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Filtration & Separation
New Product Launches
Market Price Report
Market Key Trends
Sustainability

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11-12/2017

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from the FRUIT PROCESSING team

ANUGA Preview FOOD TEC

January 2018

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March 2018

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EDITORIAL

Dear Readers,

at the end of the year most people look back on what happened during the past twelve months. Such a retrospection can be very helpful since it induces us to reflect on both successful and less successful projects and, consequently, to think about how we can realize our aims and objectives in an even more efficient and better way than we did before.

For the fruit juice business it has been a year of change, turning out to differ from what many an expert had expected it to be. Juice making is becoming a popular business venture, especially with the high number of people that are getting into raw food diets and organic eating. 2017 again has been an extraordinary year with regard to product development in the global sugar discussion. There has been a general rise in awareness of the nutrition factor. Health is very much present when it comes to choosing sweeteners. Many beverage producers are working on new ideas offering the consumer fruity health in a convenient packaging.

It has been an extraordinary year for many regions with regard to the forces of nature. 2017 was supposed to be the comeback season for citrus growers. Then, Hurricane Irma wiped out much of this year's crop in just a few hours. We feel deeply for the victims and people suffering.

On the brink of the year 2018, the key question is: How should companies shape new markets actively and with foresight in view of industry 4.0, vegan and vegetarian products, new processing technologies, such as HPP for cold pressed juices? Many excellent solutions have been and will be presented in FRUIT PROCESSING. The upcoming meeting point to see all technological innovations is Anuga FoodTec in Cologne – next year in March.

Finally, we would like to seize the opportunity to thank all our readers and business partners, who trusted FRUIT PROCESSING during 2017. I hope, dear readers, the upcoming holidays will convey to you the courage for change. Ignore your PC for a couple of days, enjoy the face-to-face talks with your family and friends, and replenish your batteries to be fit for the challenges of the year ahead.

Wishing all of you Happy Holidays and a successful New Year.

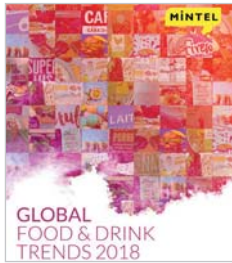
Yours,



M. Benich

MARKET KEY TRENDS

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In 2018, expect to see transparency and traceability for all, regardless of their income. From ingredient scares to political bombshells, self-care has become a priority for many and one that includes choosing food and drink that will address perceived nutritional, physical and emotional needs. Opportunities also will be plentiful for natural, tantalising and unexpected textures from chewy beverages to cookies with popping candy inside. ...

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Not just clear, but clean 388

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A process analysis helps find the cause of the problem when filter media get prematurely blocked or does not perform sufficiently. In many cases, the problem is not caused by an ineffective combination of filter media or poor filtration performance of the end product, as one might expect, but by a completely different culprit – process water. ...



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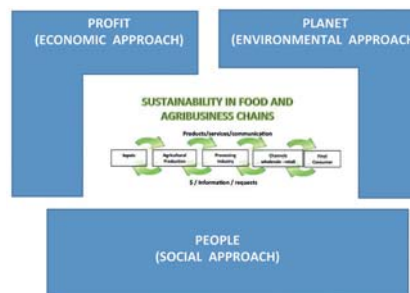
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SUSTAINABILITY

Marcos Fava Neves

Improving sustainability actions and reports for food and agribusiness companies. 394

Sustainability, previously defined as “responsible use of exhaustible energy resources and raw materials” got a huge awareness over the world. The facts for this arousal of awareness could be justified by the rise in expectations of consumers (more aware of problems), the emergence of new generations worried with the planet conditions, the scarcity of natural resources, global climate change risks, the impact of social media, which allows immediate knowledge of disasters, bad behavior of companies, excess pollution and others. ...



THE MOBILITY PHENOMENON

Challenges & chances for the food & beverage industry 396



Mobility – this global megatrend continues to affect all societal and economic sectors. It has changed our needs – and our way of life – as well as our expectations of the products we buy. But what does it mean for food and beverage manufacturers? How must they adapt to meet changing consumer needs in a more mobile world? And

what solutions are available to them? This whitepaper highlights the challenges and chances mobility presents for everyone involved.

In this time of acceleration, digitalisation and increasing urbanisation have changed the way we live, work, travel and consume. This mass mobilisation can be traced back to the late 1930s when international air travel commenced, but it was not until after the second world war that it really took off, so to speak. ...

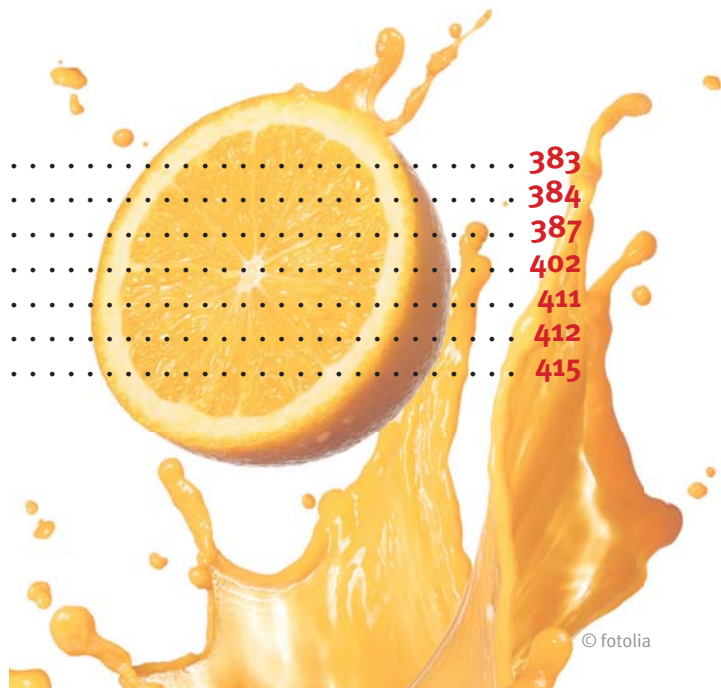
NEW PRODUCT LAUNCHES 400

In cooperation with Innova Market Insights we are happy to publish new product launches on a global scale. Innova Market Insights is a world leading provider of knowledge solutions for the food and beverage industries. They serve their clients around the world with a full spectrum of solutions built around the professional needs of their individual roles. ...

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Now online: Fruit Juice Calendar 2018



Five global food and drink trends to impact the global food and drink market

| Full Disclosure | New Sensations | Preferential Treatment | Science Fare | Self-Fulfilling Practices |

Mintel, the world's leading market intelligence agency, announced five key trends set to impact the global food and drink market over the coming year.

In 2018, expect to see transparency and traceability for all, regardless of their income. From ingredient scares to political bombshells, self-care has become a priority for many and one that includes choosing food and drink that will address perceived nutritional, physical and emotional needs. Opportunities also will be plentiful for natural, tantalising and unexpected textures from chewy beverages to cookies with popping candy inside.

Meanwhile, the rapid expansion in the variety of food and drink retail channels will fuel the opportunity for recommendations, promotions and product innovations that are personalised based on individual consumer behaviour. Finally, forward-looking companies are developing solutions to replace traditional farms and factories with scientifically engineered ingredients and finished products.

Looking ahead to 2018, Mintel's Global Food and Drink Analyst Jenny Zegler discusses the major trends predicted to play out in food and drink markets around the world, beginning with the trends that will gain wider traction in the months ahead to emerging trends that are influential, but just on the fringe in many regions.

Full Disclosure

In our new post-truth reality, consumers require complete and total transparency from food and drink companies.

Widespread distrust places pressure on manufacturers to offer thorough and honest disclosures about how, where, when and by whom food and drink is grown, harvested, made and/or sold. The need for reassurance about the safety and trustworthiness of food and drink has led to increased use of natural as well as ethical and environmental claims in global food and drink launches. In addition to more specific product details, the next wave of

clean label will challenge manufacturers and retailers to democratise transparency and traceability so that products are accessible to all consumers regardless of household income.

Self-Fulfilling Practices

As more consumers find modern life to be hectic and stressful, flexible and balanced diets will become integral elements of self-care routines.

The frantic pace of modern life, constant connectivity, pervasive distrust and contentious tones in politics and the media have caused many consumers to look for ways to escape negativity in their lives. Many people who feel overwhelmed are focusing on "self-care," or prioritising time and efforts dedicated to themselves. Looking ahead, individual definitions of self-care and balance will reinforce the need for a variety of formats, formulations and portion sizes of food and drink that present consumers with positive solutions — and treats — that can be incorporated into their customised and flexible definitions of health and wellness. Going forward, more consumers will be looking for ingredients, products and combinations of food and drink that provide nutrition, physical or emotional benefits that advance their priorities for self-care.

