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BBI, Inc is raising quality norms in F&B companies



Packaging for confectionery



Ganeden on Asia's probiotics market



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Natural and cost-efficient solutions

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New Editorial Board member



RINGIER Trade Media Ltd is celebrating 20 years of successful business in Asia this year, and looks forward to a more promising future. I'd like to personally thank you and our partners who have been with us over the years.

We are also pleased to introduce a new member of the Editorial Advisory Board, Dr Lee Kim Lian who is a Fellow and Honourary Advisor of the Singapore Institute of Food Science & Technology (SIFST) and a consultant in Food Science & Technology. She used to be Deputy Director of the School of Chemical & Life Sciences, Singapore Polytechnic. We look forward to Dr Lee's contribution to our publications.

Food ingredients in 2018

In the February issue of *FoodPacific Manufacturing Journal*, we bring you exclusive interviews with food ingredients manufacturers in our attempt to gather their outlook for the year and the R&D route they are taking to be able to provide you with ingredients for texture, colour, taste, shelf life, and health benefits. Year after year, more natural ingredients for everyday products like breads, chocolate, sauces, yogurts, and preserved meat, are meeting new requirements in terms of overall quality and of course, reduced cost. We talked to companies that invest heavily in R&D like Arjuna, Chr. Hansen, Epi Ingredients, Ingredion, and Tate & Lyle, all of whom expressed optimism in the diverse South East Asian market where products now call for better sugar substitutes, fibre enrichment, natural preservatives, and low-fat alternatives. Probiotics have become one of the sought-after health add-ons in food and beverage as well. So, we reached out to Ganeden which is currently marketing their probiotic products in SE Asia.

Marijo S. Gonzalez
Marijo Gonzalez



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ON THE COVER

Outlook 2018: Food Ingredients

Picking up from last year's food and beverage trends, 2018 will see product developments further driven by consumers' growing appetite for products made with healthier and natural ingredients, as well as their concern for environment and sustainability. In this section, we feature some of the leading ingredient companies with goal to expand their markets further not only in Asia, but globally.

Photo © Oksanabratanova | Dreamstime.com

PACKAGING

Packaging line for confectionery p26

The latest flowpack machine from Hugo Beck is designed to meet the display requirements of chocolate and confectionery brands. The company's flowpack X-D packaging line can be personalised to each customer's needs to produce special, attractive airtight display packs.



BOARDROOM CONNECTION

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In the name of quality



As CEO of consulting firm BusinessBests Innovacon Inc (BBI), Dr Elaine Borazon is familiar with the issues and hurdles to growth amongst many food and beverage companies in the Philippines. Many of these issues stem from inadequate knowledge of – or even deliberate disregard – for acceptable quality, industry standards and practices.

PROCESSING

High value jellies and gummies p30

3D or full-form jellies and gummies are shapes that can be made through starchless depositing into solid moulds. A system such as the ServoForm 3-D depositor can make these lifelike shaped gummies in many forms and colour combinations



INGREDIENTS

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New selection of flavours and extracts



Botanicals are making a comeback according to Sensient. The company now offers ranges of flavours and extracts for contemporary product concepts. These include florals, herbs, spices, tea and ginger for food and beverage.

HEALTH & NUTRITION

Asia a huge market for probiotics p22

We interview Ganeden's Business and Regulatory Director for Asia and Europe, Steve Quinn, on probiotics and Ganeden's positioning in Southeast Asia.

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LTPM in defense of polystyrene packaging

HHEAD of The Laboratory of Technology of Polymer and Membrane in Indonesia, Ir. Akhmad Zainal Abidin, M.Sc., Ph.D., said that a holistic perspective will show that polystyrene-based packaging is more sustainable than alternatives like paper and corn-based materials.

“The first important thing to know is that the polystyrene foam is an organic substance. The elements forming polystyrene foam are carbon, oxygen, and hydrogen whereas plastic only composes 5–10% within a polystyrene packaging. The rest is air.”

Products made of polystyrene foam consume less energy than alternative products. PS foam is 50% less energy than paper-based plastic laminated packaging and 30% less energy if compared to food packaging made from PLA (a raw corn-based material). Products made of polystyrene foam also use less water than the alternatives – four times lesser than food packaging made out of PLA.

“When we talk about environment-friendly, we cannot judge only by how fast a material could easily be biodegraded. As a human, we have to take responsibility to any waste we produce and not just give it to nature,” Mr Zainal said during a roadshow in Indonesia. A wax-coated paper will become a great expense just to recycle. The process of separating plastic and paper requires a huge capital. The waste out of paper is less favourable for pulp and paper industry to turn into another product in terms of economic and advantages. “So, each time a new paper-based package is made, more trees are cut down,” he added.

Food packaging made out of plastic and polystyrene can be directly recycled into various other products. For polystyrene, the product can be broken down and turned into a new product. This is where the sustainability aspect of polystyrene lies. All polystyrene waste can be optimally used to create new products. “However, currently there is no integrated technology and endeavor to recycle the polystyrene waste,” he explained.

Some countries ensure polystyrene recycling facilities are available. Zainal also mentions that the weight of polystyrene foam-based packaging is two to five times lighter than an equivalent paper-based packaging. This means that air-pollution emission in transporting the products could be reduced.

World Without Waste

COCA-COLA will focus on developing 100%- recyclable packaging and reducing the amount of plastic in its bottles by 50% in the next 12 years. Through its “World Without Waste” sustainability goal, the company and its bottling partners around the globe will help collect and recycle the equivalent of every bottle or can it sells globally by 2030. Partnering with NGOs, other companies, and local communities, Coca-Cola will also help increase recycling awareness amongst consumers including how and where to recycle.

Arla and Indofood create JV

ARLA Food is expanding its presence in Southeast Asia. In line with its strategy, Good Growth 2020, the dairy company is setting up a joint venture with PT Indofood CBP Sukses Makmur Tbk (ICBP), one of the leading fast-moving consumer goods companies and dairy players in Indonesia. The new JV named Arla Indofood Sukses Makmur will handle sales, distribution and production of dairy products.

Olam and Mitr Phol to open sugar mill

GLOBAL agribusiness firm Olam International Limited, and Mitr Phol Sugar Corporation, the world’s fourth largest and Asia’s largest sugar producer are in talks to explore a new greenfield sugarcane milling facility in Indonesia.

This exploration of a new sugar mill forms part of a broader strategic partnership between Mitr Phol and Olam to boost sugar production in Indonesia. The tie-up sees Mitr Phol investing in a 50.0% stake in Olam’s wholly-owned subsidiary Far East Agri, which operates PT Dharmapala Usaha Sukses – a sugar refinery in Cilacap, Central Java.

The new mill will improve operating efficiencies between companies whilst enhancing livelihoods by ensuring farmers have sustainable incomes. Sourcing activities will be matched with initiatives to help growers improve yields via upskilling support and the introduction of cutting-edge initiatives such as ModernFarm and DTF Cocoa. In addition to the joint venture, Mitr Phol will join Olam’s programme of extending Good Agricultural Practices to farmers across Indonesia.

ProPak Vietnam welcomes tech suppliers in March

PROPAK VIETNAM is the largest and most international trade event for the rapidly expanding processing and packaging industries in Vietnam and Indochina. It will be held at the Saigon Exhibition & Convention Centre (SECC) in Ho Chi Minh City from 20-22 March 2018. The annual event is dedicated to technology suppliers involved in the food, drink and pharmaceutical processing and packaging, plus the printing and labeling industries, bringing together thousands of industry leaders and professionals from all segments of the supply chain under one roof.

Besides sourcing the best-of-breed products, services and technological solutions, visitors to ProPak Vietnam will also have the opportunity to network with over 380 high-profile exhibitors from around the world, discuss potential business partnerships, as well as exchange knowledge and perspectives with a plethora of thought leaders and industry experts. *(More trade show previews on page 38)*

Barry Callebaut marks 10th year in China

THE Barry Callebaut Group celebrates the 10th anniversary of its first chocolate factory in China, where the company has seen double-digit growth in the past three years.

The celebration will be marked by an annual Gourmet Pastry Chefs event in June 2018 in Shanghai.

In 2008, the Barry Callebaut spent USD20 million to set up a state-of-the-art chocolate factory in Suzhou which is now churning out chocolate and cacao products for local and global food manufacturers, as well as importing premium European chocolate for artisanal and professional users of chocolate. The company is also the outsourcing partner for Chinese food manufacturers seeking high-quality chocolates.

Barry Callebaut's Asia Pacific President Ben De Schryver said: "Over the last 10 years, we have played a leading role in helping develop the chocolate market in China. Although chocolate consumption in China is still only about 100 grams per capita, consumers are becoming more and more sophisticated and educated on all things chocolate. This trend fuels our excitement about the future of chocolate in China which we believe has the potential to become one of the biggest chocolate markets in the world."

HKSAR to fund Blockchain project

UBI Blockchain Internet Ltd.' said that the Hong Kong Special Administration Region has approved and participated in financing the blockchain technology project being jointly developed by UBI and The Hong Kong Polytechnic University. The agreement between UBI and HKSAR for financing the project is fully effective, with total financing about HK\$6,000,000 (approximately US\$ 700,000).

The parties entered into a strategic Memorandum of Understanding in May 2017 and filed their technology research and development project with HKSPA, applying for government funding. HKSPA approved the project on 15 November 2017. The estimated completion date of the project is the second quarter of 2019.

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Arawana targets Japan's rice bran oil market

CHINA's leading edible oil brand, Arawana will market its product in Japan where 80,000 tons of quality rice bran oil are consumed annually. With 300 R&D staff, Arawana focused on rice bran oil in 2006, creating "enzymatic degumming", a patented technology of low temperature extraction, to naturally reserve oryzanol and phytosterol, two core nutrients of rice bran oil. The average content of oryzanol and phytosterol are both 10,000 mg/kg.

The technology and quality of Arawana Rice Bran Oil have been upgraded to world standards to ensure the nutritional essence, colour and flavour of rice. Its technological innovation has won it the "Quality Award" at the International Conference on Rice Bran Oil (ICRBO 2016), which triggered wide attention.

Fosun buys shares in Tsingtao Brewery

MULTINATIONAL company, Fosun International Limited and its subsidiaries signed an agreement with Asahi Group Holdings, Ltd. to acquire 243,108,236 H-shares in Tsingtao Brewery Company Limited for HKD 27.22 (USD 3.48) per share.

The total consideration of HKD6.6bn will upon completion see Fosun owning 17.99% in the total issued shares in Tsingtao.

Tsingtao was founded in 1903 by German and British merchants under the name Nordic Brewery Co., Ltd. Tsingtao Branch. It continues to be a leading brewery in China, now the world's largest beer market with sales into more than 100 different countries and regions. It has over 60 breweries across 20 provinces, municipalities and autonomous regions in China, and produces 8 billion liters annually.

Packaging as solution to food waste crisis

IN AMERIPEN's new report "Quantifying the Value of Packaging as a Strategy to Prevent Food Waste in America," it presents the potential ways packaging can reduce food waste in America.

Using global data, the association uncovered a correlation between the foods with the highest percentage of wastage and those with the least amount of packaging. National-level data reinforced the link between packaging and food waste by demonstrating that the regions with the highest rates of food waste also have the least amount of packaged foods.

The study suggests that simple optimisation strategies to reduce damage and address consumer shifts in purchasing may be equally effective and more cost efficient in the fight against waste.

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NURTURING a culture of quality within a company is essential for its continued growth and competitiveness. It is key to better work performance, smooth production operations, consistent product quality, and customer satisfaction. Without it, issues and errors are more likely to occur.

As CEO of consulting firm BusinessBests Innovacon Inc (BBI), Dr Borazon is familiar with the issues and hurdles to growth among many food and beverage companies in the Philippines. Many of these issues stem from inadequate knowledge of – or even deliberate disregard – for quality, industry standards and practices. We asked Dr Borazon how BBI comes to the rescue.

Please tell us about the company – when was it incorporated, and what made you decide to put up the business?

BusinessBests Innovacon Inc. was established in December 2016 out of the desire to assist small and medium businesses transform their workplace from a so-called “backyard” operations to a systematic, regulatory conforming organization.

BusinessBests is a consultancy firm that offers customised trainings in connection with food safety and quality, sensory evaluation, product development plant layouting and equipment selection. The company also provides on-site consulting services in quality management (food safety management system-ISO 22000, ISO 9001, HACCP, GMP), food defense, operations (commissary set-up, product development, packaging and labeling), finance, and marketing. The firm applies a holistic approach in assessing the needs of the clients to be able to dig into the important and necessary areas that have to be improved or fixed.

BBI’s consultation covers the scope – quality management, operations, marketing/branding – which require different expertise. How many specialists do you have onboard?

We have five specialists. Three of them are food technologists who have extensive industry experience in product research and development, quality assurance, food safety management system, and food production operations. One specialist is a Marketing major

In the name of quality

Q&A with Dr Elaine Borazon, CEO of BusinessBests, a consulting firm for food and beverage companies

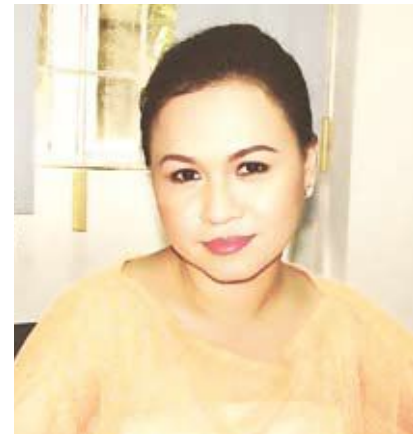
while the other one is a Finance major. Both of them have more than five years of industry experience in their respective areas of specialisation.

On BBI’s trainings – can you elaborate on the courses available under:

- A. Food Safety Programs (GMP, HACCP, ISO 22000)
- B. Food Defense
- C. Sensory Training (Basic and Advance)
- D. Product Development (Packaging, Labeling, Product specification)
- E. Plant Layouting
- F. Equipment Selection

Since BBI’s mission is to help SME’s become ambassadors to food safety, the firm offers various trainings that are focused mostly in the safe and hygienic manufacturing of food such as:

- A. Food Safety programme (GMP, HACCP, and ISO 2000)
 1. Good manufacturing practices (GMP) aims to guide food handlers about quality, hygiene and the correct sanitation of the processing plant. GMP also trains quality control employees on the proper monitoring of the process to ensure that the food product is safe for consumption. This programme covers various areas of production, such as raw material receipt and storage, structural requirements, equipment, premises, personnel hygiene, pest control, chemical control, and traceability.
 2. Hazard analysis critical control point (HACCP) teaches the quality control officers, food developers and food handlers on the various biological, chemical, and physical hazards that may be present during food processing and distribution. This training helps them to categorise each hazard whether dangerous or manageable and helps them to identify the appropriate control measures to be applied in each hazard.



“The players along the [supply] chain should help each other in terms of training, technical assistance and implementation of best practices”

–Dr Elaine Borazon
CEO, BusinessBests Innovacon Inc

3. ISO 22000 (Food Safety Management) trains the whole organisation from the management down to the food handlers as this involves proper and complete documentation and implementation of all the company’s food safety pre-requisite programme.
- B. Food Defense – a training that teaches the companies strategies on how to protect their product and the whole manufacturing plant from recognized risks or intentional contamination.
- C. Sensory Training helps food

developers and quality controllers understand the science behind food aroma, taste and texture and its application to product development, quality assessment, and consumer research. This trains them to properly evaluate food samples through the five senses and quantify the food sample's sensory characteristics. This also teaches the participants the proper set-up of a sensory laboratory.

D. Product Development – BBI provides training and assistance from product conceptualisation to commercial production of the new product. It provides research on the appropriate packaging material and ingredients to be used, and the proper labelling requirements. The company also does market research for the product to be developed.

E. Plant lay-outing and equipment selection – Another good service offered by BBI is assistance on commissary set-up where the team create the most efficient lay-out depending on the process that the client implements. BBI also gives guidance on its clients on the criteria to look at when purchasing equipment.

Have you conducted an entire package training (trainings for food safety down to equipment selection) for a company? How long does it usually take?

Yes, we have. Usually, from assessment to implementation, it takes about six months. Then we highly recommend follow through trainings that run for three months, and these include hands-on training, exam preparation and documentation.

What training courses should start-up companies invest in?

Start-up companies should first spend ample time in determining the strengths and weaknesses of their team. It is important for them to understand what skills and knowledge are lacking from their employees since these aspects differ depending on what industry the company is in, for what job and for what department. But for example, you are in the food industry, it is highly recommended that you equip yourself with the basic knowledge and requirements with regard to Good Manufacturing Practices and basic food safety.

How often should companies conduct/participate in training?

There is no standard when it comes to

that. There are many factors to consider like if there is a need for the employees to train or if there are enough resources for it. Sometimes, there are also regulatory requirements that formalise the need for training. However, in terms of Good Manufacturing practices, it is suggested that production employees undergo the said training before joining the production team and at least a once a year training/ refresher course. Trainings should also be progressive as we recommend continuous development of the company.

Having seen how F&B companies operate, can you share with us the challenges that they usually go through when putting up and/or maintaining their business?

One of the challenges that food and beverage companies, particularly the small and medium enterprises, go through is understanding and complying with regulatory requirements and consistent implementation of Good Manufacturing Practices. Meeting documentation requirements would need a technical person with experience in the food industry. Consistent implementation of Good Manufacturing Practices by the company's employees would need an understanding of the principles of food safety, continuous trainings, and employee commitment.

