India
Kenes Exhibitions India
Website: http://agritex.co.in/

13-15 September, 2019

International FoodTec India
Pragati Maidan Delhi
Contact: Koelnmesse Ya Tradefair Pvt. Ltd. India

15-17 September, 2019

Global Organic Conven-tion
Le Meridien, Nagpur, India
Contact: Dr. Panjabrao Deshmukh Krishi Vidyapeeth India

19-21 September, 2019

Pharma Pro & Pack Expo 2019
Hyderabad
Webiste: http://www.phar-mapropack.com/contact.aspx
Messe Muenchen India Pvt. Ltd. India

19-21 September, 2019

SIAL INDIA
Pragati Maidan Delhi
Website: https://www.sialin-dia.com/contact-us/
Contact: Inter Ads Exhibitions Private Limited India

26-28 September, 2019

Foodtek
Bombay Exhibition Centre (BEC), Mumbai, India
Conatct: Koelnmesse Ya Tradefair Pvt. Ltd. India

October 2019

11-13 October, 2019

Dairy Industry Expo
Auto Cluster Exhibition Center, Pune, India
Contact: BENISON Media
Tel.: +91-184-404-7817

11-13 October, 2019

India Food Tech Expo
Chennai Trade Centre, Chennai, India
Contact: http://www.prompttrade-fairs.com/contact-information/
Prompt Tradefairs(India) Pvt Ltd India

19-21 October, 2019

Food Fest
Lucknow, India
Contact: Key2Green Private Limited India

19-21 October, 2019

Dairy Fest
Lucknow, India
Conatct: Key2Green Private Limited India

21-23 October, 2019

Food ingredients & Health ingredients India (FIHI)
Bombay Exhibition Centre (BEC), Mumbai, India
Conatct: UBM India Pvt. Ltd. India

29-31 October, 2019

Gulfood Manufacturing
Dubai
Conatct: Dubai World Trade Centre UAE

November 2019

13th November, 2019

Next Gen Consumer Fulfilment Summit
The Lalit,New Delhi,India
Email: upendra@questconfer-ences.com

Share prices in Rupees

Company names	Aug-19
ADF Foods	253.85
Advanced Enzymes	151
Aimco Pesticides Ltd	92
Ajanta Soya	21.5
Apex Frozen	225.3
Balmer Lawrie & Company	176.00 I
Bayer CropScience Ltd	3212
BCL Limited	70.75
Beeyu Overseas	0.33
Bharat Rasayan Ltd	4107.45
Big Bazaar	433.2
Bosch	13789.65
Britannia	2503.75
Bunge India Pvt Ltd	53.36
Chaman Lal Seti	46.4
Chambal Fertilisers & Chemicals Ltd (KK Birla)	150.15
Chordia Food	135.9
Coffee Day	69.4
Coromandel International Ltd	357.8
Cosmo Films	198.55
Dabur India	433.65
Deepak Fertilisers & Petrochemicals Corporation Ltd	88.9
DFM Foods	265.9
Dhanuka Agritech Ltd	331
Empee Distilleries Ltd (Empee)	6.7
Ess Dee India	5.35
Ester industries limited	26.95
Flex Foods	53.5
Flexituff international	15.45
Foods and Inns	44.1
Freshtrop Fruit	98
Future Consumer	30.65
GlaxoSmith Con	7781
Globus Spirits Ltd	103
GM Breweries Ltd	389.7
Goodricke Group Ltd	163.5
GRM Overseas	179
Gujarat Narmada Valley Fertilizers & Chemicals Ltd	206.85
Hatsun Agro	617.55
Heritage Foods	352.1
Himalaya Food	6.39
Hindustan Foods	375.05
Huhtamaki ppl	224.5
HUL	1826
IFB Agro Industries Ltd	350
Insecticides India Ltd	638.3
ITC	252
IVP	67.5
Jagatjit Industries Ltd	26.65
Jatalia Global	2.97
Jindal Poly Films	244
JK Paper	108.85
Jubilant Foods	1113
Jubilant Life Sciences	492.05
Kaveri Seed Company Ltd	448.85
KLRF	30.1
Kohinoor Foods	15.35
Kothari Ferment	60.05
KRBL	222.05
Kwality	2.7
Lotus Chocolate	14.25
LT Foods	22.7
Mahaan Foods	16.1
Mangalore Chemicals & Fertilizers Ltd(Adventz)	31.4
Manorama Indust	196
Manpasand Beverages	22.05
Marico	392.35
Max India	59.25
Mcleod Russel India Ltd	12.6
Meghmani Organics Ltd	47.9
Milkfood	300
Modern Dairies	2.77
MSR India	7.7
NACL Industries Ltd (Nagarjuna)	26.8
Nagarjuna Fertilizers and Chemicals Ltd(Nagarjuna)	4.28
National Fertilizers Ltd	26.65
Nestle	11972.25
Oceanaa Biotek	5.41
Parag Milk Food	178
PI Industries Ltd	1124
Prabhat Dairy	65.9
Prataap Snacks	794.85
Radico Khaitan Ltd	313
Rallis India Ltd (TATA)	159
Rashtriya Chemicals & Fertilizers Ltd	45.25
Ravalgaon Sugar	1916
Sampre Nutritio	19.5
Sheetal Cool Pr	104.5
Tarai Foods	3.6
Tasty Bite	8655.05
Tasty Dairy Spe	13
Tata Coffee Ltd	72.55
TCPL Packaging	295
Tilaknagar Industries Ltd	13.15
Time Technoplast	67.65
UFLEX	222.5
Uflex	222.45
Umang Dairies	46.9
United Breweries Ltd (UB)	1355.05
United Spirits Ltd (A Diageo Company)	591.95
Vadilal Enter	537
Vadilal Ind	537
Varun Beverages	618
Vikas Proppant	4.72
Virat Crane	19.5
Zuari Agro Chemicals Ltd (Adventz)	109.45
Zydus Wellness	1532.1

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