New Sensations

Texture is the latest tool to engage the senses and deliver share-worthy experiences.

In 2018, the sound, feel and satisfaction that texture provides will become more important for food and drink companies and consumers alike. Texture is the next facet of formulation that can be leveraged to provide consumers with interactive — and documentation-worthy — experiences. The quest for experiences will provide opportunities for multi-sensory food and drink that uses unexpected texture to provide consumers, especially the teens and young adults of the iGeneration, with tangible connec-

tions to the real world, as well as moments worth sharing either in-person or online.

Preferential Treatment

A new era in personalisation is dawning due to the expansion of online and mobile food shopping.

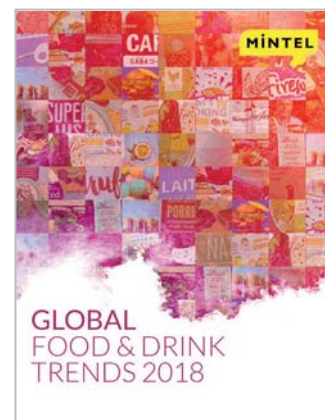
As technology helps to make shopping as effortless as possible, an era of targeted promotions and products is emerging. Motivated by the potential to save time and ideally money, consumers are sampling a variety of channels and technologies when shopping for food and drink, including home delivery, subscription services and automatic replenishment. Companies and retailers can leverage technology to establish new levels of efficiency, such as customised recommendations, cross-category pairings and resourceful solutions that save consumers time, effort and energy. Opportunities exist for companies to tempt consumers by creating products, suggesting combinations of goods and other options across consumer categories that make shopping more efficient and affordable for customers.

Science Fare

Technology is being used to engineer solutions for our stretched global food supply.

A technological revolution is playing out in manufacturing as some forward-looking companies are developing solutions to replace traditional farms and factories with scientifically engineered ingredients and finished products. In 2018, technology will begin to disrupt the traditional food chain as enterprising manufacturers aim

to replace farms and factories with laboratories. While lab, cultured or synthetic food and drink is only just emerging, technology could eventually be used to design food and drink that is inherently more nutritious, which could extend the consumer audience for scientifically engineered food and drink beyond environmentally conscious shoppers to reach consumers who are concerned about ingredient consistency, efficacy and purity.



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Jenny Zegler, Global Food and Drink Analyst at Mintel, said:

“In 2018, Mintel foresees opportunities for manufacturers and retailers to help consumers regain trust in food and drink and to relieve stress through balanced diets as well as memorable eating and drinking experiences. There also is an exciting new chapter dawning in which technology will help brands and retailers forge more personalised connections with shoppers, while enterprising companies are using scientific engineering to create an exciting new generation of sustainable food and drink.”

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Not just clear, but clean!

From the source to the bottle:

Importance and impact of process water

| Filter Cartridges | Filtration | Microbiological Load | Process Water |

Process water is a critical factor in industrial facilities and for manufacturing products and must meet the highest quality requirements. But what if process water quality is not up to par?

A process analysis helps find the cause of the problem when filter media get prematurely blocked or does not perform sufficiently. In many cases, the problem is not caused by an ineffective combination of filter media or poor filtration performance of the end product, as one might expect, but by a completely different culprit – process water. Process water comes into contact with all materials and equipment involved in the process as it cleans and rinses, therefore it takes its own particle load through the entire process all the way to the bottle. Since some particles may have a negative influence on the process or product to be filtered, it makes sense to take a closer look at the source and composition of this process water.

Source

The beverage industry primarily uses tap water (drinking water) and well water (spring water). It is used as boiler feed water and cleaning and/or rinsing water for bottles, reservoirs, winery equipment and bottling plants (including filter media). For this, it has to meet very strict purity criteria.

The physical, chemical and microbiological characteristics of tap water are specified in the German drinking water regulation (Trinkwasser-Verordnung – TrinkwV)^[1]. The regulation states: “Drinking water must be of such quality that its consumption or use do not give rise to concerns about damage to human health, especially by pathogens. It must be pure and fit for human consumption.” The regulation also clearly specifies the microbiological profile. According to appendix 3, a reference value of 100 cfu/ml (incubation temperature 20 °C ± 2 °C and 36 °C ± 1 °C) shall not be exceeded. In disinfected drinking water, the reference value after treatment is just 20 cfu/ml (incubation temper-

ature 20 °C ± 2 °C). For drinking water to be defined as pure and fit for consumption, it must also be virtually free from pathogens, such as *Escherichia coli* (E. coli), coliform bacteria or fecal streptococci. If the microbiological detection method finds fecal streptococci (on a 100 ml scale), it is not fit for consumption. The threshold for E. coli and coliform bacteria is deemed to have been met if in 40 tests, at least 95 percent are free of coliform bacteria^[1].

The source of well water (spring water) is underground water resources that can be extracted from one or more naturally or artificially tapped sources. The microbiological requirements are the same as the requirements for drinking water. Spring water must also be virtually free of pathogens. This requirement is met if no E. coli, coliform bacteria, fecal streptococci or *Pseudomonas aeruginosa* are detected in a 250 ml sample. Moreover, 50 ml spring water must not contain any sulphite-reducing sporulated anaerobes. When collecting and filling spring water, it may only contain such viable micro-organisms that do not give any indication of contamination^[2].

The various water types may contain numerous foreign substances and contamination of a molecular, colloidal and coarsely dispersed nature. Filtration processes may be adjusted to each individual process to remove foreign substances such as particles, iron, lime, rust and sand from the piping, as well as micro-organisms such as bacteria, yeasts and molds to ensure optimal water quality. In the past, mainly natural depth filters were used in the main (gravel or sand bed filters). Today, depth and membrane filter cartridges are methods of choice.

In this respect, membrane filter cartridges can be considered as an effective filtration method for process water. These filters contribute to process safety because they can be tested for integrity before filtration, i.e. to confirm their functionality. Compared to chemical water preparation processes using chlorine and ozone, they have two additional advantages: after filtration, the water is tasteless and can be used immediately.

Table 1: Commonly used filter cartridges and filter cartridge combinations to prepare process water in the field.

Winery	Process water source	Retention rate depth filter cartridge	Retention rate membrane filter cartridge
Company I	Tap water	None	None
Company II	Tap water	0.3 µm	None
Company III	Tap water	None	0.45 µm
Company IV	Tap water	0.3 µm	0.2 µm
Company V	Tap water	30 µm	None
Company VI	Tap water	1.0 µm	None
Company VII	Tap water	0.2 µm	None

Filtration

In wineries, process water is often prepared using filtration systems containing depth and membrane filter cartridges which remove particles and micro-organisms, or in preparation plants that soften and demineralize the process water. Table 1 shows commonly utilized filter cartridges and filter cartridge combinations which are inserted to filter feed water for boilers and clean bottles, reservoirs, winery equipment and bottling plants in different wineries in Germany.

The cross-section from the field shows that depth filter cartridges with different nominal retention rates are used to filter process water and are supplemented (company IV) or replaced (company III) with membrane filter cartridges, as required. Company I does not even use process water filtration. But why is the approach so different even when all companies use tap water as process water? To answer this question, the process water of companies I, II, III and IV has been analyzed.

Filtration and particle load

To determine the filterability and particle load, a filter index measurement using the BECO LiquiControl₂™ index measuring device has been performed. The device's storage reservoir is filled with 5 litres (1.6 gal) of process water and filtered via a 0.45 µm flat filter membrane (test membrane disc) at a constant pressure of 1.0 bar (14.5 psi). The initial flux is measured after 200 millilitres (0.05 gal) and the end flux after 5 litres (1.6 gal). The filterability is determined based on the filtration volume achieved per minute. The water quality is best if the end flux (flow rate) is greater than 400 ml/min (0.1 gal/min). It was possible to filter the 5-liter samples of all companies that had been examined and filterability

was graded from easy to average (see figure 1). If the process water is difficult to filter, a tight pre-filtration improves filterability by reducing particles and contamination.

The test membrane discs are visually evaluated in addition to the filterability results. The residues provide information regarding the particle load and the test membrane discs are specifically inspected for iron residues using the ferri-ferro test. If particles such as iron, lime and rust are detected, they may leave a layer of dirt on the filter cartridges. This layer of dirt reduces the filtration performance (flux) and service life and may lead to a full blockage of the filter cartridges (see figures 2 and 3).