Another challenge is increasing competition among industry players. You will notice that many new and cheap products emerge in the market. Thus, there is a need for companies to continuously innovate, reduce production costs, and improve efficiency. The product's price and quality should also be competitive.

Having said that, how would you assess the food safety and quality in the local industry?

In the local industry, there are many areas for improvement when it comes to food safety and quality. As I've mentioned earlier, industry players, and all their employees, from top to bottom, must have a thorough understanding of all food safety principles, the Good Manufacturing guidelines, and quality standards. Standard operating procedures should also be conscientiously followed. Continuous training is also necessary in the goal to build a culture of quality.

What are your impressions of the local food and beverage industry?

According to the Philippine Statistics Authority, the growth rate of exports for processed food and beverage is 14.6% from 2016 to 2017. The local food and beverage industry has already made it to the international market. But it has much to improve on in terms of quality and safety to become even more competitive. Industry players have to improve on their product's profile, and this includes aesthetic appearance, taste, and texture. Packaging is also very important. It has to be attractive to their target market and it should be able to protect the life of the product. Companies have to develop their unique selling point and their brand should be clearly established.

From a quality standpoint, why do small companies find it difficult to raise their standards? What is missing?

Microbusinesses and some small companies lack financial resources to comply with the regulatory requirements, train their employees, and improve their product quality. They also need technical people who can make them understand the quality and safety standards and train their production employees on food safety practices. They have to create a culture of quality.

What steps should industry take in order to improve? Of course, it needs the cooperation of government and other players. Could you comment on this?

First, collaboration and integration of their supply chain is very important. The players along the chain should help each other in terms of training, technical assistance and implementation of their best practices. They should also be able to spot the right technical people to be their guide in enhancing their competitiveness in quality, safety, and price.

Second, they have to effectively and efficiently produce goods according to safety and quality standards. These can be achieved by managing and tracking non-conformances, managing risks along the supply chain, training and professionalizing employees, enforcing standardized procedures, monitoring critical processes, and ensuring compliance with government regulations and standards.

It is also necessary for companies invest in innovation to remain competitive. 

FrieslandCampina based its new foaming creamers on focus group results conducted in South East Asia

Foaming creamers for café-style instant coffee

THE TREND is hot for instant coffee mixes, and South East Asia accounts for the biggest share of this market. The region's millennials are driving growth in the coffee bar culture, and expected to contribute to a 37% growth in value of instant coffee mixes by 2021.

Manufacturers of instant coffee targeting the SEA region should note that millennials prefer Italian specialties over plain black coffee. To capture the essence of Italian brews in their instant coffee, manufacturers have to replicate the qualities of café-style foaming beverages. Foaming creamers such as the new range from FrieslandCampina can help add these qualities to instant coffee.

In developing this new creamer portfolio, FrieslandCampina Kievit consulted extensive focus groups in Indonesia and the Philippines to understand the needs of millennial consumers. It found that instant coffee has long been seen as a 'hero' in everyday consumption and continues to be seen as such in these countries. Comparing instant



Vana®-Cappa adds a thick indulgent foam to instant coffee (Photo courtesy FrieslandCampina Kievit)

versus out-of-home coffee experiences, focus group participants concluded that the advantages of instant – practical, convenient, affordable, and standardised taste – outweighed the disadvantages.


When it comes to foam, the focus

groups showed clear variation in target groups. Coffee with foam was preferred by millennials in their twenties and thirties, who like to drink coffee for social purposes whilst meeting up with friends. Coffee without foam was preferred by older males in their forties and fifties who drink coffee for the purposes of getting things done. As this millennial audience grows and ages, FrieslandCampina Kievit developed corresponding foaming creamers tailored to their wants and needs, which basically is instant luxurious coffee that is easy to prepare.

The company's portfolio can answer different needs, starting with two brand new products: Vana®-Cappa X960 offers white and crème colour, intense rich flavour and stable and spoonable foam, whilst Vana®-Cappa X760 provides a milky, creamy flavour and velvety foam.

Vana®-Cappa 22W adds a strong roasted coffee flavour and sweetness, and creates fine foam for consumers looking for sweet indulgence, and Vana®-Cappa 25T offers a milky flavour, creamy colour, and stable foam for consumers wanting firmer textures.

Commenting on the study and the resulting foaming creamer portfolio, Luc Steenwelle, Product Group Manager Beverages SEAP, said: "Whenever we develop new products, we always look at the changing preferences of end-consumers. The focus groups were conducted with the explicit purpose of creating products that consumers want and need. There is a real need among consumers and our clients for innovative and premium foaming concepts to expand the market, inspired by a growing out-of-home channel that is only projected to grow in the future."

With this range, consumers can enjoy a relaxing afternoon with a frothy matcha latte, feel refreshed with an iced cappuccino, and create a classic combination of chocolate and orange, perfect for the winter season. 

- Millennials in South East Asia are the key drivers in the growing coffee bar culture, contributing to a 37% growth in value of instant coffee mixes by 2021 in the region.

- For instant coffee manufacturers targeting the SEAP region, the crux of success depends on replicating a café-style foaming beverage like a cappuccino in a sachet, due to a strong preference among millennials for Italian specialties versus plain black coffee.

- To understand the needs of consumers at the helm of this growth, FrieslandCampina Kievit consulted extensive focus groups, resulting in the creation of their new foaming creamer portfolio, new Vana®-Cappa variations.



Photo courtesy FrieslandCampina Kievit

THE LATEST findings of Sensient Flavors's consumer and market research underpin the company's All Natural Flavor Collections featuring five key botanical areas: Florals, Herbs, Spices, Tea and Ginger. According to the company the collections are made to reflect upcoming market trends.

"As sophisticated consumers demand more natural, healthier options, and the chance to express their individuality, botanicals are making a comeback in the food and beverage world," comments Barbara Lezzer, Director of Marketing Europe – Sweet and Beverage, Sensient Flavors.

Sensient's Floral Collection offers spicy and herbaceous as well as delicate and sweet flavours for a multitude of applications, from cocktails and gin to confectionery and dairy. Jasmine, Chrysanthemum, Desert Wildflowers, Elderflower, Geranium, Rose and Lavender feature in the 10-strong lineup, alongside Orange Blossom, Cherry Blossom and Hibiscus.

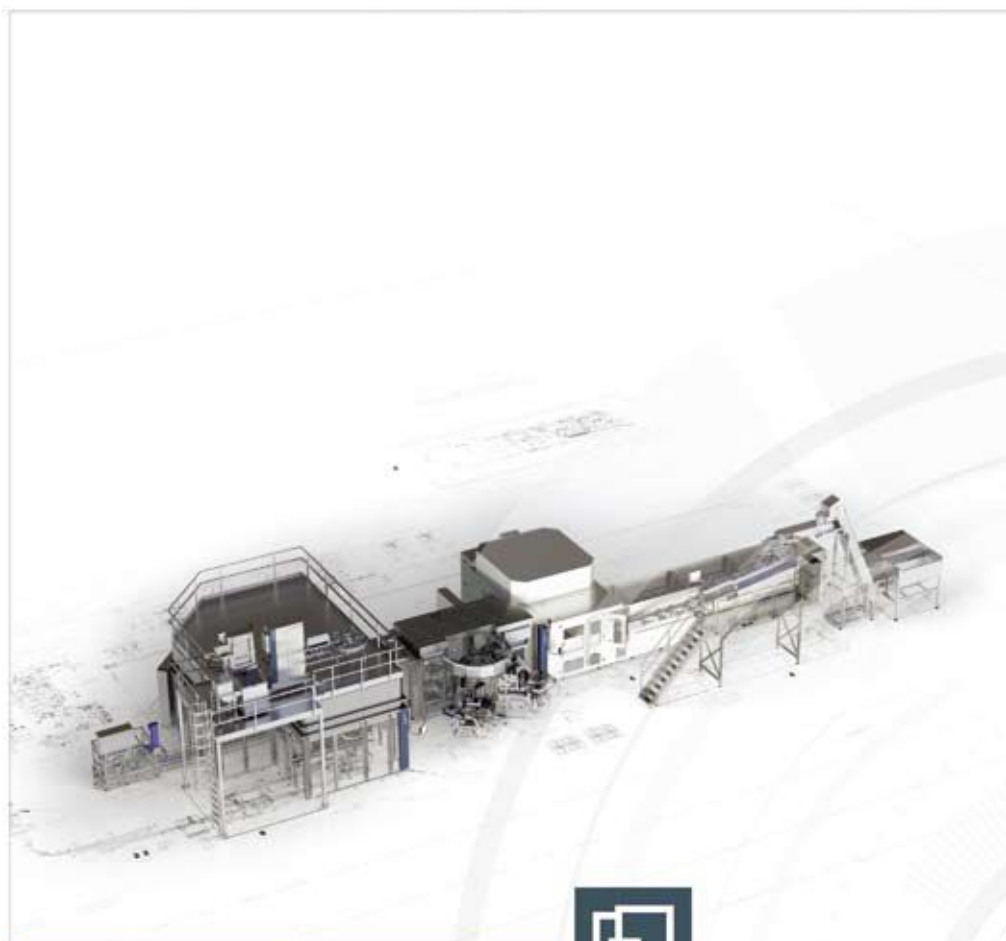
The Spice Collection adds a touch of natural sophistication and complexity. A modern twist places Black Pepper, Pink Peppercorn, Star Anise, Clove Bud and Saffron firmly in the beverage arena, while their inherent heat means that Cinnamon, Capsicum, Cardamom and Licorice are the ideal way to add warmth to bakery and dairy. Completing this collection, Juniper Berry is perfect in meat-based savouries, and it even works brilliantly in beer.

Sensient's carefully curated Herb Collection comprises Garden Mint, Coriander Leaves, Sage, Rosemary, Hops, Oregano, Basil, Thyme, Lemongrass and Aloe Vera.

New offerings have consumers reaching for tea associated with sophistication and flair as well as with naturality and health. The ability of tea to offer rich, intricate profiles makes it the perfect way to add flavour and depth to everything from ice cream to chocolate and alcoholic beverages. Sensient's Tea Collection brings together an extraordinary exploration of 8 different tastes: Green Tea, Matcha Tea, White Tea, Cascara Tea, Rooibos, Chai Tea, Black Tea and Earl Grey.

Ginger is enjoying a resurgence amongst consumers of all ages. However, not all ginger is the same, so Sensient's Ginger Collection comprises six distinctive flavour profiles: Classic Ginger Beer, Ginger Ale, Ginger Root (gari), Spicy Ginger, Nigerian Ginger and Chinese Ginger (galangal). Creativity can run riot with these versatile flavours in all sorts of applications, from beverages and confectionery to bakery and dairy deserts. [/EP](#)

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Welcome to FIC 2018!

Outlook 2018: Food ingredients

IN THIS section, we spoke with some of the leading companies of food and beverage ingredients, to get the feel of the industry in Southeast Asia as 2018 unfolds. Companies want to innovative ingredients and reduce production cost at the same time. But what does the ingredients sector have for them?

In his exclusive piece for this publication, Chr. Hansen executive vice president for APAC and LATAM, Sten Estrup conveniently summarises the major trends influencing product development amongst ingredient providers. He also underscores the value of sustainability in research and development.

India-based Arjuna which participated in Fi Asia 2017 for the first time, is looking to expand its market across SEA especially for antioxidants and natural preservatives. Recently it launched a much-needed preservative that slows the degradation of vegetable oil, and thus allows reusing of vegetable oils to an extent.

Natural and artificial preservatives targeting application sectors such as bakery, beverage, confectionery, processed meat, poultry, and seafood, are forecast to reach USD 3.2 billion by 2025 according to Grand View Research. The research firm also said that anti-microbial preservatives are likely to dominate the market in terms of revenue due to an increased demand for anti-microbial agents in the processed meat and beverage industries.

In the areas of sweeteners, starches and texturants, Tate & Lyle is offering a diverse range of solutions – not just products – stresses Harry Boot, senior vice president and general manager for Tate & Lyle's Speciality Food Ingredients business in Asia Pacific. T&L continually updates its portfolio of offerings in line with shifting consumer trends. Always poised to meet big trends like sugar replacement and calorie reduction, it partnered with Sweet Green Fields in developing stevia-based solutions.

From France, Epi Ingredients entered the Asian market with milk-based ingredients and even fresh dairy products. The company is currently positioning its nutritional products in the beverage and snack segments. With SoFlexi, its latest yogurt-based finished product, the company is telling manufacturers that there are many ways to create new products using this particular ingredient, according to marketing manager Matthieu Lucot.

In our conversations with Ingredion, Rishan Pillay, the company's vice president and general manager, ASEAN and India, and Lilian

Macro trends – health and sustainability – play lead role in product development

Tan, marketing manager, Texture and Delivery Systems, Asia Pacific, also stress the company's focus on sugar reduction with products like Sweetis™, as well as on the company's industry-leading starch-based texturisers. Ms Tan actually sums it up for all these ingredient companies when she said that keeping in mind how to help food manufacturers create healthier products drives their R&D.

At a time when consumers are being “mindful” about their food and beverage choices, as Innova Market Insights puts it, manufacturers can't look away and continue with what used to work. Consumers now want natural, clean, healthy and flavourful products. Even Coca-Cola is reviving Coke with better tasting stevia.

In her top trends for 2018, Innova Market Insights Director for Innovation Lu Ann Williams also mentions “lighter enjoyment” to indicate that consumers now want products that have less alcohol content, less sweetness, even less flavour, texture, and portion size – but indulgent taste should still be there. [FP](#)



Sten Estrup, Executive Vice President, APAC and LATAM, Chr. Hansen



Antony Kunjachan, Executive Director, Arjuna Natural Extracts Ltd



Rishan Pillay, Vice President and General Manager for Ingredion, ASEAN and India



Lilian Tan, Marketing Manager, Ingredion, Texture and Delivery Systems, Asia Pacific



Harry Boot, Senior Vice President and General Manager for the Tate & Lyle's Speciality Food Ingredients business in Asia Pacific



Matthieu Lucot, Marketing Manager, Epi Ingredients

Healthful, nutritious products steer Ingredion's game plan

INGREDION keeps on its path of innovation to create products that are natural and simple. Affirming its commitment to deliver what consumers want, the global leader in ingredient solutions sees healthful products not just as a mere trend but a foundation for the foods and beverages market.

The company addresses evolving consumer needs with a broadening product portfolio of starches, flours, sweeteners and other specialty ingredients that underscores texture and sensory appeal, cost efficiency and performance. Whilst ingredient solutions centre on a healthy lifestyle and clean and simple labelling, they are designed to ensure the eating experience remains enjoyable.

Continuously innovating through 2018

Ingredion will continue building on its many years of groundbreaking hard work, boosting its investments, acquisitions and partnerships in recent months and years with more initiatives geared towards addressing market concerns.

Sugar reduction is one area of focus. Another would be hydrocolloids, demonstrated by the company's recent acquisition of TIC Gums Inc., a leader in advanced texture and stability solutions based on gum and hydrocolloid technologies. Ingredion is looking to leverage on the acquisition to broaden its range of higher-value specialty ingredients with a wide range of texture capabilities for both the food and beverage industries.

"We've also acquired a rice company to grow our rice-based specialty ingredients and service customers around the world," said Rishan Pillay, vice president and general manager for ASEAN and India.

Ingredion is likewise keen to continue improving its texturising solutions, which it considers to be the backbone of how the company differentiates itself from the competition.

Clean labelling gathering steam

DESPITE the modest rate of adoption, Ingredion expects clean label will continue to gain pace in the years ahead.

Rishan Pillay, vice president and general manager for ASEAN and India noted the growing interest in Asia and Southeast Asia, although he admits it could take some time. "Economics plays a big role, but with globalisation and the rising awareness among consumers, the pickup in Asia could also be a lot faster than in Europe."

In addition to investing in and developing products that support this trend, Ingredion believes it is part of the company's responsibility to educate manufacturers and consumers about what clean label is really about. Furthermore, its Idea Labs® innovation centres take advantage of consumer insights, applied research and applications know-how to incorporate science-based problem solving and innovation in product development and propelling the clean label movement further ahead.

Sugar management, clean labelling top the company's priorities for the Asian market

According to Lilian Tan, marketing manager, Texture and Delivery Systems, Asia Pacific, despite the spotlight on healthier choices, consumers still seek for products that meet their taste and texture expectations. As such, texture will continue to play a significant role in influencing consumers purchasing decisions.

"What is really important is to stay connected to our customers and see what other things they are looking for. With the new products that we've launched and the acquisitions that we've made, our range of solutions continues to expand. We work closely with our customers, know what they want, and our wide range of products allows us to deliver customised solutions that best suit their needs." Ms Tan added.

Mr Pillay said the company has been focusing on bringing the technologies it has developed and mastered into the Asia-Pacific region.

"We will continue to leverage our achievements and learnings from our global business as we expand our footprint in Asia. As we progress through this journey, we're starting to find more applications as a result of the segments that we're penetrating," he added.

Asia, an innovative and informed market

Ingredion has been in the Asia-Pacific region for about 40 years now. Its first plant in Thailand is more than 35 years old.