Company I uses unfiltered process water. The index measurement shows that it can be easily filtered. The heavy layer of dirt on the test membrane disc indicates a substantial dirt load and the ferri-ferro test detects iron. The iron detected indicates rust deposits in the piping system. The iron residues may clog the surfaces of the filter media, thus significantly reducing their performance and service life.

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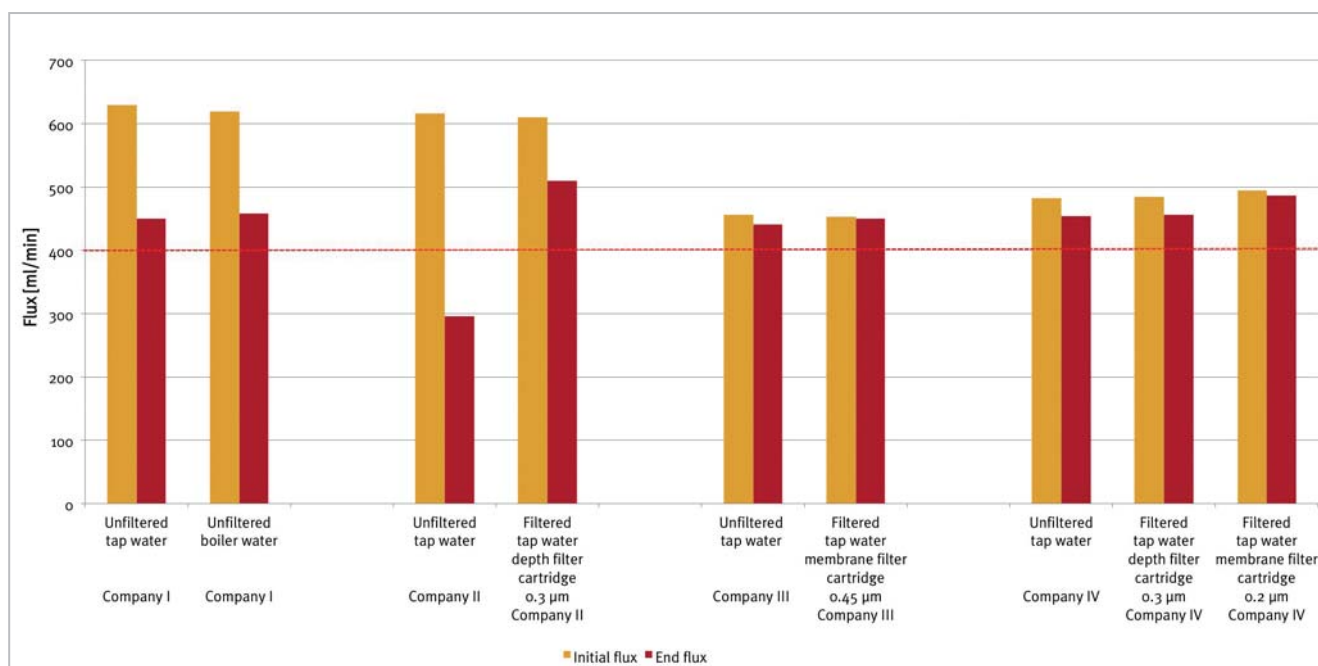


Figure 1: Results of the filter-index measurement of unfiltered and filtered samples in five wineries.

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The process water in company II has an end flux of 296 ml/min and is thus categorized as difficult to filter. To improve filterability, it is filtered with a depth filter cartridge with a retention rate of 0.3 µm. After the cartridge filtration, filterability improves significantly and the end flux is at 510 ml/min. The microbiological test detected bacteria and yeasts in the unfiltered process water (see table 2). The cartridge filtration removed the yeasts and reduced the bacteria.

Company III had a layer of dirt on the test membrane disc after the index measurement of the unfiltered process water. After filtration with a 0.45-µm membrane cartridge, no dirt layers were visible. The microbiological test showed that the process water was free of yeast and bacteria, but contained a high silica sol concentration (data not shown). The water filterability with an end flux of about 400 ml/min can be classified as easy. It is noteworthy that filterability does not improve any further, despite effective filtration. This suggests that this is caused by the silica sol concentration [3].

Company IV has high requirements of the microbiology of the process water used. To ensure that the water is free of bacteria and yeasts, a depth filter cartridge with a nominal retention rate of 0.3 µm and a membrane filter cartridge with an absolute retention rate of 0.2 µm are set up in sequence. The index measurement with an end flux of 487 ml/min indicates that the water can be easily filtered and the test membrane disc shows no visible layers of dirt. The results of the microbiological test prove that the process water is free of bacteria and yeasts (data not shown).

Microbiology

Aside from determining filterability, the microbiological load in the process water has been analyzed according to the German unified process (DEV) and the Drinking Water Regulation for rinsing water and foodstuff samples [4]. For this, samples of unfiltered and filtered process water were extracted. All samples complied with the threshold values of the Drinking Water Regulation.

Table 2: Results of the microbiological testing of water samples (company II). Comments: n. e. = no evidence; cfu (colony forming units)

Sample (tap water)	Germ count	Identification bacteria	Identification yeasts
Unfiltered	~ 50 cfu/ml	<i>Microbacterium spp.</i> , <i>Mycobacterium spp.</i>	<i>Cryptococcus spp.</i> (<i>Candida flavescens</i> or <i>Candida albidus</i>) <i>Pichia fermentans</i>
Filtrate depth filter cartridge (0.3 µm)	7 cfu/ml	<i>Microbacterium spp.</i>	n. e.
Filtrate depth filter cartridge (0.3 µm)I	9 cfu/ml	<i>Microbacterium spp.</i> , <i>Rhodococcus spp.</i>	n. e.

In addition, the microbiology of the unfiltered and filtered samples was tested. The results are presented in table 2.

The results of the microbiological test show that the unfiltered sample (tap water) contained both bacteria of the types *Microbacterium spp.* and *Mycobacterium spp.* as well as yeasts of the types *Cryptococcus spp.* and *Pichia fermentans*.

The metabolic products of the *Microbacterium spp.* bacteria have a negative impact on beverages. Their growth is stimulated by oxygen. Lack of oxygen and temperatures below 15 °C and a pH-value of 4.5 have a growth-retarding effect [5]. *Mycobacterium spp.* bacteria can be found in the earth and in water and are not deemed to have a negative impact on beverages.

Cryptococcus spp. and *Pichia fermentans* are breathing yeasts. They require large volumes of oxygen for their metabolism. They do not survive in wine due to a lack of sufficient oxygen [3].

The results of the microbiological testing of the water samples after filtration show that the 0.3-µm depth filter cartridge removed the *Mycobacterium spp.* bacteria and the yeasts. *Microbacterium spp.* bacteria were not removed. Since they require oxygen to reproduce, they cannot survive in wine and have no impact on the end product's quality and stability.

Furthermore, bacteria of the type *Rhodococcus spp.* were detected. The cause of this secondary contamination is unknown. The bacteria are mainly found in the water and in the earth.

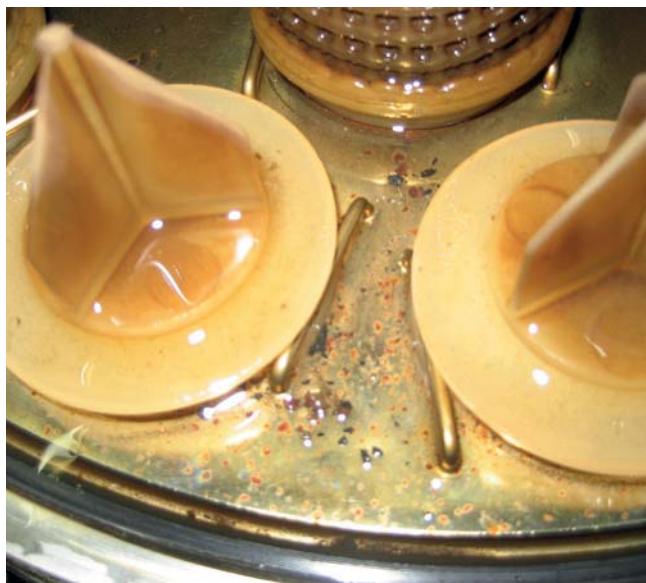


Figure 2: Iron and dirt residues on the unfiltered side (cartridge housing, filter cartridges, blind stopper).



Figure 3: Thick dirt and iron deposits (filter cartridges).

Conclusion

Process water and also piping systems contain particles and bacteria. Their impact and influence on the production process can be seen in the practical results presented. Process water can contain various dirt particles (iron, lime, rust, sand) and microbiological contaminants (bacteria, yeasts, molds). When the 'water tap is opened', it distributes its particle load through the entire production process all the way into the bottle. In this process, dirt deposits and films may considerably limit the functionality of equipment, systems and filter media and lead to hygiene problems. Hence, the condition, cleaning and maintenance of the entire system, particularly the piping, play an important role.

For an optimum production process, the filtration stages of the liquid flows (product and process water to be filtered) and the cleaning and rinsing of the system must be aligned with each other. Determining the filterability and identifying the particle load of the process water used helps determine an appropriate filtration solution for this stage of the process. The most effective filter cartridge combinations can be determined based on the results. This protects all process components from contamination and the efficiency of the filter media for product filtration is increased. This provides an important contribution to the protection of the end product's quality, since high

Table 3: Proven filter cartridges and combinations for the filtration of process water with different filtration objectives, including regeneration intervals.

Process	Filtration objective	Filter cartridges	Retention rates	Regeneration interval
Well water without water preparation	Retention of dirt particles (sand, rust) and water free of lime, bacteria and yeasts	Depth filter cartridge Membrane filter cartridge	< 1.0 µm 0.2 µm	Daily
Tap water without water treatment	Retention of dirt particles (sand, iron)	Depth filter cartridge	1.0 µm	Weekly
Tap water with water treatment (softened, demineralized)	Retention of dirt particles and lime	Depth filter cartridge	< 1.0 µm	Weekly
Rinsing water, rinsing/bottling plant	Rinsing water free of yeasts and bacteria	Depth filter cartridge Membrane filter cartridge	0.3 µm 0.2 µm	Daily

quality is the desired result, which is achieved if the process water is not only clear, but also clean.

The recommendations for process water filtration including filter cartridge regeneration intervals are summarized in table 3.

References:

- [1] German Drinking Water Regulation (TrinkwV), <http://www.dvgw.de/wasser/recht-trinkwasserverordnung/trinkwasserverordnung/>
- [2] The Natural Mineral Water, Spring Water and Bottled Drinking Water Regulation (Mineral and Bottled Drinking Water Regulation) https://www.gesetze-im-internet.de/min_tafelwv/BJNR010360984.html
- [3] Wasser und Wasseruntersuchung (Water and Water Tests), Leonhard A. Hütter, Otto Salle Verlag, 6. Edition, 1994, p. 134
- [4] Anwenderblatt Nähragar nach DEV (User sheet for nutrient agar according to the German uniform testing procedure), Döhler Design Microbiology, Version 4.0, 19/06/2015
- [5] Mikrobiologie der Lebensmittel-Getränke (Microbiology of food beverages), Helmut H. Dittich, Behr's Verlag, 1993, p. 1030r



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Eaton's filtration solutions

A successful combination for process water filtration is Eaton's BECO PROTECT PG™ pre-filter cartridge (1 µm) and BECO MEMBRAN PST™ Aqua membrane filter cartridge (0.2 µm) from the BECO® filter cartridge offering. The pre-filter's polypropylene fleeces are graded from coarse to fine and create a stable, tight filter that retains a broad particle spectrum. This prepares the process water for the downstream membrane filter cartridge filtration very effectively. The membrane filter cartridge's filter material consists of polyethersulfone and has a high retention rate with regard to micro-organisms. Its special, asymmetric pore size distribution optimizes flow and thus maximizes the flow rate and service life. The size of the filter area has been selected at 0.75 square meters per 10-inch element (8 ft²/10") so that it also supports an effective inflow and mechanical stability with regard to pressure and high volume flows. After this two-step filtration, the process water is free of particles and contamination that may have a negative impact on bottles, reservoirs, winery equipment and bottling plants (including filter media).

Our office will be closed during the holidays, from December 22nd 2017 at noon until January 1st 2018. We will be back to work starting January 2nd, 2018 .


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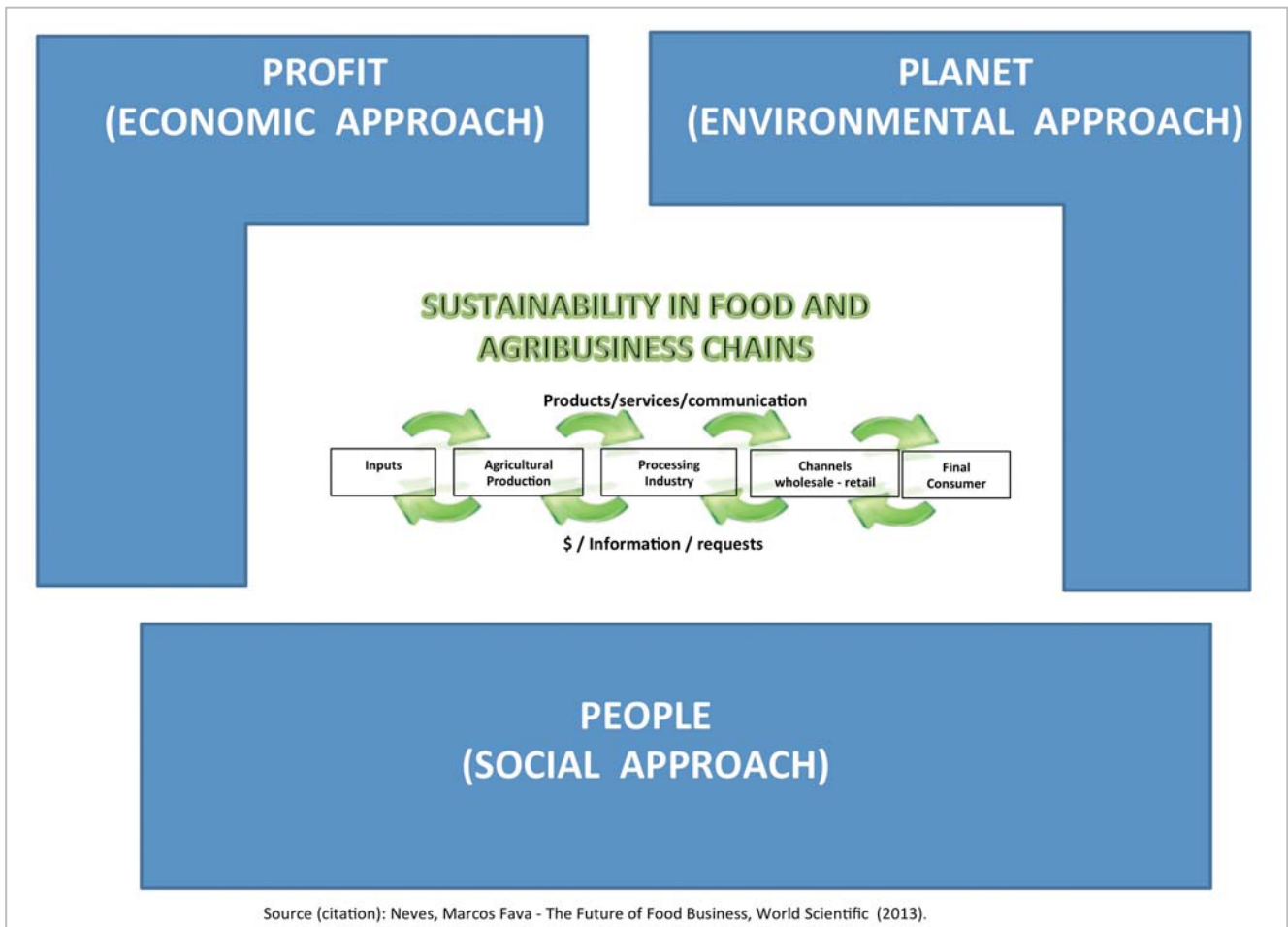
Improving sustainability actions and reports for food and agribusiness companies

| Agribusiness | Economic Pillar | Environmental Pillar | Food Companies | Social Pillar | Sustainability |

Sustainability, previously defined as “responsible use of exhaustible energy resources and raw materials” got a huge awareness over the world. The facts for this arousal of awareness could be justified by the rise in expectations of consumers (more aware of problems), the emergence of new generations worried with the planet conditions, the scarcity of natural resources, global climate change risks, the impact of social media, which allows immediate knowledge of disasters, bad behavior of companies, excess pollution and others.