Indonesia and Thailand remain two of the key markets for the company in Southeast Asia. "These two markets are developing very quickly. The companies and customers that we find in these countries are constantly looking for differentiation," said Mr Pillay.

"Ingredion regards Asia as a very innovative market with an informed and sophisticated consumer population that is acutely aware of what ingredients in food should look like. This rising consumer awareness and stricter demands are spurring a lot of innovation among manufacturers," Mr Pillay said.

In the recent Food Ingredients Asia 2017 trade fair held in Bangkok, Thailand, Ingredion showcased sugar reduction products in line with the rising demand from Asia for healthier products that are in line with their lifestyle.

"For our Asian market, we offer products that are very much in trend with what Asian consumers are looking for. With consumers nowadays becoming more informed, we are emphasising on the nutrition line of ingredients. We have, for example, products that will help them get more fibre so that they stay full longer," Ms Tan shared.

The company has a firm emphasis on its texturising solutions, one of its key product categories. "Besides addressing the nutrition part and providing a healthier lifestyle, we want to improve the



“The question we ask ourselves is how can we help manufacturers produce healthier products that consumers will still appreciate. That is where the shift has been for the ingredients, and that is where we hope to continue to operate and play as a company”

—**Lilian Tan**
Marketing Manager,
Ingredion, Texture and
Delivery Systems, Asia
Pacific.

technology and features pH and heat stability, and excellent mouthfeel.

Ingredion acknowledges that one of the problems in reducing sugar, for example, in beverages, is losing the body. This results in the beverage becoming very thin and watery. In other cases, the beverage may have the right sweetness and taste levels but does not feel right in the mouth.

To address this, the company applies texturising solutions to build back the body and mouthfeel, guaranteeing the end product will have the rich and creamy taste consumers will enjoy. Overall, the beverage becomes a more healthful product, yet also tastes well.

Diverse product solutions for different market needs

However, Ingredion's products and solutions are not limited to beverages. The company provides solutions for all kinds of food applications and segments worldwide, including Asia where it hopes to continue growing its market.

In the bakery segment, one product Ingredion offers is designed to improve the moistness of cakes. In the Philippines, for example, where packaged cakes are popular, cake products sitting on the

texture side because texture is an important part of the whole eating experience,” said Ms Tan.

Exploring sugar reduction further

Ingredion has developed solutions that can totally remove sugar from beverage and food applications. After removing the sugar, the company replaces it with its sweeteners. What distinguishes these sweetener products from the others is the customisation that Ingredion does to match the requirements of the customer.

Ms Tan explained, “There has to be some customisation done to ensure that the sweetness profiles remain almost the same as the real sugar but with fewer calories, even half or best, zero calories.”

The company's Sweetis™ line of sweeteners enables manufacturers to create sucrose-like taste profiles with the sugar mouthfeel. Designed to cut the amount of sugar in foods and beverages without compromising on taste and texture, Sweetis™ reduces sugar content in formulations by as much as 50% yet yields good sensory profiles.

The Sweetis™ DS500 has 120 to 130% sucrose sweetness but fewer calories. It tastes like sugar but does not have the usual aftertaste of most other sweeteners. It is developed by using Ingredion's proprietary

technology and features pH and heat stability, and excellent mouthfeel.

shelves may become very dry if they do not contain a lot of chemicals to keep the moisture intact and keep the cake looking fresh.

“Our starch-based texturisers can help cake products retain their freshness even over a long shelf life such that when a consumer opens a pack, the cake will still be moist and fresh. This capability helps manufacturers manage the amount of chemicals they need to add to their products.” Ms Tan said.

For snacks, which the company regards as a growing segment, Ingredion has just recently launched four additions to its PRECISA™ Crisp line of texturisers for the Asia Pacific snack industry. This line of texturisers can create six different kinds of textures using the same recipe and is suitable for baked potato chip and cracker manufacturers.

Ingredion also carries solutions aimed at the dairy market. Its range of products for yogurt manufacturers can cater to thick, thin, low-fat and other yogurt variants.

For cheeses, another focus area in the company's dairy business, Ingredion acknowledges there is growing demand for different types of cheeses, particularly for the variety used in pizzas as well as similar food products heavily used in the food service sector in the Asia Pacific.

“Cheese is on the high side of the price spectrum. At Ingredion we help reduce the cost of the cheese but at the same time maintain the melting experience that consumers want in their pizza, for example. We ensure the cheese will have that stretch that consumers expect,” Ms Tan added.

Striking a balance between functionality and the overall taste experience remains at the core of product development for Ingredion. But beyond modifying an ingredient to enable different functionalities, the company realises it is its responsibility as well to help make processing easier and faster to enable food manufacturers to address consumer requirements in the most cost-efficient way possible. Even with the rise of processed foods, there is an emerging trend for food that gives the consumer that home-cooked meal experience.

“So, it really is about appealing to the consumer in many different aspects, whether it is the texture, the way a product feels in the mouth, the way it looks, the nutritional benefits, and so on. The question we ask ourselves is how can we help manufacturers produce healthier products that consumers will still appreciate. That is where the shift has been for the ingredients, and that is where we hope to continue to operate and play as a company,” Ms Tan said.



“These two markets [Indonesia and Thailand] are developing very quickly. The companies and customers that we find in these countries are constantly looking for differentiation”

—**Rishan Pillay**
Vice President and General
Manager for Ingredion,
ASEAN and India

Sustainability to drive R&D at Chr. Hansen

AT Chr. Hansen, we are constantly looking for ways to help improve health and food through our products and services. As a result, we have launched several new products such as the second generation FreshQ® cultures that extend the life of many more types of fermented milk and fresh cheeses using natural ingredients instead of chemical preservatives. Such products enable us to help our customers in the beverages, confectionery and snacks industry to meet the consumer demands for natural ingredients. The new products also offer more choices and a wider application range with improved formulation techniques. These recent launches mean that 81% of our turnover meets the UN sustainable development goals of sustainable agriculture; reduce food waste and promote good health – and we are very proud of this.

Sustainability efforts will continue to drive our R&D strategy to generate more innovative products that empower us, as well as our customers, to work towards a healthier and safer world for all.

Food safety awareness, rising incomes and changing eating habits

In a survey that was conducted in Indonesia, Vietnam and Thailand in 2016, we learned that consumers are generally concerned about their health. Over 50% of those surveyed said they would choose healthier food to maintain their well-being.

The prevalence of social media in Asia has served to increase awareness of food safety, and the rising income level has also given consumers greater access to healthier food alternatives. We see more customer demanding cleaner labels and healthier food across South East Asia and China.

The Asian food and beverage industry is likely to see the following trends develop further in 2018:

Low sugar. With the world focusing on obesity and diabetes, sugar reduction is in the spotlight. This perception is supported by the increasing link between sugar consumption, obesity and other diet-related diseases. Confronting this issue is especially important, because sugar is plentiful in the food and drinks targeted at children. The economic effects on health costs cannot be ignored, and governments in Asia are considering imposing sugar tax and strict limits on sugar in food and drinks. A number of key beverage companies are opting to replace the sugar with sugar substitutes. We expect to see more companies working to reduce or replace sugar in their products.

At Chr. Hansen, we help our customers to reduce the amount of added sugar used in their dairy products without sacrificing the taste or sweetness naturally through the use of NOLA® Fit and our newest yogurt cultures. This makes it possible to make great tasting yogurt with less added sugar to meet the demands of modern Asian consumers.

Flexible meal times and the rise of snacking. Eating habits have also undergone changes driven by the millennials. As Euromonitor reported last year, traditionally fixed meal times are now replaced by flexible eating and eating on the go. Snacking has also correspondingly increased and the demand for healthier snacks has also grown. Mintel research reveals that six in 10 consumers in China associate a healthy snack with ‘all-natural’, while 42% associate it with ‘fortified with additional nutrients.’

We are likely to see food being repackaged to tap into the snacking trend as well as inclusion of healthier ingredients such as natural color into ready-to-eat food as well as ready-to-drink beverages.

In his article, Sten Estrup, executive vice president, APAC and LATAM at Chr.

Hansen shares the company's views about the Asian market, and how trends in the region's food and beverage industry is shaping product development in 2018



Sten Estrup, Executive vice president, APAC and LATAM, Chr. Hansen

A taste for the unique. Widely travelled and quick to adapt to new experiences, the consumer of today is one that is willing to experiment with new ideas in food and beverages. As Forbes recently reported, consumers capture brand experiences as a form of experiential currency. We will likely see more unique flavors and functional food and beverages cropping up as the millennial consumers seek what is new and different.

The continued growth of the thick and creamy Greek yogurt is an example of the openness of the Asian consumers to try new food categories.

Let there be cheese. Increased familiarisation is expected to drive greater consumption of cheese in Asia according to International Dairy Federation in 2016. Brands in Asia are launching cheeses focused on children and tapping on the snacking trend by giving cheese a makeover as a healthier snack alternative, according to Mintel's 2017 insight study.

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Functional ingredients applications /
Innovation packaging technology in food and beverage industry

Asia Food and Beverage Summit 2018

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JS Luwansa Hotel and Convention Center

➤ Enhance your competitiveness / Spotlight on Indonesia

With a population of nearly 235 million, Indonesia represents 41% of the ASEAN population this statistic alone is attracting huge investments in food and beverage catering to the needs of the predominantly Muslim population. By 2021, Indonesia is forecast to spend USD1.9 billion on halal food, and in general, convenience food and products made with healthier ingredients.

Indonesia, the third investment destination in Asia (after China and India), has garnered a positive rating in 2017, according to assessments by Moody's, Standard and Poor, and Fitch Ratings. From January to June 2017, foreign direct investment for food reached USD1.2 billion. But while moving in the right direction, Indonesia's food and beverage has yet to address lack of resources, increase product innovation, utilize recent processing technologies and automation, improve nutrition, and seriously undertake steps to reduce food and water waste. The Asia Food and Beverage Summit (AFB Summit) hosted by Ringier Trade Media Ltd in Jakarta, aims to seek and present solutions to these challenges, many of which are also felt by manufacturers in other ASEAN countries.

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Sustainability drives...from page 16

There is potential for the cheese market in Asia and in particular, China. China's national consumption per capita currently is only 20 grams, almost negligible, but cheese consumption is expected to increase by 20% annually, according to Research and Markets in 2017. The greatest demand for cheese is in the processing and catering business sectors, as appetites for Western inspired cuisine increases.

We have recently expanded our range of natural cheese cultures so manufacturers can make different tasting cheeses using the same production lines.

Sustainability driving food innovations. Food waste in Asia is becoming an issue that cannot be ignored. According to World Resources Institute, Industrialized Asia contributed 28% to the total food waste, while South East Asia contributed 21%. In China alone, food waste amounts to 40 million tonnes a year and it is estimated that over half of the food waste produced occurs during distribution, handing and storage. Solutions such as our natural FreshQ® cultures extend the shelf life of yogurt and fresh cheeses without adding artificial preservatives, in turn helping to reduce waste due to poor storage and an early expiry date.

In another 2016 study by Electrolux, 80% of households in

Asia Pacific regularly wastes food at home. 25% cited the lack of portion size control as a contributing factor for throwing away left over food. Eating alone has become more commonplace according to a Euromonitor study and with family size shrinking, smaller food portioning is becoming more popular.

Food manufacturers and businesses are beginning to realise that sustainable solutions are not added costs, but are avenues to greater operational efficiency, reduced waste and business opportunities. This is an area where we are likely to see companies becoming more innovative and creative as customers push for sustainable solutions as their environmental awareness grow.

Science, application and insights matter

The food and beverage marketplace in Asia will be interesting and at the same time challenging as companies scramble to meet the rising and sometimes fickle expectations from consumers. Our customers can be confident that at Chr. Hansen, we do not just focus on the science behind our natural solutions. We ensure that we provide to our customers the technical application expertise as well as local insights to support them in meeting the increased demands from consumers for natural, safe, tasty and healthy ingredients. [FP](#)



Beverage consumers prefer natural colours

RISING demand for beverages is driving innovation for natural colours. Chr. Hansen cites recent consumer study from FMCG Gurus that says '65% of consumers admit they check product labeling for artificial colours sometimes or more often'. These trends are also impacting the beverage category, where '30% of consumers said that Natural Colour claims are important when it comes to beverage purchases'.

The company's recently launched yellow and orange colours aim to meet cost and performance requirements in beverage production. These solutions are part of the company's CapColours® and ColourFruit®.

"We are determined to stay in the forefront of innovation in the beverage colour market, providing the newest natural colour possibilities. That is why we are delighted to launch these four new

solutions. They are an example of how we apply our innovative technology to serve the beverage industry", said Jakob Dalmoose Rasmussen, Global Marketing Director for Chr. Hansen Natural Colours, in a news release.

The two new CapColours® orange solutions utilise Chr. Hansen's patented encapsulation technique to improve the functionality of the natural colour in the final application. The CapColours® orange solutions require that the final application contains a small amount of juice to stabilise the colour and secure that full strength of the colour is obtained.

The two robust, transparent yellow Colourfruit® emulsions offer a versatile colour solution in both juice and non-juice based applications. The clear transparent colour offers a strong natural alternative to dyes such as Tartrazine or Sunset Yellow.¹

Unique technology for improved functionality

Stine Kreutzmann, Technical Industry Manager at Chr. Hansen Natural Colours, has worked on the development of these new colour solutions:

"The four new colours are in liquid form and are easy for manufacturers to use. The colours are high strength, versatile and robust, offering multiple shade nuances from deep orange to transparent yellow. All products are stable towards heat treatment and light exposure, and they do not create any neck ring in the final application. As we know cost is always a parameter in beverage production, we have strived to deliver a cost efficient solution without compromising on quality," said Stine. [FP](#)

¹ FMCG Gurus consumer study, 2017

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Arjuna enters food industry with natural food protection, colouring solutions

The company's emphasis on natural food protection solutions supports clean label and chemical-free trends

ARJUNA Natural Extracts Ltd has been making a name in the nutraceutical industries for nearly 30 years now. As India's leading manufacturer and exporter of standardised botanical extracts for these industries, the company's herbal extracts have won awards and international patents, and continue to serve customers in 40 countries around the world. For the past many years, Arjuna has concentrated on the health supplement industry. It has recently opened a natural food protection division as part of efforts to enter the food industry.



“We think there is a huge interest in Asia with people wanting to shift away from chemicals and start anew with a completely natural food regimen”

—Antony Kunjachan
Executive Director
Arjuna Natural Extracts Ltd

According to Arjuna Executive Director Antony Kunjachan, as with all its products and markets, the company did not want to take the generic route as it ventures into the food industry. “We did not want to do generic oleoresins, spice powders or blends. We wanted to continue being innovative and develop products backed by science,” he said.

With the new division for natural food protection, Arjuna hopes to provide a complete solution for replacing chemical preservatives through the combination of anti-oxidants and anti-microbials.

“Our vision is to completely eliminate the need for chemical preservatives in food. We do not do a lot of generic products that everybody else does. What we try to do is to focus on delivering products that are completely natural patented supported with clinical studies and that can be clearly differentiated from the rest of the market,” he shared.

Working with natural food preservatives

The India-based company takes advantage of its many years of experience in and core knowledge of botanicals to transition smoothly to the food industry. But to make its indelible impression in the market, Arjuna acknowledges the value of keeping the entirely natural ingredients when formulation.

“Because natural preservatives are a very strong product, the biggest challenge in working with them is to master the flavour, the odour and other such inherent attributes that consumers would expect to experience with the finished product,” said Mr Kunjachan.

Arjuna has developed a specialised technology comprising different kinds of encapsulation and masking techniques to ensure that the flavour does not leak out. It has a chef and an application lab, with the chef working very closely with

the development team to ensure the taste, flavour and odour are as they should be. The team conducts a lot of trials in-house to arrive at the right solution. To guarantee the product shelf life is stable and complies with the shelf life Arjuna commits to its clients, the company carries out shelf-life studies. It likewise pursues joint trials with customers to ensure product stability.

The company has likewise created its own set of standards to safeguard quality whilst factoring in time to market or quick turnaround times. It can, however, tailor a solution to customer requirements if necessary.

“With natural preservatives, the sale cycle is rather long because there's a lot of testing that is involved before we can make changes to the product. But all is definitely worth it,” Mr Kunjachan said.

In addition to meeting natural food trends, Arjuna's natural preservatives look to address increased consumer demand for clean label and food safety. The company combines anti-bacterial, anti-fungal and anti-oxidant components isolated from different natural sources in creating new natural solutions for food products that boost both quality and shelf life but without compromising safety and sensory characteristics.

Arjuna's natural food protection solutions comprise products for cakes, baked goods such as bread, and fruit juices and beverages. Arjuna also offers natural stabiliser for paprika oleoresin and natural food protection for frying oil, mayonnaise, and processed and raw meat products.

The company's natural food colouring selection includes natural orange, yellow, red and green colours. The first is based on carotenoid or paprika oleoresin and ideal for confectionery, beverages, ice cream and seasonings, whilst the natural yellow uses curcuminoids. The natural red colour is based on beetroot extracts and the natural green colour is from chlorophyll extracts.



Natural botanical extracts are used for Arjuna's clean label preservatives (Photo courtesy: Arjuna)

Boosting company presence

For the past two decades that the company has been developing and manufacturing products, it has worked with various global distributors to market its solutions.