At a company level there is a growing concern that we have to reduce environmental impacts of activities, increase transparency (corporate social responsibility), better flow of information, promote more inclusion and less social imbalance and finally, to increase the company’s usage of natural and renewable resources/energy.

Sustainability has three traditional pillars where it is needed to promote development. The economic dimension (profit), the environment dimension (planet) and the social dimension (people).



The objective here is to propose a framework to help companies and governments in the sustainability discussion and agenda. Each topic here may be considered to evaluate what companies are doing and what they can do in terms of activities and also important, measurement and communication of these activities.

On the economic (profit) side, some important factors to be considered are:

- Promoting economic development;
- Targeting social equity;
- Promoting opportunities (amount of salaries paid and other contributions);
- Providing a respectful product or service to the consumer;
- Taking good care of all stakeholders and increasing stakeholders' engagement process;
- Providing improvements in infrastructure (ex: rural roads and others);
- Adequate pricing of products;
- When possible offering long term purchase agreements for suppliers;
- Buying in the community (measuring how much is spent in the region);
- Working with transparency, ethics and integrity;
- Supporting small holders with technology;
- Improve technology usage for the company and its suppliers;
- Amount of sales, taxes paid and contribution to local GDP;
- Measure the economic situation before and after the investment (number of companies, and others);
- Permanent search for efficiency gains;
- Stimulating the sharing economy.

On the environmental (planet) side some important factors to be considered are:

- How to produce with efficiency and responsibility towards environment;
- Follow environmental rules;
- Protect biodiversity;
- Protect forests/reduce deforestation and increase the recovery of degraded areas (amount of trees planted...);
- Improve soil quality/reduce degradation;
- Use sustainable sources of energy, increasing shares of renewable energy. Improve the self-generation of energy;
- Waste reduction;

- Recycling;
- Coordinate the environmental protection efforts of the suppliers of the company;
- Increase water use efficiency in direct operations and supply chains and water discharge quality;
- Measure water, carbon, energy (for an item) footprint;
- Reduce vulnerability to climate risk in the supply chain;
- Taking care about the impacts of chemicals and others and improving natural methods of pest control;
- Stimulating "circular economy";

On the social (people) side, some important factors to be considered are:

- Good working conditions (safety, health, water, housing and sanitation infrastructure);
- Follow strictly labor laws;
- Adequate salaries and sharing early results in performance programs;
- Good health and well-being for all stakeholders;
- Gender equity and women empowerment;
- Elimination of child labor;
- Provide sources of community improvement;
- Ethics and integrity (rights, safety, efficiency, support, human resources, infrastructure, eliminate work incidents, improve healthy programs, and implement a program to respect differences...);
- Build a supplier's code of conduct regarding to people;
- Helping to develop skills and improving labor;
- Investing in educational programs;
- Improve usage of local people source for workforce;
- Improve partnerships with public sector towards social projects;
- Stimulate smallholders inclusion;
- Disabled inclusion programs;

This list is not exhaustive, and a good exercise for the professionals working in this subject it to look at web sites of companies that are doing a nice work in sustainability, download their materials and have new ideas for implementation. Society wins with more sustainability in the economic (profit), environmental (planet) and social (people) pillars.



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Challenges & chances for the food & beverage industry

| Digital Natives | Millennials | Mobility | Trend Leaders |

Mobility – this global megatrend continues to affect all societal and economic sectors. It has changed our needs – and our way of life – as well as our expectations of the products we buy. But what does it mean for food and beverage manufacturers? How must they adapt to meet changing consumer needs in a more mobile world? And what solutions are available to them? This whitepaper highlights the challenges and chances mobility presents for everyone involved.

In a world in constant change, which trends lead the way?

In this time of acceleration, digitalisation and increasing urbanisation have changed the way we live, work, travel and consume.

This mass mobilisation can be traced back to the late 1930s when international air travel commenced, but it was not until after the second world war that it really took off, so to speak.¹

Today, people travel more than ever before, with global air traffic doubling in just 15 years². But the impact of mobility is felt on more than tourism. It has affected the way we work as well as consumer needs and expectations with regard to food and beverages. As a result of this megatrend, food and beverage manufacturers face new challenges.

The trend leaders

Selling high-quality products at the lowest possible price is no longer enough to meet the consumer needs of the most influential, trend-setting generation of consumers – the millennials.

Who are the millennials?

Consumers born between 1980 and 2000 are referred to as “Millennials” or “Generation Y”. In the next few years, this group of today’s 17- to 37-year-olds will reach the

stage of life with the best earning potential. That makes them one of the most important target groups for our customers. But what characterises the millennials?

Millennials are „digital natives“

Millennials are the first generation that has grown up with mobile telephones and the internet. That shapes their use of media as adults: 72 % of millennials in the USA use Facebook; 83 % sleep with their smartphone beside them.

Millennials act responsibly

But millennials are not technology nerds. They use these media to socialise. Values are important to them, such as respecting human rights and protecting the environment. Many have already learned at kindergarten what recycling is. For instance, 60 % of US millennials are willing to pay more for eco-friendly products.

Millennials are mobile

Many millennials move into the cities. So they often make the journeys between home, workplace and leisure activities using public transport or on foot. More often than the generations before them, they eat, drink, work and communicate on the go.

The mobility megatrend

Mobility forms the basis of our lives and our economy. It creates flexibility, change and adaptability and leads to infinite opportunities for new products and innovation. Its effects are global rather than regional and it has also influenced three other trends.

1 Disruptive working life

Digitalisation has made it easier for many people to work from anywhere at any time, and be also more contactable than ever before. For instance, more American employees are working remotely, and they are doing so for longer periods. According to the Gallup Panel and Gallup Daily tracking in 2015 and 2016 that surveyed more than 15,000

THE MOBILITY PHENOMENON

adults, 43 % of employed Americans said they spent at least some time working remotely. This is only made possible by being able to instantly connect and widespread network access³.

As well as this, digitalisation also finds approval among employees with 80 % of managers agreeing that mobility increases their efficiency and saves time.

Whereas working hours have decreased⁴, productivity has risen globally. In the US alone, productivity stands at \$67 per hour today – two thirds more than 15 years ago⁵.

To a greater extent, we are more connected to work than ever before. While this may help productivity, it has also affected the time we take for breaks, like lunch hour. More and more, people take half an hour for lunch, eat at the desk or on the go.⁶ As a consequence, snacking has become more popular. In one survey, 76 % of millennials said they occasionally snack to satisfy hunger between meals.⁷ Another notes that 94 % of Americans snack daily.⁸

As people eat more often on the go and as a 'quick fix', small portion sizes are best suited to this kind of snacking. According to SIG Combibloc's internal market data base, the market for packaging sizes with less than 200 ml of volume will grow by 18 % by 2021.

2 Commuter Times

Thanks to the growth in urbanisation, commuting times to work have risen globally.⁹ For instance, in the UK, the number of people commuting to and from work daily has increased by 72 % in just ten years.¹⁰

But this trend is not confined to the UK – it can be seen in all regions of the world. Roads and public transport are full, making short-distance travel more time-consuming.¹¹ Despite this, people are still drawn to city life. They want to participate in an urban social life, accepting long-distance commutes to workplaces further outside.¹²

As highlighted in the table below, Israelis and Emiratis have the longest commute times with an average of 1.5 hours per day. But, as time becomes scarcer, commuting is put to good use. We write e-mails, listen to music, read books or drink and eat. Furthermore, we frequently combine breakfast with travelling. This saves time and allows those extra 10 minutes of additional sleep in the morning.