Arjuna feels the time is ripe to establish a direct presence in the market. It has very recently opened a sales office in Dallas, Texas. For its Europe market, Arjuna has set up another sales operation in Belgium, which it finds to be centrally located within Europe.

The company has also set its sights on Asia. It joined Fi Asia 2017 to study the market in line with its foray into the food industry.

"We think there is a huge interest in Asia with people wanting to shift away from chemicals and start anew with a completely natural food regimen. The kinds of enquiries we received during the show indicate a lot potential so we think we are here at the right time," Mr Kunjachan shared.

With all ingredients used for its products being clean label, Arjuna does not expect roadblocks in penetrating Asian countries even with the lack of harmonised standards across nations. The company notes that its ingredients have been approved for use in food in most countries, which eliminates the need for new certification.

"In terms of healthful food and the range of products in this category, Asian countries are just picking up. They're a little behind the American and European markets. But with the food industry itself in the region being very vibrant, we think it's a fantastic market to be in," added Mr Kunjachan.

Omega 3 leader

Arjuna prides itself in being the only manufacturer of Omega 3 fatty acids from marine sources in India. It has

developed the technology for in-house manufacture, which has won a national award from the government of India.

"We have been supplying all major pharma companies within India. And so far nobody else has been able to create the technology to make highly purified Omega 3 in India. So we remain the only supplier," he said.

Arjuna distributes the product to South Africa and the US as well.

The company uses the Indian sardine for its Omega 3 products. The Indian sardine lives in the upper layer of the ocean, which means less chances of contamination from ocean pollutants compared with fish living in deeper water parts. The Indian sardine likewise has a short life span and so has fewer accumulated toxins than fish with longer lives.

Besides being a clean source of the oil, the Indian sardine is very sustainable. India implements a fishing cycle for the fish that prohibits fishing for a period of three months from the breeding season.

To overcome the usual problem of smell and taste experienced with Omega 3, the company has developed a special process involving deodorising the oil to remove the fishy smell.

"One recent project we had with a customer involved creating Omega 3 products for children. To do this, we created an emulsion with our deodorised omega 3 fish oil and some flavours to make it more appealing to children," Mr Kunjachan shared.

Going strong with green

Arjuna's strong thrust of natural ingredients and solutions is complemented only by sustainability efforts. It has, over the years, implemented Go Green initiatives company-wide, believing that being globally competitive means addressing environmental concerns that in

the long term impact business success.

For one, the company uses a solar energy-powered plant for the manufacture of curcumin, making it the first company worldwide to produce turmeric extract using solar energy.


The company has installed enough solar panels to meet the energy needs of turmeric extract production. The solar plant saves the company more than 1,000 litres of diesel every day. Since establishing it two years ago at the Coimbatore manufacturing facility, the company has saved more than 800,000 units of electricity.

"Besides reducing overall costs, this is the company's way of paying back to the environment," according to Kunjachan.

Arjuna has likewise built an effluent treatment plant for managing and treating waste materials. This treatment plan adopts a multistage evaporation process to keep effluent discharge at zero and avoid harming the environment in the vicinity.

As part of its sustainable community development efforts, the company sources 20 percent of its total raw materials from local farmers. It has also been active in promoting sustainable farming and pricing.

Arjuna continues to work with tribal communities in various parts of India as it procures high-quality herbs and botanicals. In turn, the company helps these communities become self-sustaining.

The firm complements all these with sustained R&D efforts backed by partnerships with international universities in the US, Japan and Australia. Arjuna invests back in R&D 10 percent of its annual turnover. It also equips its advanced research facility with cutting-edge equipment for phytochemistry, pharmacokinetics, formulation, development and pre-clinical studies. 

Tate & Lyle finds the balance between nutrition and taste

More product developments in 2018

INGREDIENTS and solutions from Tate & Lyle, combined with the deep technical expertise of its people, will continue to help it address customer needs in key categories such as beverages, dairy, and soups, sauces and dressings.

Tate & Lyle, tailors its solutions to target markets. "We'll keep on developing products to meet the needs of our key categories. But, of course, we can grow specific products and categories depending on which area a customer is in. For example, if there's a bakery sector in China that we can tap into, specifically snacks segments, we can grow in those sectors," said Harry Boot, senior vice president and general manager for the Tate & Lyle's Speciality Food Ingredients business in Asia Pacific.

The company is also exploring potential combinations such as stevia with other types of sweeteners in collaboration with customers and partners. With the stevia market in Asia remaining robust, Tate & Lyle expects bullish about growing its stevia portfolio.

Texturizers will also be a product development focus area. Tate & Lyle has introduced this year a clean label functional starch that is very similar in texture and sensory profile to a chemical modified starch. It is similar in color, with some customers saying it offers better mouthfeel and texture than previous versions.

The clean label space is definitely an area of growth for Tate & Lyle. "We've engaged with customers who are encouraged by the functionality experienced from using clean label functional starch. Tate & Lyle has achieved very positive momentum in this portfolio, which is why we are expanding our capacity in clean label functional starch and other related products," shared Mr Boot.

Tate & Lyle has reviewed the existing portfolio into the batter and bread industry, identifying how its product portfolio can be used in this sector. This enabled introducing some solutions that leverage its full product portfolio range whilst offering healthier options.

The company has also set its sights on introducing improvements in terms of crunchiness, crispiness, microwavability, storage and freeze or stability. In future, clean label products for this category may not be too far off.

Mr Boot said new product solutions can be launched very quickly if these can be developed based on existing products or combinations of products. "We can do it within a month or several months depending on the complexity. If it's developing a new molecule then it will definitely take much longer," he added.



Harry Boot, senior vice president and general manager for the Tate & Lyle's Speciality Food Ingredients business in Asia Pacific

The company continues to develop innovative ingredients to meet market needs.

UK-based global provider of ingredients and solutions to the food and beverage industries, Tate & Lyle is pursuing clean label more aggressively as it places more emphasis on ensuring balance between health and taste.

The company agrees there is a continuing strong trend for natural sweetening solutions that reduce sugar and calories, especially in light of rising obesity rates the world over. With global numbers pointing to about 2.1 billion people being obese, consumers are becoming increasingly aware about the need to replace sugar. More countries are putting measures in place to address rising obesity, diabetes and related illnesses as reflected by legislations taxing sugar.

Harry Boot, senior vice president and general manager for the Tate & Lyle's Speciality Food Ingredients business in Asia Pacific, noted the tremendous industry momentum for sugar replacement and clean label.

"We look at all these big trends and ask: *What can we do?* So this is why we keep on developing new products. We've clearly got a mission," Mr Boot shared.

Functional clean label starches

Tate & Lyle has recently expanded its line of Claria[®] functional clean label starches with the Claria[®] Instant 340 and 360. These two new instant starch products are versatile enough to address the different formulation requirements of varied applications and processes.

The Claria[®] Instant solutions are suitable for use in salad dressings, instant gravies and soups, and pastry fillings and creams. Developed to enable food manufacturers to meet consumer demands for clean labels without compromising taste, texture, colour and performance, these starch products feature process tolerance to suit different temperatures, acidity and shear, harsh processing conditions.

Claria[®] Instant has strong bake stability, similar to chemical modified starch. The product also has immediate viscosity in high-solids systems such as fruit fillings. It can build texture easily even in cold-processes applications, making it ideal for salad dressings.

The Claria[®] Instant products are designed to deliver a clean taste and neutral color. They are non-GMO and display sensory attributes similar to those of traditional modified food starch.



Functional starches under the Claria® brand make it easy for customers to formulate yogurt and other products to meet particular sensory characteristics. They also feature process tolerance to suit different temperatures, acidity and shear, harsh processing conditions (Dreamstime Stock Photos)



With partner Sweet Green Fields, Tate & Lyle is poised to meet demand for stevia products (Dreamstime Stock Photos)

Balance of sweetness and health

People all over the world are trying to consume less sugar and calories, but most still make purchase decisions based on taste. That means there's major value in products that don't feel like a compromise.

Food and beverage (F&B) manufacturers are responding to consumer desires by removing sugars and reducing calories in their products. Selecting an alternative sweetening solution that appeals to consumers is just one piece of the puzzle, however, replacing sugars is rarely a one-to-one exchange, and it can have unintended consequences on the experience (taste, appearance and texture/mouthfeel) of a product.

High-potency sweeteners such as stevia can be used to reduce calories and sugar while delivering great taste. Stevia, a plant-extracted sweetener, contributes zero calories, does not raise blood sugar levels and is 200 to 300 times sweeter than sugar. That means stevia sweeteners can achieve the same sweetness level as sugar by using only a tiny amount, and can prove a great solution for F&B manufacturers looking to offer products with "clean label" claims. The new stevia options help manufacturers meet growing global demand for healthier food and beverages with natural ingredients, fewer calories and less sugar.

In 2017, Tate & Lyle partnered with Sweet Green Fields (SGF), a global leader in natural, healthful sweetener solutions. This exclusive distribution agreement allows Tate & Lyle to provide its customers with access to SGF's exceptional line of stevia-based ingredients and solution. Through this partnership, the two companies can provide the market with a toolbox of synergistic sweeteners to address the growing global demand for healthful ingredients that offer highly nutritive value, but still have exceptional taste.

Studies have shown that different stevia sweeteners have certain concentration thresholds above which they start to taste bitter. In early product iterations, many manufacturers unknowingly exceeded these thresholds, offending the taste buds of a portion of the population that is sensitive to the bitter off-notes of lower-cost stevia products.

The latest stevia innovations deliver a simple sweetness with no bitter aftertaste, even at higher levels of sugar replacement. In the quest for reduced-bitterness formulations, food scientists at Sweet Green Fields and Tate & Lyle focused on taste qualities of various steviol glycosides found in stevia leaf extracts. They

identified that specific compositions of steviol glycosides imparted a better taste and sweetness quality than Reb A and SG95 products.

This finding led to the development of the Optimizer® and Dual® stevia product lines, which deliver clean, smooth sweetness and can be used to achieve higher levels of sugar replacement. These products minimize stevia's bitter aftertaste many consumers report experiencing, making stevia-sweetened products acceptable to a larger number of consumers.

The Optimizer® and Dual product lines eliminates a need for expensive taste modifiers or co-sweeteners, saving up to 20 percent in costs of the sweetener system (at 50 percent sugar replacement) while broadening appeal.

"SGF is a great partner for us. They're very strong in the areas of seed development and leaf development, and are really nicely backward integrated. Their portfolio complements our product range and together we provide manufacturers with a toolbox of synergistic sweeteners to create great tasting clean label products," said Mr Boot.

Strengthening application development, other capabilities

Part of the company's long-term plan to offer innovative ingredients and solutions is to fortify its application development expertise. As such, Tate & Lyle continues to invest in this area, in particular boosting the size of its application lab centre in Singapore.

"Our Singapore lab supports the Asia Pacific region and so we are doubling our capacity there. We will also be doubling the size of our lab in Shanghai. These are all to make sure that we increase the support we can give our customers, so we can keep growing and winning together. A lot of our customers from ASEAN and other parts of the region come to Singapore and then we work together to find solutions for their requirements," said Mr Boot.

"Tate & Lyle will also continue offering solutions to meet diverse market demands." Mr Boot added, "We're not talking about just one or two products. Our texturants product portfolio alone is pretty vast. The same applies to the sweetness portfolio. We remain one of the largest manufacturers with one of the largest portfolio of products. We believe that it's typically solutions that you bring to your customers, not one product. This is why we will continue to develop a lot of solutions."

To meet its goal of total capability solution, Tate & Lyle is also strengthening its technology capability, customer service and other areas of operations and expertise.



Epi Ingredients rides on on-the-go snacks, infant nutrition to boost Asian presence

The dry ingredient expert matches modern lifestyle demands with convenient yet healthful solutions



SoFlexi is a clean-label powdered mix packaged in individual pouches. It can be used to prepare milk shake by simply blending it with ice cubes, or be mixed with water for an instant yogurt drink.

KEEN to pursue its plans of expanding its market in Asia, Epi Ingredients emphasises innovation in developing nutritious and healthful products that complement the modern lifestyle. Known for supplying dry dairy ingredients for use in the global food industry, the company acknowledges the challenges it faces to enable food and beverage manufacturers worldwide to meet consumers' diverse requirements.

Besides its more than two decades of experience in dry ingredients, Epi Ingredients is capitalising on continuous active R&D. It also taps into strong investment support from parent company, France-based cooperative firm Laita.

Epi Ingredients's marketing manager, Mathieu Lucot, points to strong demand for healthful products as one key driver. "There are big trends in the world focusing on gut health, bone health, muscle health and

so on. Whilst there are existing products that cater to these, and in fact we offer milk products, dairy products, we want to develop the market further and provide nutrition for all," he added.

Nutritious, convenient snacking

One of the latest breakthroughs from the company targets the snacks sector and is specifically designed for on-the-go snacking. Award-winning SoFlexi is a powdered mix of five simple ingredients and packaged in individual pouches for easy use anywhere, anytime. The product can be used to prepare a milk shake by simply blending it with ice cubes. It can alternatively be mixed with water for an instant yogurt drink or added to fruit juice for a tasty acid drink.

"It's flexible. You can use it for different kinds of beverages and even dairy snacks. Even more, it's clean label," said Mr Lucot.

This highly versatile yogurt-based finished product concept is exactly that as well: a concept. The objective behind SoFlexi goes beyond offering food and beverage manufacturers a premade blend to use, Mr Lucot said. The idea is to drive innovation, to inspire manufacturers to develop their own new products using the ingredient.

Besides highlighting the company's application expertise, SoFlexi hopes to promote the firm's Epilac Lowfat Yogurt Powder 48, which is part of the Epilac range of premium fermented powders. Epilac Lowfat Yogurt Powder 48 provides natural acidity for any potential end product. It also creates a pleasant yogurt flavour and smooth creamy texture, which help further enhance the food experience. Beside these sensory attributes, Epilac Lowfat Yogurt Powder 48 also contains the same live and active cultures as the

More innovative products under way

WITH a new facility now fully operational, Epi Ingredients is looking forward to leveraging technology in producing more innovative products in 2018 and beyond.

"We expect to start the first manufacturing round in the new facility in one month (December 2017). It's very exciting for us because this represents both a big investment and a real challenge. We expect this new and advanced technology for drying processes to extend our flexibility in developing products," explained marketing manager Matthieu Lucot.

The new state-of-the-art drying tower, which received more than 80m€ in investment over the last two years, will include a canning facility. He said the new tower can also be used to make different fortified milk products for adults as well as other specialty powders for various applications (eg: UHT-grade, etc.)

"With the added flexibility and high technology in the new tower, we can incorporate vitamins, minerals and other products for infant nutrition such as DHA and lactoferrin," Mr Lucot added.



Matthieu Lucot, marketing manager, Epi Ingredients

one found in traditional yogurt. This is made possible thanks to the company's milk transformation expertise combined to a unique know-how and a perfectly mastered manufacturing process. Epi Ingredients has indeed the unique capability to dry blends of milk and live cultures, keeping them alive throughout the process and into the finished powder. Using Epilac Lowfat Yogurt Powder 48 in a finished product can therefore offer some nutritional benefits such as immune and digestive health enhancement.

Building upon this, SoFlexi received industry recognition at FIE 2017 by winning the French Innovation Award from Business France in the category "Probiotics & Cultures".

"Our vision for SoFlexi is to motivate our customers—both present and future—to develop their own products. The challenge for us is to inspire them to innovate. So we are providing a concept, an idea to start with, through SoFlexi," shared Mr Lucot.

The Epilac range of products consists of yogurt, fermented milk and quark powders that can be easily incorporated in a variety of foods. These products feature a strong but pleasant dairy flavours. Furthermore, the living bacteria in some of these powders can offer some health benefits.

Taking nutrition to infants

Consistent with its commitment to develop nutrition products for all whilst showcasing its range of fermented products, Epi Ingredients is currently awaiting approval to distribute its powdered infant formula across China.

"It's easier to get approval in other countries in Asia, but China is a big market

so we are eager to gain traction in this market. Although we are eyeing not just China, we are also interested in other Asian markets as well for this infant nutrition product. There is a lot of development in Thailand, Indonesia, Malaysia and other parts of Southeast Asia," Mr Lucot said.

The products are designed for companies who will put their brands and adapt our product to their specific market constraints. Epi will supply both infant grade dairy powders for local manufacturers to use in their own finished products and infant formula ready to market under local manufacturers' own brands.

"It's our way of helping manufacturers around the world boost their brands and grow their business."

Competitive Asian market

Despite its strong global presence, Epi Ingredients acknowledges establishing a footprint in Asia is a big challenge for the company.

"The Asian market is not easy to conquer. Manufacturers in the region have different requirements. They are also particularly sensitive about pricing," shared Mr Lucot.

Epi Ingredients currently has a sales office in Thailand that does double-duty overseeing sales in Asia, including that in Southeast Asia. The company has been working with distributors in the different Asian countries. It has established a following for some of its products, in particular solutions for beverages, ice cream and yogurts. The firm is setting its sights on developing its dairy market even further, and as such plans to increase production volumes and find pricing references for the different Asian markets.

"One challenge for us is to find the middle ground between the premium way we develop and manufacture our products and the pricing structure in the different Asian markets. This is so we can match the requirements and capabilities of our target markets," Mr Lucot said.