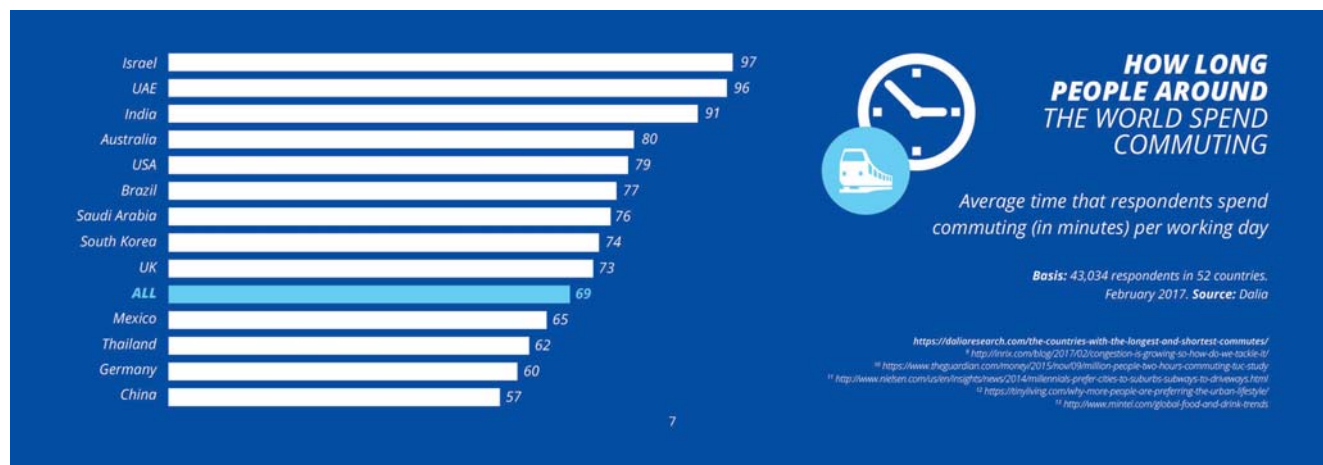
To reinforce the effect of this trend, on-the-go claims on packaging have increased by 54 % worldwide according to the market research company Mintel.¹³ At the same time, awareness about healthy eating continues to increase and meals consumed as replacements must be nutritious.

3 Urbanisation

Whereas in 2007 the distribution of people in urban and rural areas worldwide was almost even, in recent years there has been a dramatic increase in urbanisation. The United Nations predicts that by 2050, 66 % of the world's population will live in urban areas¹⁴. Younger generations in particular are attracted to cities where they can enjoy mobile and flexible lifestyles with a variety of recreational opportunities.

The move to urban areas has seen cities all over the world become more cosmopolitan and with that able to offer multi-national cuisines. Some 52 % of millennials state that their taste in food has changed due to exposure to other cultures.¹⁵ Our appetite for new and innovative food and drinks continues to grow, making the availability of delicious and interesting food and drink options a must-have at restaurants, cafés, kiosks and supermarkets. The more varied the offering to the consumer with regard to taste, volume size or packaging shape, the more interesting a product range becomes.

Millennials desire a rich and varied range of food and drinks¹⁶ that they expect to match their lifestyles. They want to make choices based on their personalities and beliefs.¹⁷ Half of US millennials aged 18-24 agree that brands



whose products they consume express something of who they are and mirror their values.¹⁸ This suggests that one-size-fits-all products may not be effective long term, and manufacturers will benefit from offering a product range diverse in taste and packaging design.

Today's global food & beverage trends

From take-away coffee and ready-to-eat salads to fruit and vegetable smoothies – what we consume is influenced more and more by our mobile way of life.

Snack time

With annual global sales of almost US\$400 billion, the snack industry is a major economic force. And, in line with the effects of urbanisation, snacks are increasingly replacing full meals. In a global study conducted by the market research firm Nielsen, 45 % of those surveyed said that they replace breakfast, lunch or dinner with snacks. One reason for this is that stressful daily life leaves little time for elaborate meals.

What do consumers want?

According to the Nielsen study, consumer snack preferences vary regionally. While sweets are popular in Central and South Africa and in Europe, North Americans prefer salty snacks. South Americans prefer biscuits and consumers in the Asia-Pacific region prefer small, cold snacks.

However, 65 % of respondents world-wide are happy to try new snacks, while 63 % purchase a selection of different snacks and 58 % make their purchasing decisions spontaneously.

Additionally, more and more consumers choose ready-to-eat organic snacks.

Health consciousness has grown worldwide. The proliferation of heart and cardiovascular diseases and Type 2 diabetes – usually results of unhealthy diets – has led to a change in global consciousness. Analysts predict that the market for organic snacks will grow by 18 % by 2021.²⁰

Convenient shopping

In the EU, convenience stores have experienced 5.3 % growth in sales since 2013.²¹ These small retail outlets sell a range of everyday items including groceries, snacks, confectionary, tobacco, toiletries and newspapers. The reason for this rise lies in global demand for snacks and the widespread desire to be able to shop at any time.

As these stores are usually located close by, they meet consumer needs for on-the-go products. The era of making a traditional breakfast at home before work or bringing

coffee in a thermos is over²² and premade sandwiches and coffee-to-go are often only a short walk away. For the packaging industry, single-serve paper cups, boxes, trays and containers for easy, mobile consumption have become an important business.

Global sourcing

Mobility has made the world feel smaller, with products shipped to all corners of the globe. Take, for instance, avocado consumption in China. Three years ago, the country imported none, but today, 30 container loads arrive every week.²³

This abundance of international foods and beverages has sparked consumer interest in the origins of the ingredients they consume. As a result, consumers are becoming more conscious about ethical and sustainable sourcing, and this has led to a need to better understand unclear supply chains.

“In a world of ever-more fragmented advertising media and retail outlets, today's packaging has become a brand's most important consumer's touchpoint.”²⁸

56 % of global consumers prefer snacks with ingredients from a sustainable source.²⁴ Ethical labels, like Fairtrade or FSC™, have become big business with US\$794 billion in retail value sales in 2015, and that figure will increase.²⁵ 47 % are willing to pay more for fair-trade snacks.²⁶ The vast majority of consumers – 94% – desire transparency with regard to the origin of the products they consume and product packaging.²⁷ Producers must react with appropriate concepts for traceability, such as using imprints or QR codes.

Are you ready for a change?

Changing consumer demands requires A new packaging philosophy

The mobility megatrend, coupled with the expectations of millennials, requires the food and beverage industry embrace a new packaging philosophy. Practical and good is no longer enough.

Top 4 key requirements for on-the-go packaging for every occasion

1 Packaging size

The demand for smaller and more practical snack packaging formats is growing as they are well suited to single serve on-the-go consumption.

2 Product concepts and opportunities

Consumers want the right product for the right occasion. To meet current trends, manufacturers must be able to provide the taste to match at reasonable prices and always at an early stage. New product concepts with a variety of flavours and nutritious ingredients such as cereals, fruit pieces or chia seeds are in demand.

3 Flexibility

Consumers want packaging that is easy to handle and that fits into handbags, backpacks or car drink holders. When it comes to drinks, they want more in how products are opened and consumed, such as screw tops and straws. Manufacturers must quickly adapt their production to these needs.

4 Transparency

With produce coming from all over the world today, consumers are curious about the origin of the ingredients in the products they buy. Tracking ingredients using imprints and QR codes are two ways of doing this.²⁹ Importantly, 49 % of millennials tend to remain loyal to a brand that communicates transparently.³⁰

Executive summary

A market and industry in evolution

As consumers increasingly embrace mobile eating and drinking habits, the food and beverage industry evolves with them and must continue to do so. Along with enticing recipes and ingredients, manufacturers must consider packaging that not only ensures safety and freshness, but which also satisfies key marketing functions: it must stand clearly out on the shelf, inform consumers about the product's contents, deliver an excellent sensory experience and, sometimes, even entertain with games or complements on the packaging.

When manufacturers take into account the needs of their customers, the more tailored their products will become. To remain viable, the industry needs to develop innovative product and packaging concepts tailored to lifestyles characterised by mobility and time.

To meet all this and the needs of today's and tomorrow's consumers, manufacturers need the right partner. One that understands food and beverage industry trends, analyses them carefully and offers complete solutions that entice and satisfy.