Epi Ingredients notes that only very few companies are engaged in the manufacture of fermented products, making the sector a bit high-end. With the company's nearly 30 years of experience and technological expertise in developing fermented products for the food and beverage industry, the company is confident it can address the diverse demands of the market, even pricing. [FP](#)

Infant nutrition

THE Epi Ingredients portfolio includes infant nutrition solutions, from bulk ingredients to finished products packaged for retail and ready-to-market under the customer's own brand. Beyond demineralised powders adapted to be incorporated into infant formulas.

"Consumers in emerging markets such as China, India, etc. are willing to pay more for quality products and, ingredients imported from Europe are perceived to be of higher quality than local offerings. This unlocks tremendous potential for Epi Ingredients whose products are exclusively French-made," said marketing manager Matthieu Lucot.

Fermented powders

THE EPILAC ingredients, a range of premium fermented powders – yogurt powder, quark powder and fermented milk powder – have differentiating features such as, amongst others, the presence of live cultures in some of them. An example is the Lowfat Yogurt Powder 48 that offers the possibility of calling the end-product 'yogurt', in compliance with French regulations, according to Epi Ingredients.

The all-natural powders have a strong yet pleasant dairy flavour meant to improve the taste and texture of such products as ice cream, frozen yogurt as well as fillings and icings for bakery products, a segment in which the 'yogurt-like' taste is very trendy.

EPILAC fermented powders could also impart health benefits as they contain the same live bacteria (*Streptococcus thermophilus* and *Lactobacillus bulgaricus*) as the ones found in yogurt. These are known to help balance the gut flora as well as strengthen the immune system, and makes EPILAC powders an interesting option to formulate nutritional products.



The flowpack X-D packaging machine from Hugo Beck

Packaging line for confectionery

Customisable flowpack X-D packaging line meets display needs of chocolate and confectionery companies

THE LATEST flowpack machine from Hugo Beck is designed to meet the display requirements of chocolate and confectionery brands.

Since display packs need to be eye-catching and distinctive, the company's flowpack X-D packaging line can be personalised to each customer's needs to produce special, attractive display packs. But more importantly, the packaging must of course be airtight.

The machine can operate with a wide variety of films, also creates a header for the application of a label to deliver maximum on-shelf standout.

The box motion transversal sealing unit on the flowpack X-D enables a continuous seal for high output whilst simultaneously manufacturing the header, using two transverse sealing profiles to give the finished product its unmistakable appearance. Packs can then be collated using accumulation synchronisation or kept contact-free via cascade belts. At the same time, a colour printed card with product information and a best-before date can be applied to one side of the pack.

Other features of the flowpack X-D include a film changing machine, control system for aligning the printed film, a choice of belt types for the intake area, and parts specially designed to allow contact with the product. It can operate at speeds of up to 200 cycles per minute.

A servo axis controller MotionControl and the latest generation of Siemens Sinamics are used to ensure high quality packaging and maximum machine uptime, even in a three-shift operation. Intuitive touch screen operation with data storage also ensure ease of use.

"Flowpack machines are ideal for packaging in the confectionery sector where air-tightness and stability of the final product are essential," says Timo Kollmann, Hugo Beck's Sales Director. "No matter the product or the dimensions, our flowpack X-D machine is able to be personalised to each customer's specific needs to deliver the perfect results."

The range of flowpack machines offers a choice of models to meet a wide variety of confectionery pack requirements using many different types of films, including hot- and cold-sealable, metallised, paper-coated and composite films. The company also has particular experience in the use of extremely fine and transparent polyolefin film, used in shrink wrap applications.

With intelligent servo drive

technology and the modularity of all construction components, as well as the ability to link securely with upstream and downstream production units, a wide range of packaging types can be produced. In particular, the use of special transversal and longitudinal sealing elements allows the creation of special formats such as eight-cornered packs with a tear-open strip, and diamond-shaped designs with an overlapping welding seam or ground ionisation, all of which can be shrunk tightly without creases.

Hugo Beck provides a comprehensive manufacturing product range in the film packaging segment for flowpacks, poly bags and shrink packs. Its horizontal flowpack, film packaging and post-print processing machines operate in an output range of 3,000 to 18,000 cycles/hour. [FP](#)



Assorted confectionery in flowpack with product label

THE INSTALLATION of a complete end-of-line solution for Coca-Cola Bottling in Indonesia (Cikedokan plant in Bekasi, near Jakarta) has increased line efficiency by 50%.

This facility became the biggest plant in Asia-Pacific when The Coca-Cola Company (TCCC) reaffirmed a total investment worth some \$500 million in March 2015¹. In recent years, Coca-Cola has invested more than \$1.2 billion in Indonesia², a dynamic and fast-growing market.

Advanced solutions for a model factory

Founded in 1992, Coca-Cola Amatil Indonesia (CCAI) manufactures and distributes non-alcoholic ready-to-drink beverages in Indonesia, operating as a subsidiary of the Australian affiliate of US beverage manufacturer The Coca-Cola Company (TCCC), Coca-Cola Amatil Ltd (CCA). The company produces carbonated soft drinks, still beverages such as juices, teas, and isotonic drinks, water, energy drinks in various packaging formats and sizes.

The Cikedokan plant produces carbonated soft drinks and tea and juice in PET bottles and tea in plastic cups. The latter format is very prevalent in Asian markets. Cups represent the ultimate on-the-go format and is ideally priced for those consumers on low to middle income streams.

The original line – built with equipment from a variety of different suppliers – featured manual palletising at its end-of-line. This was causing congestion, safety and labour-management issues, with a very large team of casual workers needed to carry it out. “It’s quite hot work and difficult,” explains Grant McClean, Technical Manager for Capital Projects at the plant. “At least, there are challenges in making sure that the work can be done safely.” So, they started to search for an automatic palletising solution enabling a continuous production line with a more efficient use of labour.

“The thing we value very highly in a machinery supplier in Indonesia, of course, is the quality of the equipment - and that our supplier can provide its engineering capabilities during the sales process for us to discover the best machinery and the best solution,” he says.

Working with the team at the customer’s site, Gebo Cermex engineers designed an automatic palletising solution which comprises layer-by-

Automatic palletising solution

End-of-line packaging solution boosts efficiency at Coca-Cola Bottling in Indonesia



An automatic palletising solution at the Coca Cola’s Cikedokan plant comprises layer-by-layer palletisers, pallet conveyors and a stretch wrapper to cover the loaded pallets

layer palletisers, pallet conveyors and a stretch wrapper to cover the loaded pallets. To accommodate the production line to deliver 3,600 cases per hour – a system of three small palletisers, one from each packing area, connected with an unmanned shuttle-car system, was considered to be the most economical and operationally efficient end-of-line solution. The shuttle-car was part of the solution proposed by Gebo Cermex, recognising the benefits it brought in terms of reducing the traffic of forklift trucks, thereby increasing site safety. The three palletisers supplied by Gebo Cermex are U-shaped with empty pallet infeeds and full-pallet outfeeds on the same side of the machine. The shuttle-car system continuously takes the loaded pallets to a pallet conveyor, upon which the pallets are stretch-wrapped before being taken to waiting forklift trucks. Then, they take them away for dispatch to the company’s warehouses. On its return journey, the shuttle-car system also supplies empty pallets to the palletisers. Together with optimised efficiency and higher OEE (overall equipment effectiveness), this solution allows for a

much better management of the labour force.

Results exceed expectations

Mr McClean underlines: “Within a few weeks of the installation, we conducted a test where the machinery exceeded the standards for acceptance that we had set at the start of the project by a large margin. In the operation that we have had since then, we’ve seen absolutely no decline in the efficiency of the equipment from the day of that test.” All in all, since the implementation of the solution, the plant has seen a 50% increase in efficiency and higher OEE.

He continues: “One of our ambitions at Coca-Cola Bottling in all of our plants in Indonesia, is to pursue a strategy of lean manufacturing. Our Cikedokan plant is like a pilot plant; it’s where we test our ideas for lean manufacturing and perfect them – before implementing them in other plants. And so, the end-of-line solution that we chose from Gebo Cermex had to fit in with our lean-manufacturing strategy.”

¹ The Coca-Cola Company Press Centre

² The Coca-Cola Company Press Centre

³ www.indonesia-investments.com

Air Wizard Plus recycling system

THE Air Wizard Plus recycling system from Krones prepares the final blow-moulding air inside the machine, with the aid of the additional process stages of pre-blow-moulding, intermediate blow-moulding and stretching. This reduces the consumption of highly compressed air and energy costs as well.

Usually, PET containers are produced in the Contiform using a blowing pressure of 30 to 35 bar. Previously, compressed air remaining in the bottle had been pressure-relieved into a 10-bar compressed-air network. However, this caused losing the pressure differential between 10 and 35 bar.

Now the Air Wizard Plus prevents this from occurring. Krones installs a multi-stage sniffling valve at each of the 20 blow-moulding stations of the Contiform S, and creates two additional compressed-air circuits:

- The high-pressure air from the containers is now pressure-relieved into an intermediate blow-moulding stage.
- New bottles are pre-blow-moulded using fresh low-pressure air at 6 to 10 bar.
- This is followed by intermediate blow-moulding using the recycled high-pressure air obtained beforehand from the final blow-moulding stage.
- Only for final blow-moulding at 30 to 35 bar does the Contiform now still need new high-pressure air at 35 bar. This change-over perceptibly eases the workload of the high-pressure compressor.

Small modification – huge impact

The system for intermediate blow-moulding is integrated into the software and visualisation function of the Contiform S, and displayed on the touch-screen. In order to evidence the system's efficacy, it is advisable to measure the air consumption for all formats, both before and after installation of the upgrade. This and an optimisation of the blow-moulding process

achieves energy savings of more 40%, depending on the preform's material and weight, and on the volume, design, and specification of the container concerned. This also cuts the line's operating costs, and downsizes the output of the high-pressure compressors by some 30%.

The internal high-pressure recycling system Air Wizard Plus can be retrofitted to almost all machines in the Contiform S series. However, the upgrade is not feasible in the case of machines that are using the NitroHotfill or Hotfill process, and the Contipure preform sterilisation system for reasons of process engineering.

Case study: PepsiCo Tafalla

PepsiCo's facility at Tafalla, Spain was one of the first to install the Air Wizard Plus. Tafalla had already retrofitted the Air Wizard 2 in the Contiform S and therefore downsized the energy costs involved: Now part of the blowing air is used during the pressure-relief phase for pre-blow-moulding and stretching and an external supply of air is now no longer required for this purpose.

Together with the integrated compressed-air recovery from the stretching cylinders, the Tafalla plant's total compressed-air savings can now reach 44%. The new high-pressure recycling system Air Wizard Plus has not only met PepsiCo's stipulations regarding return on investment when it comes to capital expenditure involving sustainability, it has even outperformed them.


"PepsiCo is extending its environmental stewardship efforts to more members of its supply chain where it works while continuing to improve the efficiency of manufacturing operations, including energy efficiency use, water positive impact, among others. This improvement in our facility is one of those good examples," emphasises Thomas Sauerwald, who is responsible for engineering at six PepsiCo facilities in Western Europe.

Smaller compressor now possible

Mr Sauerwald further explains: "Our PET-Asept D system has been up and running for about nine years now. And the high-pressure compressor is the same age. But since we now need substantially less compressed air, we can also replace this by a smaller model, such as one with a rating of meanwhile 1,200 instead of the previous 2,000 cubic metres per hour and 400 kilowatts power consumption. After all, technical advances have not made an exception of compressors: newer compressors are inherently more energy-economical than their older counterparts. For example, there are now frequency-controlled models with a direct drive instead of a belt drive system. Anyone can work out the resultant savings for himself."

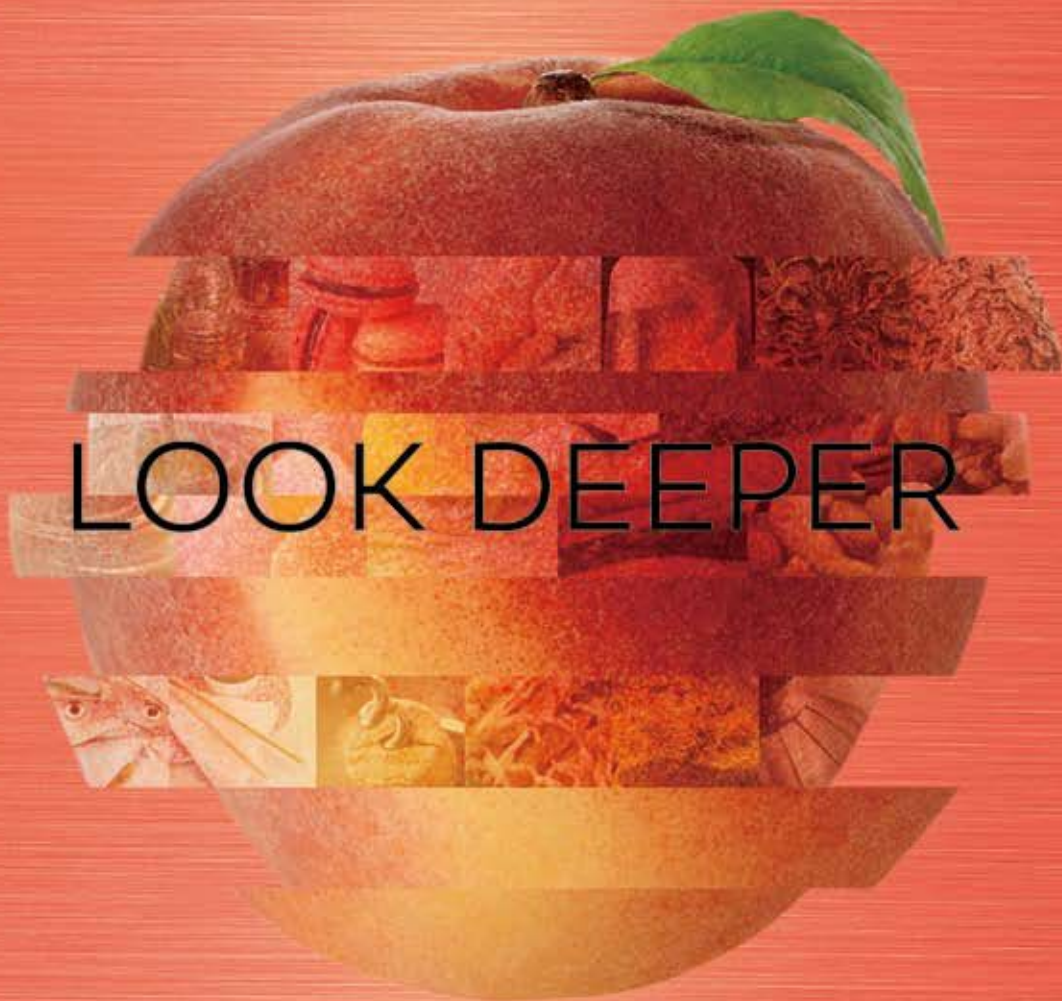
Besides all these energy-saving options, he singles out some further important points:

- The container quality remains equally good.
- The level of the final blow-moulding pressure is determinant.
- The internal high-pressure recycling system can be switched off at any time, and the Contiform will nonetheless continue to produce containers.

It took only a weekend to install the Air Wizard Plus. By Monday, the production line was up and running again. 

Air Wizard Plus: General advantages of the upgrade

- An external air supply is no longer required for pre-blow-moulding and stretching.
- Reducing the compressed-air consumption means lower energy costs.
- There are very substantial potential savings in terms of high-pressure compressed air.



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GUMMIES and jellies have come a long way from the classic gummy shaped like a bear and the jelly that looks like a cup. New shapes and colours continue to delight children everywhere, thanks to more innovative confectionery equipment. It is even possible to add a soft or hard filling in these sweets.

3D or full-form jellies and gummies are the attraction today. Considered a high value product, they can come in ball, fruit, animal and even cartoon character forms. But these lifelike shapes can be made only through starchless depositing into solid moulds. In contrast starch moulding systems can only produce gummies with 2D surfaces and a flat base.

The 3D depositor from Baker Perkins, known as ServoForm 3-D depositor, is the first fully automated system for making high value gummies. It is capable of outputs ranging from 100 to 1,000 kg/hour. The machine is touted for its 100% ejection rate, as well as its ability to reduce cost.

To ensure fast changeover between production runs, the mould system uses a carrier design with clip-in moulds that allows rapid low-cost product changes. This widens the range of products that a single line can produce, and this versatility may be enhanced by the ability to deposit multiple shapes in different colours simultaneously. A single ServoForm depositing line can produce the same product range as a number of smaller low output lines – but at much lower cost.

Baker Perkins' new capability is making inroads into the growing jelly and gummy sectors by adding chewy textures to the range of products that can be made on a starchless line. Traditionally, these have been made in starch moulds while softer textures using pectin, carrageen, starch, or a combination, have long been manufactured successfully on starchless lines.

Starchless depositing of jellies and gummies offers substantially reduced capital and operating costs compared with starch moguls, with significantly improved hygiene. Lower operating costs are based on eliminating consumables and reducing energy consumption as well as requiring less labour, cleaning and maintenance. This makes gummy production economically viable for companies of any size, from start-up operations to established high-output manufacturers.

High-value jellies and gummies

A depositor for 3-D jellies and gummies allows intricate design and high output at lower cost



Complex, full-form shapes like strawberry created using the ServoForm 3-D depositor

Not just for the sweet tooth

The accuracy and hygiene of starchless moulding make it the ideal process for the functional and medicated confectionery sector. Products are of consistently high quality to support high pricing and healthcare positioning.

Jellies and gummies can be fortified with a variety of ingredients with a healthy characteristic including fruit juice, real fruit pieces, fibre, protein and energy supplements. In healthcare, jellies and gummies are used to carry vitamin and mineral supplements.

Some medicated products are more suitable for delivery using hard candy, particularly where slow release of the active ingredient is required. These include antiseptics, menthol and eucalyptus oil to alleviate the symptoms of minor ailments such as coughs, colds, sore throats and nasal congestion.

The high product quality and hygienic nature of the process are making starchless depositing the process of choice. Crucially, the process adheres to the principles of GMP and is readily capable of validation to FDA/EMEA standards. Baker Perkins has specialised in starchless depositing


for many years and has installed over 500 lines installed worldwide. As well as providing equipment, training and service the company offers full product and process development services in its Innovation Centre.

The starchless process does not degrade expensive active ingredients, and there is high accuracy throughout mixing, cooking and depositing. Exactly the right proportion of active ingredients is added, every deposited piece is precisely the same weight, and the process is reproducible.

Gelatin gummies

Baker Perkins has collaborated with Rousselot, a leading gelatin producer, on a new process and ingredient technology for the production of gelatin gummies on starchless depositing systems.

Rousselot's SiMoGel solution allows gummies produced on Baker Perkins ServoForm depositors to dry in minutes, rather than the 24 hours typical with a conventional starch moulding mogul.

Baker Perkins starchless jelly and gummy depositing systems offer a unique capability to produce full-form 3-Dimensional jellies and gummies. 

Steam peeling at half the cost

Three new steam vessel designs for vegetables can cut average maintenance costs by half

WHEN processing French fries, or fresh and frozen fruit, manufacturers can use steam to gently and efficiently remove skin from fruit or root crops. The high temperature of the steam can do the job conveniently. The latest models including recently introduced solutions from tna also aim to increase yield and cut maintenance costs.

According to tna its newly introduced high-efficiency Florigo ultra-peel^{® SSC 3} steam peeling solutions for vegetables offer high yield and uniform skin removal whilst cutting average maintenance costs by 50%. These are designed to offer processors a tailored steam peeling solution depending on their production requirements.

The company's portfolio includes high capacity steam peelers for large root vegetables like potatoes for French fries and vessels with centrally controlled steam inlets for smaller, irregular shaped produce to enable uniform steam coverage.

Split vessel designs for vegetables with high water content

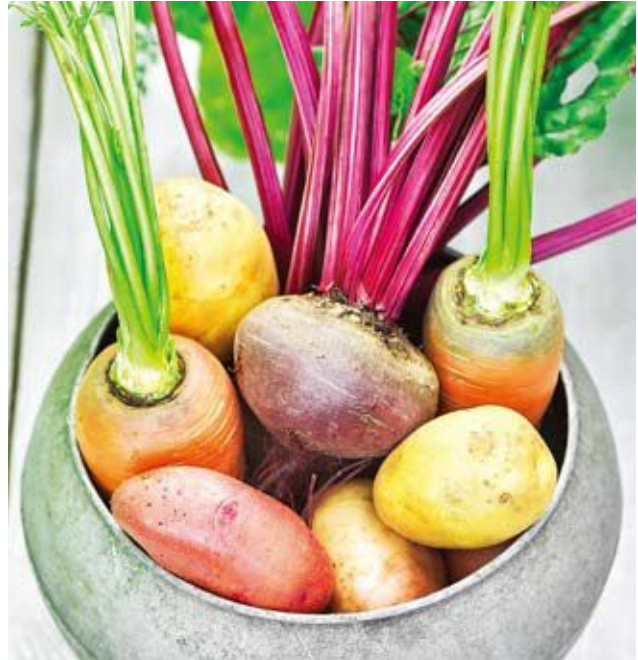
The new split vessel designs work for raw materials with high level of water content, such as baby carrots. They maximise the reach of the steam whilst keeping the product out of the water. Hence, operators have complete flexibility over steam time, pressure and vessel rotation speed.

The Florigo ultra-peel^{SSC 3} loosens the skin by exposing each item to uniformly dispersed, high-pressure steam, delivering optimum peeling efficiency and a high yield. It can reduce peel loss by 6% maximum.

The machine has few wearing parts that can be easily accessed, reducing the industry's average maintenance costs by 50% with the potential to double the vessel's lifespan. "Steam peelers are the ideal solution when it comes to removing as little skin as possible and even work well on irregular shaped items," comments Carel Pfaff, group product manager processing at tna. However, they also often require regular replacement, resulting in considerable downtime and high maintenance costs. With our range of flexible steam peeling solutions, food processors not only achieve a highly efficient peeling performance, but will also invest in a system that offers one of the industry's best returns on investment due to the equipment's low maintenance requirements and overall reliability. What's more, thanks to the unique modular design of the Florigo ultra-peel^{SSC 3}, processors can easily upgrade to higher capacities should their production requirements change. Together with our high-performance washing and destoning equipment, we offer a fully integrated solution from a single source."

Up to 52 tonnes of potatoes per hour

The Florigo ultra-peel^{SSC 3} range can process between 7 and 52 tonnes of potatoes per hour and can be combined with the Florigo ultra-peel^{OC 3} cyclone destoner, Florigo ultra-clean^{WT 3} drum washer and Florigo ultra-peel^{COMBO 3} for a fully integrated solution.



Do you need to peel fresh or frozen produce? tna's Florigo ultra-peel^{SSC 3} loosens the skin by exposing each fruit or vegetable to uniformly dispersed, high-pressure steam, delivering optimum peeling efficiency and a high yield. It can reduce peel loss by 6% maximum. (Photo courtesy: tna)

The following features are standard on the Florigo ultra-peel^{SSC 3}:

- Weigh hopper with door for quick filling in equal batches
- Dedicated pressure vessels for French fries potatoes, baby carrots, and other root vegetables
- Pressure vessel from mild steel with Ø500mm inlet door access
- Large doors for easy access to the vessel
- Adjustable steam time, steam pressure, vessel rotations speed, and valve control system
- Discharge auger to carry product out of the steam vessel
- Expansion vessel for quick steam discharge
- Operator interface/PLC with 12" touchscreen monitor in multiple languages for quick and easy process control
- Stainless steel execution (exception fans, pumps, drives, valves, bearings, belts)

Customers can also ask for optional features such as the following:

- Duplex stainless-steel pressure vessel for increased durability and a longer product life cycle
- Water spray on door seal to prevent skin from sticking to the seal, which helps extend the product life cycle (best when handling carrots)
- Pre-evacuation of non-condensable gases to speed up heating and the peeling process
- Weigh belt with hopper allows flexibility for handling carrots
- Heat recovery system to re-use vapour condensate and save energy
- Peel scanner to ensure peeling efficiency and energy savings are at their max

Sorter has 23MT/hr prod capacity



The VERYX® B210 features advanced detection technology and production capacity over 23 metric tons per hour

“IN MANY food processing plants, there is a trend toward new, higher capacity production lines, as well as efforts to maximise throughput on existing line installations,” said Marco Azzaretti, Advanced Inspection Systems Product Manager at Key Technology. The VERYX B210 supports both of these scenarios. In some layouts, the B210 is capable of replacing two smaller capacity sorters to make the line flow more efficient.”

The VERYX B210 sorter has a production capacity in excess of 23 metric tons (50,000 lb.) of product per hour, depending on the application. It maximises throughput on high-capacity lines. Its advanced detection technology and innovative system architecture improve sorting accuracy. Recognizing objects’ color, size, shape and/or structural properties, a belt-fed VERYX sorter removes foreign material (FM) and product defects and eliminates false rejects.

These sorters are ideal for wet and frozen potato strips and specialty potato products as well as fresh and frozen fruits and vegetables, leafy greens, potato chips and other snack foods, confections, seafood and more. Chute-fed VERYX sorters are optimal for sorting nuts, dried fruits, IQF products and other free-flowing and bulk particulate foods.

The new model operates within an inspection area of over 2 meters (80 inches) –an inspection area over 10% wider than other sorters with a similar footprint, according to Key Technology. Ideal sensor types, sensor positions, lighting, ejection system, product handling and software are used in these sorters to meet each

processor’s product requirements, including handling multiple product types and frequent changeovers. The system includes specialized infeed and collection shakers designed specifically for each application for better sorting performance. They can be upgraded in the field with additional or different sensors, as customer requirements evolve over time.

As the only sorter on the market designed with bottom sensors positioned away from product splatter, VERYX ensures lower sensor windows will not be obstructed by contamination buildup over time. Eliminating this previously common performance degradation issue keeps the bottom sensors operating at their peak and makes VERYX the first digital sorter to deliver 100 % surface inspection that can be sustained throughout the production cycle.


The sorter is also the only one with multi-sensor Pixel Fusion™, an advanced detection feature combining pixel-level input from multiple cameras and laser sensors sharing the same line of sight, to more clearly differentiate good product, defects and FM, and prevent false rejects.

The next-generation cameras and laser sensors installed offer twice the resolution of previous generation sorters to detect smaller FM and more subtle product defects. With up to 4 channels of information from cameras and up to 8 channels of information from the laser scanner, combined with advanced LED lighting that operates at optimal frequencies in relation to each sensor, every one of the sorters is designed to match the customer’s sort requirements, from basic to the most complex.

The separation/ejection system is also tailored to each product application with configurable air nozzles with respect to their pitch and power. The air nozzles’ actuation is controlled by intelligent software to strategically suit the size, shape and weight of each object targeted for separation. These features allow the sorters to remove from the product stream only objects that have been targeted for ejection, either because they are a contaminant or present quality defects, without disturbing good product.

Smart features on the sorter enable it to adapt to normal changes in the product and environment without operator intervention. With auto-learning, self-adjustment algorithms, predictive system diagnostics, smart alarms and FMAIert™, VERYX is designed to operate unattended during normal production operation.

The highly intuitive VERYX UI provides different views to users of various levels, depending on their needs. Recipe-driven operation and repeatable system calibration ensure customers can count on consistent performance from the sorter, which is also easily setup by the operator to run a new product or grade at the touch of a button.

The sorter comes with Key Technology’s Information Analytics, a set of data acquisition and connectivity capabilities that allow users to extract product and operational data from the sorter. Data of interest can be shared for off-line analysis, integrated with other equipment on the line or exchanged directly with a customer’s SCADA, Manufacturing Execution System or PLC network. 

On the cutting edge of water desalination

Battery electrode deionization (BDI) can remove salt from water using less energy than previous methods

PROVIDING safer drinking water to those in need may be a little easier. According to Penn State researchers, a new desalination technique is able to remove salt from water using less energy than previous methods.

“Globally, there is reduced access to fresh water,” said Bruce Logan, Evan Pugh University Professor in Engineering and the Stan and Flora Kappe Professor of Environmental Engineering. “More and more, the waters that are being used are impaired, either due to salt or other contaminants, so we are seeing an increasing need to rely on less optimal water sources.”

To combat this problem, Logan, and colleagues Christopher Gorski, assistant professor of environmental engineering, and Taeyoung Kim, post-doctoral scholar in environmental engineering, have come up with a desalination method called battery electrode deionization (BDI). BDI improves upon standard capacitive deionization (CDI) techniques by eliminating the regeneration stage and lowering the voltage required to complete the process.

Standard CDI techniques desalinate water by separating the water’s ions. A typical CDI cell consists of two electrodes attached on opposite sides of a flow channel. The electrodes capture the salt ions through electrical exchanges that occur when an electrical current is applied to the cell. The cell is then regenerated by releasing the salt ions in a second cycle by alternating the direction of the applied electrical current. Since CDI does not require membranes and has lower energy requirements than other popular methods, it is becoming a competitive technology for removing salt from water. The problem with CDI systems is that they are limited by low salt adsorption when using the typically applied 1.2 volts. Increasing the applied voltage does improve the salt adsorption, but it also increases the potential for unintended side reactions that waste energy and can create permanent electrode corrosion.

In the team’s newly developed BDI system, a custom-built flow cell utilizes two channels. The channels are separated by a membrane and two identical battery electrodes are secured at each end.

To test the cell’s effectiveness, the team fed each channel with a salty solution at a specified flow rate while applying a constant electrical current to the cell. Several current densities were used, depending on the number of membrane stacks. The researchers then reversed the cell voltage flow when it reached a low of -0.6 volts or a high of $+0.6$ volts.

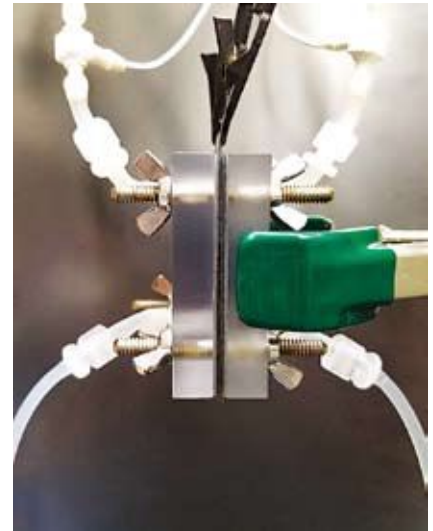
The team discovered that the BDI system effectively removed the salt at levels consistent with CDI, while using only an applied voltage of 0.6 volts. Furthermore, the low voltage required and materials used helped prevent unwanted side reactions, achieved greater desalination abilities and consumed less energy than traditional CDI.

Since the team created simultaneous production of desalinated and concentrated water in two channels, it also circumvented the two-cycle approach, so the system no longer needs to go through the regeneration stage. Additionally, they found that stacking additional membranes between electrodes reduced energy consumption even further.

“Other people have talked about capturing energy from the second CDI cycle, but it’s really hard to do, and, therefore, it’s impractical,” Logan said. “Our system avoids that second regeneration step by just switching the captured flow by alternating the direction of the applied electrical current. That makes it very easy to operate, and it uses very little energy.”

Although the current configuration is not suited to desalinate extremely salty water such as seawater, the results show that the BDI technique could be effective as a low energy method for brackish, or slightly salty, water, such as groundwater, or for desalinating water before it enters treatment plants.

“There is nothing that inherently




A feed solution contained in a reservoir was separately fed to the two inlets of the flow cell using pumps, one desalinated and the other concentrated. This is achieved by applying electrical current to the flow cell through wires using a power source (not shown in this photo). The conductivity of the discharge was then measured using flow conductivity meters located at each outlet, which were monitored by computer. (Photo credit: Taeyoung Kim)

prevents its use with seawater, it’s just that as water gets saltier and saltier, there are other issues that we have to contend with, such as increased energy consumption and membrane fouling, that may reduce its utility relative to other approaches,” Logan said.

The researchers now plan to work on scaling up and improving the stability of the system.

“This is an innovative technology,” Logan said. “This is not something that is out there and commercialised. It’s something that is right at the cutting-edge of new ways to get salt out of water.”

This research was published in *Environmental Science & Technology Letters* in September. Funding was provided by the National Science Foundation, King Abdullah University of Science and Technology and Penn State University. 

Asia a huge market for probiotics



Steve Quinn, Business and Regulatory Director for Asia and Europe, Ganeden

MANY reports and clinical studies show the benefits of probiotics to human health, from maintaining balance in the digestive tract to maintaining the immune system. Even beyond, some probiotics are said to offer relief from allergies and skin problems. But experts agree, there is still so much to discover about probiotics – defined as live microorganisms that have a positive effect when taken in the right amounts. US-based company Ganeden Biotech Inc. has 27 published papers supporting the probiotic value of GanedenBC^{30®}.

We recently spoke with Steve Quinn, Ganeden Business and Regulatory Director for Asia and Europe, on this product and the company's market expansion in Asia.

Are Ganeden's products already recognised in certain parts of Asia, or is the company's presence in Fi Asia 2017 the entry point to the region?

GanedenBC^{30®} (also known as *Bacillus coagulans* GBI-30, 6086) has a degree of recognition in some segments of the Asia market, but events like Fi Asia are still very important to us. So far, our main success in the region has been in powder applications and protein products, but we have yet to really break into mainstream food and beverage, which is our real strength. We are

starting to see movement in those categories, but there is still work to be done and more recognition to earn.

What are your impressions of the ASEAN market, specifically for probiotics?

For Ganeden in particular, it's a market of nearly limitless potential. Typically, people in the region associate probiotics with traditional applications like yogurt. This means we have a lot of educating to do, but the market for probiotics in food and beverage outside the dairy case is virtually untapped.

Are there regulatory issues?

Definitely. Unlike Europe where all of the member states share harmonised rules and regulations, every country in Asia is completely different. There are some places where registration is only a matter of filing a form and showing US – FDA GRAS status, and there are some markets where our team has been navigating regulatory hurdles for some time and are still very much in the process. It can be difficult at times, but also very understandable; the officials need assurance that GanedenBC³⁰ is safe and does what it's claiming to do in regards to health benefits. In the end, we are always able to satisfy any concerns, but the process can take time.

“Yogurt drink in the flavour of seasonal fruits is a major trend. Vendors will get the seasonal fruits at a much cheaper rate than the non-seasonal varieties of fruits, according to Technavio”

The many benefits of yogurt and yogurt drinks include: increased bone mass density, effective weight management, and better immune system

Dreamstime Stock Photos

Feeling full with yogurt drinks

IN A recent report, Technavio listed the trends impacting the global market for yogurt fruit blend drinks, from 2017-2021. The market research firm said stronger awareness about the health benefits of yogurt has spurred the growth of yogurt fruit blend drinks.