References:

- 1 Air Transport System Authors: Schmitt, Dieter, Gollnick, Volker <http://de.megatrends.wikia.com/wiki/Mobilit%C3%A4t>
- 3 Megatrend New York, 2015
- 4 <https://ourworldindata.org/working-hours/>
- 5 <https://www.zukunftsinstitut.de/artikel/megatrend-dokumentation/>
- 6 <https://www.slideshare.net/GaurangPatel28/eurest-eating-at-work-report-2016>
- 7 <https://www.slideshare.net/GaurangPatel28/eurest-eating-at-work-report-2016>
- 8 <http://www.mintel.com/press-centre/food-and-drink/a-snacking-nation-94-of-americans-snack-daily>
- 9 <http://inrix.com/blog/2017/02/congestion-is-growing-so-how-do-we-tackle-it/>
- 10 <https://www.theguardian.com/money/2015/nov/09/million-people-two-hours-commuting-tuc-study>
- 11 <http://www.nielsen.com/us/en/insights/news/2014/millennials-prefer-cities-to-suburbs-subways-to-driveways.html>
- 1 <https://tinyliving.com/why-more-people-are-prefering-the-urban-lifestyle/>
- 13 <http://www.mintel.com/global-food-and-drink-trends>
- 14 World Urbanization Prospects of the United Nations (2014)
- 15 Canadean: The latest consumer and innovation trends in beverages (2015)
- 16 <https://www.naturalproductsinsider.com/articles/2017/04/choice-and-connection-marketing-food-to-millennia.aspx>
- 17 https://www.bcgperspectives.com/content/articles/marketing_center_consumer_customer_insight_how_millennials_changing_marketing_forever/?chapter=3
- 18 https://www.bcgperspectives.com/content/articles/marketing_center_consumer_customer_insight_how_millennials_changing_marketing_forever/?chapter=3
- 19 <http://www.nielsen.com/content/dam/niensenglobal/kr/docs/global-report/2014/Nielsen%20Global%20Snacking%20Report%20September%202014.pdf>
- 20 https://www.researchandmarkets.com/research/pmwqrh/global_organic
- 21 https://www.researchandmarkets.com/research/pmwqrh/global_organic
- 22 <https://www.planetretail.net/presentations/ApexBrasilPresentation.pdf> Ref <http://www.nestle.de/gesundheit/out-of-home>
- 23 <http://www.freshplaza.com/article/156557/OVERVIEW-GLOBAL-AVOCADO-MARKET>
- 24 <http://www.nielsen.com/content/dam/niensenglobal/kr/docs/global-report/2014/Nielsen%20Global%20Snacking%20Report%20September%202014.pdf>
- 25 <http://www.foodnavigator-usa.com/Manufacturers/The-rise-of-ethical-claims-and-their-marketing-potential>
- 26 <http://www.nielsen.com/content/dam/niensenglobal/kr/docs/global-report/2014/Nielsen%20Global%20Snacking%20Report%20September%202014.pdf>
- 27 <https://www.vzbv.de/pressemitteilung/herkunft-von-lebensmitteln-verbrauchern-ist-transparenz-sehr-wichtig>
- 28 Canadean, The Future of Packaging for Brand Impact and Shelf Presence (2015)
- 29 <https://www.inc.com/kenny-kline/new-study-reveals-just-how-important-brand-transparency-really-is.html>
- 30 <https://www.forbes.com/sites/forbescommunicationscouncil/2017/08/08/the-path-to-millennial-spend-is-paved-with-transparency/#c76fe0540d15>

The detailed whitepaper is also available as download under: <http://bit.ly/2AzOq5C>

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NEW PRODUCT LAUNCHES



CANADA

Product: Pc Presidents Choice Bacon Flavor Tomato Clam Cocktail
Company: Loblaws
Country: Canada
Category: Juice & Juice Drinks
Event Date: October 2017
Price: USD ./ . EUR ./ .



Description: Bacon lovers, this bacon flavor and tomato clam juice is sure to revolutionize your cocktail game. Smoky bacon flavor hits all the right notes to complement rich, slightly sweet tomato juice. Use this as a base for mixed drinks and Caesars, finishing it off with a celery stalk and lime wheel. Comes in a 1.89L plastic bottle.

Ingredients: Water, tomato paste, sugar/glucose-fructose, apple cider vinegar, seasoning (contains salt, pork fat, clam extract), salt, citric acid, potassium chloride, yeast extract, worcestershire sauce [corn syrup solids, salt, caramel color, garlic, sugar, spices, soy sauce solids (wheat and soy), palm oil, tamarind, natural flavor, sulfites], cochineal .

Nutrition: Per serving size: 250ml, protein: 1 G, total calories: 60kcal, protein: 1g, calcium: 2.0 %, cholesterol: 0mg, dietary fibre: 0g, dietary fibre: 0 %, fat: 0g, fat: 0 %, iron: 4.0 %, potassium: 400mg, potassium: 11.0 %, saturated fat: 0 %, sodium: 410mg, sodium: 17.0 %, vitamin A: 4.0 %, vitamin C: 0 %, total sugars: 10 G, total carbohydrate: 15g, Total Carbohydrate: 5.0 %, Trans Fat: 0g, Transfat-percentage: 0 %.



DENMARK

Product: Fatdane Sparkling Rhubarb Drink With Vanilla
Company: Fatdane
Country: Denmark
Category: Juice & Juice Drinks
Event Date: November 2017
Price: USD 3.03 EUR 2.54



Description: Organic rhubarb drink with vanilla extract, in a 500ml PET bottle.

Claims: It's all good. Unfiltered. Certified organic. Natural ingredients. No preservatives and colors. Pasteurized. Recyclable packaging. Fatdane is all about "hygge", the Danish way of embracing and sharing the good things in life. Fatdane is a premium organic soft drink made from the best natural ingredients. Suitable for vegans from Vegetarian Society Denmark.

Extra Note: Once opened, keep refrigerated within 3 days.

Ingredients: Water, rhubarb juice* (24 %), cane sugar*, carbonic acid, vanilla extract, acidity regulator: citric acid, antioxidant: ascorbic acid; *organic.



CHINA

Product: Mayen Chia Seed Drink with Cocktail Flavor
Company: Mayen
Country: China
Category: Other Soft Drinks
Event Date: October 2017
Price: USD ./ . EUR ./ .



Description: Chia seed drink with cocktail flavor, in a 200ml glass bottle.

Claims: Rich in vitamins. No preservatives and colors. Recyclable packaging.

Ingredients: Water, white sugar, chia seeds, citric acid, edible flavor (cocktail wine), gellan gum, blue.



GERMANY

Product: Carbonated Coconut Water with Currant and Lemon
Company: Kopfnuss
Country: Germany
Category: Plant Based Waters
Event Date: November 2017
Price: USD 1.19 EUR 0.99



Description: Organic carbonated coconut water drink with currant and lemon, in a 330ml glass bottle.

Claims: Certified organic. Contains 70 % coconut water and 85 % fruit. Unique refreshing. A lot of minerals. No added sugar. Suitable for vegans.

Ingredients: Organic coconut water (70 %), water, organic currant juice from concentrate, organic lemon juice from concentrate, organic agave syrup, carbonic acid.

Nutrition: Per serving size: 100ml, energy: 106kj, energy: 25kcal, protein: 0.1g, Fat: <0.1g, saturated fat: <0.1g, salt: <0.1g, Total carbohydrate: 5.3g, carbohydrates of which sugars: 5.3g



NEW PRODUCT LAUNCHES



SINGAPORE

Product: Sultan Power Drink Black Seed And Ginger Drink
Company: Bosmen
Country: Singapore
Category: Other Soft Drinks
Event Date: September 2017
Price: USD 1.28 EUR 1.05



Description: Vitalizing ginger-black seed drink with sugar and sweetener, in a 250ml easy-to-open aluminum can.

Claims: Contains honey, natural mineral water and royal jelly. Suitable for vegetarians. Certified halal. Contains 10g black seed ginger extract and 5g honey-royal jelly preparation.

Ingredients: Mineral water, sugar, extract preparation (black seed, ginger) (2 %/20g/l), lemon juice (1.3 % from concentrate), honey preparation (honey, gelee royal) (1 %/10g/l), carbonic acid, caramel color, citric acid, vitamin C, stabilizer: gum arabic, natural flavoring, natural caffeine, preservative: sodium benzoate, sweetener: steviol glycosides.

Nutrition: Per serving size: 100ml, Energy: 116kj, Energy: 27kcal, Protein: 0g, Fat: 0g, Saturated Fat: 0g, Salt: 0.01g, Total Carbohydrate: 6.5g, Carbohydrates of which Sugars: 6.5

Extra Note: Serve cold. Produced in Austria. Imported by: Seggaf Pte Ltd. 42 Mactaggart Rd., Singapore.



THAILAND

Product: B Nest Bird's Nest Beverage With Jasmine Flavor
Company: Rite Aid
Country: Thailand
Category: Other Soft Drinks
Event Date: November 2017
Price: USD 2.70 EUR 2.25



Description: B Nest bird's nest beverage plus jasmine is a nourishing drink selected from the finest quality naturally-genuine bird's nest with rock sugar, produced and packed after pasteurizing to guarantee they are hygienic and healthy. Comes in a 250ml glass bottle.

Claims: No artificial flavors or colors. No preservatives. Green Dot Certified.

Ingredients: Rock sugar (10 %), dry bird's nest (1.1 %), jasmine (0.5 %).