Trend 1: Organic and gluten-free

Organic and gluten-free yogurt drinks are a big trend, according to Technavio. Organically produced fruit and vegetables

are becoming more important to a growing number of consumers who are concerned about what products are made of, where the ingredients come from, how these are produced, packaged, and so on. More than anything else, it is about safety: organic produce are not artificially ripened and are free from pesticides and chemicals.

Probiotics have garnered much interest from health-conscious consumers. But there are those who remain sceptic. Where is this scepticism coming from?

I think there is always a layer of healthy scepticism with any trend that becomes so popular so quickly, like we have seen with probiotics. First, probiotics are not medicine. That is, a person does not take a probiotic and instantly feel better. They are for supporting health and improving overall digestive, or immune health and consumers do not always feel this “support” right away because it is not a dramatic change. Most people just tell us that one day they realise that in general, they have felt better since starting the probiotic. The fact that people cannot see, smell, or taste anything different in their food also drives some questioning.

Could you cite some clinical research that attest to the benefits of probiotics and particularly your product?

Certainly. New research and clinical information about probiotics in general comes out nearly every day, and a quick Google alert will show this. However, the benefits of probiotics are strain specific, so you must look at the specific strain being researched and the studies on that particular strain showing its health benefits. GanedenBC³⁰ is supported by 27 published clinical papers all available on our website, <https://www.ganedenprobiotics.com/>

There are yogurt drinks for truly health conscious consumers who are careful about what they take in and can afford to purchase products made with organic fruits and vegetables.

More gluten-free products – including gluten-free yogurt – are being manufactured today even as the number of consumers with gluten intolerance is generally known to be under 2% of the global population.

Many Asians are not spared from celiac disease, the autoimmune disease that can be triggered by consuming gluten (a protein) found in wheat, barley and rye. Contrary to the popular belief that the disease is widespread only in Northern Europe and Australasia, Asians can have it too, some without even knowing, according to the

Turn to next page

probiotic-research. In addition to our immune and digestive health studies, I recommend that readers download and look through our protein utilisation papers. To date, GanedenBC³⁰ is the only probiotic in the world with an established protein utilisation benefit and the clinical research we published on that topic is really exciting and ground-breaking.

What are Ganeden’s plans for 2018, especially in Asia (Southeast Asia)?

Asia and in particular Southeast Asia are areas of untapped potential for Ganeden. This

Fall, Ganeden merged with Kerry Ingredients, based in Naas, Ireland. In light of that, Ganeden and Kerry will work together on an expansion strategy globally for 2018, including Asia. Experts from both teams will work together to decide the best way to maximise existing resources and evaluate where additional resources will need to be placed. We are also evaluating strengths and needs within existing workforces and distribution partnerships. The feedback from Fi Asia has been great, and we will be back next year, but sharing a stand with Kerry next time. [FP](#)

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Hot trends in nutrition



Jon Clinthorne, PhD and Natural Grocers' Manager of Scientific Affairs and Nutrition Education (Photo Natural Grocers')

HEALTH and nutrition space is characterised by trends that come and go. It's always rich with new information that allows us to see facts in a new light and find new applications for common products. A case in point, the health uses of apple cider vinegar and collagen, two ingredients identified as still trending in 2018 by Jon Clinthorne, PhD and Natural Grocers' Manager of Scientific Affairs and Nutrition Education. Here's the top 10 nutrition trends he believes will influence the way consumers can and will stay fit and healthy.

Collagen. Collagen supplements contain the amino acids proline for joint health and support for smooth and supple skin by strengthening the collagen that keeps skin firm.ⁱ, as well as glycine, which has been shown to modulate inflammation in the digestive tract, participate in detoxification and liver health, as well as support good sleep.^{ii iiiiv}

Detox diets. Cleansing through fasts and juice diets are likely to be replaced by foods that will aid the body's natural detox processes. Such foods should contain sulfur and other detoxification supportive vitamins and minerals such as vitamins C and E, selenium and zinc.

Going organic. Products from organically grown farms are lower in heavy metals and higher in nutrients compared to non-organic. With a certification like the USDA Organic label, products are free from chemical dyes, synthetic pesticides, herbicides and chemical fertilizers, and industrial solvents^v. Organics are better for the environment, human health and the economy.^{vi}

Pasture-raised. Grass-fed beef and dairy, and pasture-raised eggs and turkey are said to pack in more nutrients. These are products that come from properly managed land and farm animals.

Black seed oil. Research suggests that black seed oil (*Nigella sativa*, black coriander oil, or black oil) helps in insulin function and keeping the pancreas healthy. Studies also show that by modulating inflammation, thymoquinone (the active component of black seed oil) helps build strong and healthy bones.^{ix xxi}

Ketogenic diets. A "Keto" diet is high in fat and low in carbohydrate, and thus includes ingredients like coconut oil, palm oil, cheese, and butter. Foods like these contain medium chain triglycerides (MCTs) which are converted into ketones by the liver. Ketones are a type of fuel whose role is in neuroprotection, and to support brain function and cognition^{xii}.

Feeling full...from page 35

Singapore Celiac & Gluten Intolerance Support Group.

Technavio lead analyst for non-alcoholic beverages, Manjunath Reddy adds, "Increase in the occurrence of digestive issues, obesity, and demand for nutritious food is expected to drive the market. The availability of gluten-free food products will increase the consumption from a specific customer segment of food-intolerant consumers."

Trend 2 Yogurt drinks with natural sweeteners


The beverage market is being stirred into the path of health and wellness. The call for reduced sugar in beverages is getting stronger, with some countries like the Philippines imposing higher taxes on beverages (with the exemption of milk and coffee products, natural fruit and vegetable juices, and meal replacements) with caloric and non-caloric sweeteners as well as beverages with high fructose corn syrup. Thailand imposed an excise tax on sugary drinks in 2017.

Despite that, beverage has to contain a certain amount of sugar or alternative to satiate. According to Technavio, consumers of yogurt drinks are also particular about how the drinks are sweetened. They prefer natural sweeteners over artificial sugar substitutes which are perceived as having adverse effects on health.

The plant-based natural sweetener, stevia is becoming popular amongst the yogurt drink manufacturers. Technavio says brands such as Powerful have launched yogurt protein drink containing stevia, which is available in 4 flavours: vanilla, maple, chocolate, and blueberry. Ultima Foods has launched yogurt drinks that contain stevia in lime, pear, and mango-passion fruit flavours.

Trend 3 Seasonal flavours

Yogurt drinks in the flavour of seasonal fruits is taking the market by storm. This trend will be seen in the yogurt fruit blend drinks as vendors will get the seasonal fruits at a much cheaper rate than the non-seasonal varieties of fruits. This will not only provide customers with the benefits of seasonal fruits but will create excitement amongst them to try a new flavour.

Companies with flavoured yogurt products are Noosa (Cranberry apple flavour) and Chobani's yogurt in watermelon and plum flavours. "The additional promotional activities will further increase the demand for seasonal yogurt blend fruit drinks. Launching these seasonal flavours will also help the vendors in understanding which flavours are most liked by consumers and they can start their regular production. This will also serve as a strong marketing strategy during a specific season," according to Manjunath. 

Botanicals to boost brain function. Botanicals, such as epigallocatechin from green tea for boosting brain function, are gaining more appreciation. There are more formulas built for clarity and mood; some of the best new botanicals for brain health include herbs and mushrooms. The latest research finds ashwaganda, lions mane, reishi, gotu kola, turmeric and holy basil as brain boosters.

Traditional medicine meets modern science. Herbal medicines date back to ancient times, but today's research is further exploring the effects of essential oils and aromatherapy – derived from valuable plants – on mental health.

Drinking vinegars. Mostly made from apple cider vinegar and other healthy ingredients, drinking vinegars can balance blood sugar. They are latest alternatives to soda and juice. A study published in the *Diabetes Care* journal demonstrated that consuming vinegar at bedtime can support healthy blood sugar levels when you wake up.^{xiii} Vinegar can also help facilitate the absorption of vitamins and minerals from food and gives the feeling of fullness.^{xiv}

Sneaking vegetables. For people who find it difficult to eat their vegetables, the trick is to consume foods with antioxidant-rich vegetables, such as *real* veggie chips, organic veggie noodles, or add frozen cauliflower or greens powders to smoothies. [FP](#)

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DuPont unveils Microbiome Venture

DUPONT NUTRITION & HEALTH'S Microbiome Venture will enable the company to spearhead development of microbiome science-based solutions.

"Microbiome science is developing extremely fast with tremendous opportunity for innovation," said DuPont Nutrition & Health Global Technology and Innovation Leader Angela Naef. "With the Microbiome Venture, we intend to build on our probiotics leadership position to develop new microbiome science-based solutions for health and wellness."

It will partner with other microbiome science leaders in academia and industry to accelerate product development. The first major partnership is with the APC Microbiome Institute in Cork, Ireland, a collaboration between University College Cork, Teagasc (the Irish Agriculture and Food Development Authority) and Cork Institute of Technology, a world-leading Science Foundation Ireland Research Institute. This multiyear partnership with the APC Microbiome Institute will focus on maternal and infant microbiomes, which play a critical role in infant development and long-term health. The goal is to develop solutions for establishing a healthy microbiome in early life.

DHA Omega-3 in vegan softgel

POLARIS offers algal DHA Omega-3 in vegan softgel format. The company packed an optimal 250mg of DHA Omega-3 from microalgae in a 100% plant-based shell in one capsule, making it an ideal solution for consumers seeking a vegan or vegetarian alternative to gelatin capsules. Designed to meet EFSA requirements, the capsule opens up the possibility of four EFSA health claims: DHA contributes to the maintenance of normal vision; DHA contributes to the maintenance of normal brain function; DHA maternal intake contributes to the normal development of the eye of the foetus and breastfed children; and DHA maternal intake contributes to the normal brain development of the foetus and breastfed children.

Polaris' algal oil is 100% produced in Europe, non-GMO, allergen-free, and extracted naturally without solvents.

Choline-rich foods could boost baby' brain

WHEN expectant mothers consume eggs, cruciferous vegetables and other foods high in choline, their offspring could gain enduring cognitive benefits, according to researchers from Cornell University.

The study uses a rigorous study design to show cognitive benefits in the offspring of pregnant women who daily consumed close to twice the currently recommended amount of choline during their last trimester. The findings are published online in the *Journal of the Federation of American Societies for Experimental Biology*.

"In animal models using rodents, there's widespread agreement that supplementing the maternal diet with additional amounts of this single nutrient has lifelong benefits on offspring cognitive function," said Marie Caudill, professor of nutritional sciences and the study's first author. "Our study provides some evidence that a similar result is found in humans."

The finding is important because choline is in high demand during pregnancy yet most women consume less than the recommended 450 milligrams per day, in part due to dietary trends and practices.



Food and hospitality mega show

4,000 international exhibitors will participate in Food&HotelAsia 2018 in Singapore

25% BIGGER, Food&HotelAsia (FHA) 2018 expects some 4,000 exhibitors coming from 70 countries and regions. According to organisers, there are 800 new participants compared to the previous edition. FHA welcomes around 68 international groups which now includes Armenia and Qatar for the first time. Some international group pavilions will also see members from 22 international trade associations and government agencies participating in FHA for the first time.

FHA takes place from 24 to 27 April 2018 in two venues – Singapore Expo and Suntec Singapore – with a combined floor area of 119,500 sqm. It is considered the most comprehensive international food and hospitality biennial event in the region.

This year's edition also expects 78,000 trade attendees from across the globe. In 2016, the event attracted 71,800 trade attendees, including exhibiting staff, trade visitors, conference speakers and delegates, judges and competitors, and members of the media.

"FHA's growth reflects the changing landscapes of the F&B and hospitality industries in Singapore and the region over the decades," said Mr Rodolphe Lameyse, Project Director, Food & Hospitality, UBM SES. "Having FHA2018 span two of the largest exhibition venues in Singapore proves just how much the event has grown since 1978.

"In today's disrupted economy, innovation and internationalisation will serve as the main drivers reshaping Asia's food and hospitality industries. Against this backdrop, we will continue to strengthen our partnerships with all our stakeholders, together explore new ways to create value to support the industries, and strive towards many more years of performance excellence!"

Ingredients, packaging, and more

The IREKS Group (Stand No. 2D1-

07) joins FHA to showcase ingredients and malts made from grain and other natural raw materials. Its portfolio includes flavourings, ice-cream products and the agricultural trade. In addition to gluten-free mixes, improvers and aromatic malt products and sourdoughs, two special new products will be featured by the company at FHA. One is the whole, pregelatinized malt kernels and the other malt components processed into a highly aromatic paste.

The new product TIGERLAUGE for the production of a wash gives baked goods a striped graining and a taste of lye baked goods.

Paper and board specialists Detpak (Stand No. 3A1-07) will present sustainable packaging solutions for food delivery made from renewable resources. After recently launching their Food Delivery Range, Detpak makes it easy for their customers to browse an extensive range of products suitable for food delivery, conveniently categorised by cuisine.

Detpak Group General Manager for Marketing and Innovation Tom Lunn said that growth in the food delivery market reflected a consumer need for convenience to support busy, modern-day lifestyles.

The Food Company (Stand No. 8A3-11) will introduce its growing range of high quality, long shelf-life condiments all manufactured in Sydney, Australia. The company has a range of basic flavours, dressing, and sauces. Products are exported to over nine countries throughout Asia and the Middle East, these shelf stable products add a burst of flavour to all your meal requirements.

More than a mega trade event

FHA offers networking and learning opportunities through new and improved speciality zones and industry-renowned competitions. Through these activities,

visitors will gain insights into the rapid changes impacting the F&B and hospitality industries, and with easy access to the necessary tools, contacts, skills and knowledge, they will be able to stay relevant and maintain their competitive edge.

International conference

The FHA2018 International Conference, held across two venues from 24 to 26 April, will feature industry experts and business thought-leaders sharing perspectives, tips and strategies across 10 key tracks, from hotel revenue management and bakery at the Singapore Expo, to central kitchen and F&B technology at Suntec Singapore.

Culinary competitions

The FHA Culinary Challenge (FCC) adds to the experience at FHA, with intense competitions designed to showcase the best professional culinary talents from the region.

ProWine Asia 2018 - Southeast Asia's largest fair for wines and spirits

Held alongside FHA, ProWine Asia will return with an 18% increase in exhibition area. With 300 leading exhibitors, ProWine Asia will bring the world of wines and spirits to Southeast Asia through its extensive representation of international wine and spirit labels, a broad scope of solutions and concepts for the region's diverse consumer markets, as well as specialised masterclasses and seminars by industry speakers.

"ProWine Asia continues to follow the highly successful global formula that is unique to the ProWein World series with its internationality of wine and spirit brands and producers," said Mr. Marius Berlemann, ProWein Director and Global Head of Wine & Spirits, Messe Düsseldorf GmbH.



China Food & Beverage Manufacturing Summit & Expo 2018

—Nutritional Food and Dietary Supplement, Functional Beverage, Food for Special Medical Purpose (FSMP), Innovative Packaging, Latest Processing and Automation Technology

Aug. 23-24, 2018 | Guangzhou, China

'The China Food & Beverage Manufacturing Summit & Expo 2018' will maintain 'Nutritional Food and Dietary Supplement Session', 'Functional Beverage Session', 'Innovative Packaging Session' and 'Latest Processing and Automation Technology Session', and newly added 'Food for Special Medical Purpose Session'. The summit will bring 35 speeches covering several hot topics including food and beverage industry regulation, development trend, formula, food safety, innovative packaging and latest processing technology.

Enterprises should seize the opportunities to maintain the leading position in the industry. Manufacturers can better understand how the diversity of products and service can influence the business relying on the suggestions, trend and regulation analysis from experts. The summit will gather industry professionals with goal of creating a platform for discussion about new opportunities and how to increase capacity and reduce production costs. The audiences can expand connections and seize potential business opportunities. You cannot miss this summit!

10 Reasons You Need to Attend

- 5 parallel sessions, 35+ hottest topics, industry elites
- Advisory committee from domestic and overseas markets
- Market overview, Industry trends and innovative technology
- Industry experts to share best practices onsite
- Latest domestic and overseas industry regulations
- The most practical solutions
- Strategies to create profitable products that meet consumer demands
- Exhibition booths and technical seminar
- Buyer-supplier match making service
- Food & beverage tasting zone

5 Parallel Sessions with Hottest Topics

- Food Safety and Supervision
- Precision Nutrition Concept and Supporting Technology
- Application of Plant Extracts in Health Food
- Application of Probiotics in Nutritional Food
- Fermented Beverage Market Analysis
- Market Analysis and Product Innovation of Vegetable Protein Drinks
- Functional R&D and Innovation of Solid Beverage
- Food for Special Medical Purpose (FSMP) Regulation
- FSMP Inspection and Testing Technology
- Labeling Technology and Case Analysis
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Leading exhibitors at Sino-Pack and PACKINNO 2018

OVER 880 exhibitors will be joining SINO-PACK and PACKINNO 2018 this year. Here's a profile of some of the leading exhibitors showcasing new and innovative products and equipment.

CSi Industries B.V.

Booth No: 1.1B09



CSi specialises in product and material handling, palletising and transporting integrated application of technology and equipment. The company has established three production centres in the Netherlands, Romania and China. To adapt with the demand for high-end automated material transporting and palletising equipment in China, CSi set up the "CSi PAC FOSHAN – "CSi Palletising Application Center", which offers module design and standardised production mode for economic affordable EOL palletisers. The company also provides systemic integration solutions and services including project consulting, design, production, assembly, delivery, installation and commissioning.

SEW-EURODRIVE

Booth No: 1.2B25

SEW-EURODRIVE is globally well-known in the field of power transmission, specialising in electrical motors, gear motors and frequency control equipment. The scale of SWE-EURODRIVE (China) includes three manufacturing plants, seven assembly and technical service centres and more than 50 offices in China.

Jinan Robot Phoenix Automation Technology Co., Ltd

Booth No: 1.1J09



Xunyi parallel robot

Robot Phoenix is an integrated automation high-tech enterprise with capability in industrial robot research and development, control system development, visual system development, OEM supply, and automation systems. Its main product, the Xunyi parallel robot can sort, carry, package, glue, and stack. The company has ISO9001:2008 and CE certifications.

Zhongshan Kunyuan Packing Material Co., Ltd

Booth No: 2.2 J07

Kunyuan specialises in the production of PVC and POF heat-shrinkable films, including PVC, POF, PE shrink film, shrink bags, shrink packaging machine products. Its 15,000-square-meter factory is equipped with 26 advanced production lines with capacity of more than 500 tonnes per month.



A variety of PVC and POF heat-shrinkable films

Polystar (Shanghai) Co., Ltd.

Booth No: 1.1C49

Polystar is Nippon Polystar's sole proprietorship in Shanghai. It develops advanced packaging technology under Japan standards, and provides after-sales service, as well as production of all kinds of multi-functional packaging machinery.



Multifunction packaging

Dongguan Uni-pak Packing Co., Ltd.

(Booth: 2.2B11)

Uni-pak is a professional manufacturer of flexible packaging bags, devoted to increase productivity



Flexible packaging bags

and quality of service to meet the market need by research, design, manufacturing and selling. Since 2012, Uni-pak has become a qualified Disney supplier. Now the company scale has reached 10,000 sqm and established a dust-free workshop and a complete system of quality control and tracing.

Guangdong High Dream Intellectualized Machinery Co., Ltd

Booth No: 1.1E61

High Dream is a professional manufacturer of multihead weighers in China. Its main products include multihead weighers, loss-in-weight feeder, metal detector, and check weighers. To meet the different requirements of its customers, High Dream launched “High Speed 18-Head Weigher with Memory Hopper”, a weigher that features a feed bucket, weigh bucket and memory bucket. Their weighers can be applied to snacks, nuts, candies, beans, pet foods, dry solid material and non-sticky products etc.



Multihead weigher

Hangzhou Zhongya Machinery Co., Ltd.

Booth No: 1.1A49

Zhongya mainly manufactures filling/sealing equipment, blow moulding equipment and smart downstream packaging equipment for all kinds of liquid products. The application of their equipment is mainly for smart packaging for solid food, medical products and electronic products, which is highly precise and efficient, easy to use and control, as well as flexible etc. In the packaging industry, DELTA robots can be widely used for high-speed sorting machine, cartoning machine, automatic tracking code materials of packing machine, and the rapid switching of product categories, as a result to improve productivity.



Filling and sealing equipment for packaging solid food

Sino-Pack 2018 & PACKINNO 2018:

Know the latest in F&B packaging

SINO-PACK 2018 and PACKINNO 2018 will be held at Area A, China Import and Export Fair Complex in Guangzhou, China on 10-12 March 2018. Together, these exhibitions will present the latest products from 880 exhibitors across 22 countries.

Warehousing robots

According to research company Tractica, the global warehouse and logistics robot market will grow rapidly to reach USD 22.4 billion in 2021. The rapid growth in intelligent logistics packaging technology and equipment, especially packaging robots, mirrors the strong demand in the logistics and packaging industries. At Sino-Pack and PACKINNO 2018, robots and smart logistic packaging will take the spotlight.

Smart Packaging Zone

With the rapid growth of smart packaging technology and the wide application of industrial robots, Sino-Pack 2018 will feature high-performance packaging industrial robots, automated packaging product lines, and many other technologies applicable to the food and beverage industries.

Logistic Packaging Zone

The logistics industry is expanding due to the rise of e-commerce. To promote the latest logistic packaging technologies to the visitors, Sino-Pack 2018 will set up a “Logistics Packaging Zone” to showcase new logistics packaging solutions including conveyor machines, stacking cranes, three-dimensional racks, sorting machines, intelligent logistics packaging production solutions, trays, barcode information systems, and other equipment.

Sino-Pack 2018 is also conducting several logistics forums where trade visitors from manufacturing, e-commerce and logistics can share information and developments in logistics packaging. Topics will include: Warehousing Supply Chain - Cost Reduction and Efficiency Increase and Concurrent activities in Smart Logistics and Warehousing Zones. The highlights of the event include the SF Express Procurement Conference, JD.com Conference, Cainiao.com Logistic Project Sharing and DHL Supply Chain.

Smart packaging technology for food and beverage

According to Smithers Pira, the annual production value of the global packaging market will reach USD192.75 billion in 2026, in which F&B packaging will be the main driver of market growth. Supporting that statement, the list of top 100 Packaging Consumers in the United States shows that F&B packaging will be the fastest-growing segment in the packaging market from 2017 to 2026. The above statistics implies that, product differentiation, unique brand character, attractive appearance, as well as great functionality, will lead to a big transformation in the F&B packaging market.

At Sino-Pack 2018, there will be four theme zones showcasing major packaging technologies for food and beverage. Visitors will be able to see a variety of products designed to rouse a consumer’s desire to purchase. Emerging consumer trends including sentiment toward environment also spur new green packaging, while health awareness trends have led to production of safer packaging.

Meanwhile industry breakthroughs are enabling manufacturers to solve issues in production, logistics, and sales, such as how to improve production mode, build smart and efficient automated production line, reduce transportation loss, save storage cost,

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<p>Ingredients as Fat and Protein Components</p> <p>FP704 Animal protein hydrolysate FP729 Creamer, non-dairy FP773 Fats and oil, vegetable FP782 Fats and oil, animal FP139 Fat replacer FP775 Fatty acids FP740 Protein, vegetable FP741 Protein, animal FP123 Oil and fat FP739 Protein FP753 Soya lecithin FP856 Vegetable protein hydrolysate</p> <p>Milk-Based Ingredients</p> <p>FP789 Butter ingredients FP790 Buttermilk FP750 Casein FP798 Caseinate FP805 Cheese FP806 Cheese, powdered FP705 Lactose FP865 Milk fat FP836 Milk protein FP837 Milk solid FP719 Milk, homogenised FP720 Milk, pasteurised FP749 Milk, skimmed FP774 Whey FP857 Whey, powdered FP859 Whipped topping base</p> <p>Ingredients as Components</p> <p>FP127 Amino acids & derivatives FP909 Appetite suppressant FP801 Carrageenan FP800 Cellulose FP804 Cereal, milled FP808 Chocolate products FP129 Coffee products FP924 Dietary fibre FP167 Fruit FP910 Fruit powder FP148 Gum base FP911 Herbal and tea powders FP799 Hops FP189 Legumes & pulses FP724 Mineral supplement FP190 Mushrooms / fungi FP171 Natural bioprotective ingredient FP923 Nutraceuticals FP991 Nutrient premixes FP906 Nuts FP922 Omega-3 FP174 Organic ingredients FP993 Prebiotics FP994 Probiotics FP111 Vegetables FP770 Vegetable powder FP183 Vitamins</p> <p>Ingredients for Processing / Processing Aids</p> <p>FP703 Agglomerator FP735 Bakery improver FP710 Baking powder FP715 Bleaching agent FP716 Bread softener FP718 Browning agent FP721 Buffering agent FP722 Bulking agent FP807 Chelating agent FP809 Clarifying agent FP137 Cultures FP814 Dairy processing aid FP816 Dispersing agent FP817 Dough conditioner FP818 Dough improver FP138 Emulsifier FP121 Enzymes FP992 Esters FP140 Fermentation starter FP149 Hydrocolloid FP711 Lubricant FP758 Stabiliser FP181 Texturising agent FP854 Thickener FP776 Yeast</p> <p>Ingredients for Flavoring</p> <p>FP730 Acidulant FP785 Aroma chemical FP714 Bittering agent FP772 Essential oil FP145 Flavors FP779 Flavor enhancer</p>	<p>FP797 Herbs FP746 Salt FP756 Spice / seasoning FP777 Sugar FP126 Sweetener, natural FP747 Sweetener, synthetic FP852 Sweetener blend</p> <p>Ingredients for Coloring</p> <p>FP791 Caramel FP757 Clouding agent FP811 Color, natural FP766 Color, synthetic</p> <p>Ingredients for preservation</p> <p>FP706 Antimicrobial agent FP128 Antioxidant FP768 Curing agent FP819 Drying agent FP125 Preservative</p> <p>Food Processing and Equipment</p> <p>FP100 Air compressor FP879 Air purifier FP011 Retort FP003 Bakery equipment FP004 Battering and breading machine FP005 Biscuit making FP186 Blanching machine FP006 Blender and mixer FP010 Canned food processing FP012 Cereal processing FP013 Chilling equipment FP073 Chocolate making FP015 Cold storage FP017 Confectionery processing FP888 Convenience meal processing FP018 Curing equipment FP019 Cutters / slicers FP999 Dairy processing FP020 Dehydration FP033 Disintegrator FP022 Extraction and concentration FP904 Feeder FP023 Filtration FP024 Fish processing FP025 Food forming FP027 Freezing FP029 Fruit & vegetables processing FP030 Frying FP031 Grain processing FP032 Granulator FP076 Ham processing FP035 Heat exchanger FP925 High pressure processing FP036 Homogeniser FP037 Ice cream making machine FP040 Instant noodle processing FP192 Level measuring devices FP193 Meat ball forming FP044 Meat processing FP077 Milk processing FP047 Mixer FP048 Oil extraction FP912 Oil filter FP050 Pasta processing FP051 Pasteuriser FP905 Peanut processing FP052 Peeling FP881 Pneumatic components FP086 Pump / valve FP916 Quick-frozen food processing FP058 Sauce processing FP057 Sausage making FP079 Saw cutter FP059 Slaughtering FP901 Smokehouse FP061 Snack food processing FP062 Soybean processing FP064 Stainless steel equipment and fittings FP065 Steriliser FP902 Thermal treatment system FP908 Vacuum freeze drying FP080 Vacuum refrigeration FP903 Vacuum tumbler FP207 Vegetable and fruit chip production FP068 Washer FP069 Water treatment system FP070 Weighing</p> <p>Beverage Processing and Equipment</p> <p>FP091 Beverage processing - 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Staff Size
 1a) 1-10 1b) 11-50
 1c) 51-100 1d) 101-500
 1e) 501-1000 1f) More than 1000

Products of Food Processing (one or more)
 3a) Beer/wine/spirits
 3b) Biscuit/bakery products
 3c) Beverages carbonated
 3d) Beverages non carbonated
 3e) Confectionery/snack foods
 3f) Convenience foods
 3g) Dairy products
 3h) Fruit & vegetable products
 3i) Frozen foods
 3j) Grain & cereals
 3k) Health foods
 3l) Herbs/spices/avorings
 3m) Meat/poultry
 3n) Mineral & distilled water
 3o) Oils & fats 3p) Sea foods
 3q) Others _____

Company Annual Turnover (USD)
 5a) Less than 500,000
 5b) 500,000-1 Million
 5c) 1-2.5 Million
 5d) 2.5-5 Million
 5e) 5-10 Million
 5f) Above 10 Million

Your business function (one or more)
 2a) Food processing
 2b) Food packaging
 2c) Beverage processing(non alcoholic)
 2d) Beverage processing(alcoholic)
 2e) Beverage packaging
 2f) Manufacture/distributor/importer/
 agent or food and beverage
 processing equipment
 2g) Research/university
 2h) Government/Association
 2i) Others _____

Position
 6a) General Manager /Managing Director/
 President
 6b) Production Manager
 6c) Purchasing Manager/Sales Manager
 6d) Government / Consultant
 6e) Packaging Engineer
 6f) Food & Beverage Researcher / Technician
 6g) Others _____

Packaging Material (one or more)
 4a) Aluminum 4b) Can/Can Ends 4c) Caps/Closures
 4d) Glass 4e) Labels 4f) Paper/paperboard
 4g) Plastics 4h) Others

Role in Purchasing
 7a) Decision Maker 7b) Recommend
 7c) Evaluate/Test 7d) Search For Supplier
 7e) No Participation

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New Aseptic Combox

SERAC, which combined two of its products, the PET linear blower (SBL) and the rotary weight filling machine in a single unit (trade name Combox), has released an aseptic version ideal for dairy and beverage production.

The Aseptic Combox offers a low and medium work-rate solution for applications using pH neutral and acidic products with volumes of up to 12,000 PET bottles per hour for the 1-litre format and up to 18,000 PET bottles per hour for the smaller 250 ml formats. It allows for rapid range expansion through a production tool for both high performance and flexibility, with the following benefits:

- Positive and direct transfer of containers by the neck between the blower and the filling machine limits the risk of container contamination
- The compact system has no open-air conveyor; there is lower risk of blockages.
- One operator can handle the entire blowing-filling unit.
- H₂O₂ decontamination of containers reduces the risk of re-contamination just before filling.
- The blower is located outside the sterile zone, preventing re-contamination when changing the forming mold. The change of tooling at the filling machine exit takes place outside the sterile zone.



Serac Asia Sdn Bhd

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FPE261

Wheat protein concentrates

DEVELOPED for the sports and senior nutrition markets, Nutriance® is a range of wheat protein concentrates that delivers 85% protein and has a high glutamine content. The product, a source of branched chain amino acids (BCAAs), has good water solubility, a neutral taste, and creamy colour, which together allow companies to create biscuits, cakes, food replacements, and other food and beverages, with high levels of protein and glutamine without affecting the taste or texture of the end-product.



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FPE193

Canola oil with the lowest saturated fat

CARGILL's high oleic canola oil is made from a canola hybrid that contains 4.5% or less saturated fat whilst maintaining high fry and shelf life performance, freshness and taste. It reduces saturated fat content 35% from previous canola oil generations.

The oil can be used in most kinds of foods like crackers, spreads, dairy creamers, aside from fried food. It was developed through traditional breeding methods, with a focus on club root and black leg disease resistance, as well as strong yield performance. Growers can add herbicide tolerance as an optional genetic modification, depending on their markets and preference.

Cargill Asia Pacific Holdings Pte Limited

T: +65 6295 1112
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Energy-saving injection molding

FCS Group offers a production system for thin-wall containers. Its AH Series for food container molding features an injection screw for high precision and uniform melt effect. It gives the injection unit high injection and response speed.

The AH Series also adopts Vickers high response closed-loop servo valve for maintaining its repeatability and for controlling holding pressure. The rigid and durable machine comes with the FCS-3700 high-end multi-scalable module controller and an optimised toggle mechanism.

By choosing to use a servo motor (optional), the energy savings from this system is almost equal to that which can be attained via a full-electric machine – a feature that has made the product popular in Africa, America and China.



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FPE2057

Sanitary ball fittings

CME sanitary ball valves feature clamp/weld ends and ISO 5211 high mounting pad as standard. They come in 1/2" to 4" sizes with five seat materials for different applications. All the seats are encapsulated or non-encapsulated with optional V shape design for customers that want the most cost-effective option. The blow-out proof stem and lockable handle are designed for safety and prevent accidents during processing. All the valves are 100% tested for leaking and torque before being shipment.

CME – Casting Machining Engineering CO., LTD

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Natural Karaya gum

FRENCH company Alland & Robert has developed a method that reduces the total plate count of hydrocolloids whilst preserving all their functional properties. Its major innovation is based on flash heating and preparation that give Karaya gum its microbiological quality and allows it to be used alone or with other hydrocolloids.

The natural gum is a texturiser and bulking agent, source of dietary fibre, adhesive compound, viscosity control agent, and enables water retention and suspension properties. Applications include coatings, fillings, dressings, desserts and emulsified sauces.

Non-GMO, gluten-free, and derived from Sterculia trees grown without pesticides, the gum is classified as E416 by the EFSA (European Food Safety Authority) additive referential.

Alland & Robert

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FPE194



Automatic sleeving machine

THE ASL-1000 is a user-friendly automatic sleeving machine developed and produced by Allen Plastic in Taiwan. The durable stainless-steel machine conforms to different speed requirements. The company also provides installation and training of its equipment.

Allen Plastic Industries Co., Ltd

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EVAPORATION is a clear separation technology recognised as one of the best techniques in industrial wastewater treatment. To accelerate this process and reduce wastewater volume and disposal costs, Veolia offers manufacturers the EVALED® Evaporation Technology.

At the China (Shanghai) International Evaporation and Crystallization Technology and Equipment Exhibition (SHEC 2017), the company shared how a China manufacturer was able to cut cost for disposal of polluted and corrosive wastewater from its production line by over 20 times, and recycle more than 95% of the treated water.

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