Extra Note: Keep B Nest refrigerated for better taste. Consume within 24 hours of opening. Product of Thailand.



UNITED STATES

Product: Teavana Blueberry Lemonade Flavored Herbal Infusion
Company: Starbucks
Country: United States
Category: Iced Tea
Event Date: September 2017
Price: USD ./ EUR ./



Description: This kind of flavor only happens once in a blue (berry) moon. Classic citrus flavors combine with vibrant bursts of berry to create a lush herbal infusion for picnics, parties and poolside afternoons. Makes approximately 45-60 cups.

Claims: A berry refreshing treat. Loose-leaf tea. Tasting notes: Juicy sweet blueberries, strawberries and cranberries balanced with tart citrus lemons.

Ingredients: Apple bits, pineapple bits (pineapple, sugar, citric acid), blueberries, rosehip peels, hibiscus flowers, orange peels, grapes, elderberries, beetroot bits (for color), natural flavors, strawberry slices, cranberry slices, citric acid, ascorbic acid (vitamin C), lemon crispies (maltodextrin, lemon juice concentrate, sugar, modified tapioca starch, sodium alginate, riboflavin [for color]), grapefruit, orange juice bits, strawberry bits, red currants, marigold petals.



In cooperation with Innova Market Insights we are happy to publish new product launches

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For more details and more products please contact:

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Frutarom acquires AB-Fortis®, a patented micro-encapsulation iron



(© Frutarom)

Frutarom Industries Ltd. (“Frutarom”) announces the acquisition, via one of its subsidiaries, of the AB-Fortis® activities including a patent-protected micro-encapsulation technology that enables delivery of iron with increased biological absorption.

AB-Fortis is an advanced encapsulated iron system for delivering the recommended daily amount of iron in a single

dose. It helps consumers avoid the common negative aspects and side effects of iron supplements, including metallic aftertaste, dental darkening, gastrointestinal upset, and nausea. AB-Fortis iron can be incorporated into fat-rich matrices, such as milk or yogurt, without causing oxidation. It is heat- and pH-stable. It will not accelerate oxidation of other components of a formulation, such as folate or omega-3 fatty acids. This makes it ideal for functional foods, infant nutrition and food supplements.

Iron deficiency constitutes a global health problem in developed and developing countries alike, and is particularly prevalent in children under the age of 6, for whom iron deficiency is associated with impaired psychomotor and cognitive development, as well as in pregnant women suffering from excess fatigue due to iron deficiency. Among these groups, the percentage of population suffering from iron deficiency reaches 20 % in developed countries and up to 60 % in some developing countries.

Frutarom acquired the technology and expanded its activity in the market after four years of experience developing applications in a wide range of food and beverage products.

Symrise is expanding market position in Brazil through acquisition of Citratus Fragrâncias Indústria e Comércio Ltda

Symrise Aromas e Fragrâncias Ltda is expanding its position in the dynamic Brazilian market and in the segment for small and medium-sized customers. Symrise and the current owners of Citratus have signed a purchase agreement with respect to all shares of Citratus Fragrâncias, a producer of fragrances located in Vinhedo, close to São Paulo.

Citratus is looking back to 26 years of very successfully serving the Brazilian market for small and medium-sized fragrance customers. It is running a modern development and production facility in the city of Vinhedo, only 45 minutes away from São Paulo. In addition it maintains sales representations throughout Brazil. Over the last decades Citratus has built well established business relations to fast growing, local customers in the fragrance industry as well as to important suppliers of natural fragrance raw materials. The Company can leverage existing production capacities to maintain its organic growth in the future. Citratus generated sales of about 12 million US dollars in 2016 and employs 86 people.

“Brazil is a growth engine in Latin America. We have been growing above average there for years, particularly due to

fragrance applications,” says Achim Daub, Global President Scent & Care within Symrise Group. “The acquisition of Citratus is thus a logical step. It fully supports our strategy of increasing our presence and position in emerging markets. Through the acquisition Symrise will become the market leader for small and medium-sized customers. We will benefit from even better access to new customer groups, additional production capacities and further raw material supply.”

Symrise has been present in Latin America for more than five decades. The Group is serving its customers in Brazil through own production and creation facilities in greater São Paulo as well as in the Amazon region through its facility in Belém, Pará.

Both parties have agreed not to disclose financial details of the acquisition. Closing of the transaction is expected to take place in January 2018.

Novozymes and Grundfos kick off collaboration for clean water

Biology and pump technology are combined, when the two leading global players enter an open innovation collaboration to find new solutions to the world's water challenges.

When you combine biotech with cutting-edge water technology, you might find new solutions to some of the most pressing global issues concerning water scarcity. Thereby, you can make a direct impact on the UN's Sustainable Development Goal 6, aiming at securing universal access to water and sanitation by 2030.

This is the scope, when the world's leading expert in enzymes and microorganisms, Novozymes, and Grundfos, the global leader in advanced pump technologies, enter an open innovation collaboration.

The partnership takes place on HelloScience.io, an online universe launched by Novozymes in September 2017 where entrepreneurs, startups and others can connect with industry.

The two companies embark on their innovation voyage today. Four specific challenges will be posted online, allowing all in the HelloScience community to pitch their ideas on how to secure clean water for more people – and receive sparring, input and assistance from both Novozymes and Grundfos. The two companies seek solutions to remove polluting chemicals from water and improve cleaning of wastewater. That includes better filtering, less sludge, and recovery of phosphate, a precious nutrient, from wastewater.

GEA successfully finalized world's largest fermentation plant for cultures

In November a successful collaboration between GEA and long-term customer Chr. Hansen was completed with the inauguration of the world's largest fermentation plant for bacterial cultures at the customer's site in Copenhagen, Denmark. Chr. Hansen is a global bioscience company that develops natural solutions for the food, nutritional, pharmaceutical and agricultural industries. The production site now comprises with the latest highly complex AIR17-fermentation project four production lines; two lines with 45 cubic meter fermentors each and two lines with 100 cubic meter fermentors each, which makes it the largest production site of its kind worldwide.

GEA, the international technology group that focuses on process technology and components for sophisticated production processes, delivered one of these big fermentation lines to the customer's production facility – with installation taking place while existing production lines were running.

According to Torsten Steenholt, EVP Global Operations at Chr. Hansen, two criteria for success were crucial to Chr. Hansen when choosing their supplier and partner on this project; the ability to meet a very high level of hygienic requirements and providing an effective and high level of automation during production. "The hygienic requirements when producing bacterial cultures are much stricter than for other types of food production. We needed a supplier that could provide this in their application solution for cultures, along with the automated functions, and GEA accomplished this task to our great satisfaction. Furthermore, the high level of hygiene and the automated pro-



The Chr. Hansen site in Copenhagen, Denmark

(© Chr. Hansen)

duction process have enabled significant cost savings," he says. The fact that the installation took place while existing production lines were running added to the complexity of the project.

Ulrik Lund Jakobsen, Head of GEA Application Center Food, points out that the recently completed project AIR17, is part of a ten-year master plan and has involved an ongoing expansion of Chr. Hansen's fermentation plant. GEA has been integrated in this project from the very beginning. When asked what the secret between GEA's and Chr. Hansen's successful collaboration is, he highlights the way the two organizations collaborate, which involves all organizational layers. "We work together with Chr. Hansen on a both strategic, project related and operational level. This makes for a very strong dynamic and has played a major part in the successful completion of the AIR17-project as well as the entire ten-year project collaboration..

Hoists deliver „elevated“ performance in the process industry

The versatility and performance of the latest Profi TI series air hoists, from J D Neuhaus (JDN), ensures their suitability for a wide range of applications in the process industry, from food, beverage and packaged goods, to chemical, pharmaceutical and biotech.

JDN's range of Profi TI air hoists is extensive (up to 100 tonne carrying capacity), but models in the 0.25 to 2 tonne lift capacity range are proving increasingly popular for process industry applications. A number of infinitely variable speed-control systems (including remote control) help users achieve accurate load positioning. Various different trolleys can also be offered to meet customer demands.

Of particular note is the low-headroom design. When only low headroom is available and standard trolleys do not meet the application's requirements, JDN low-headroom trolleys are recommended. There are many advantages of using JDN low-headroom trolleys, such as a low-wear patented motor-brake system thanks to fewer components and no additional motor lubrication is required. Users can enjoy a two-step travelling speed and changeable track width options. The trolleys are able to negotiate curves, while longer crossbeams further improve the minimum headroom.



Twin JDN Profi 2 TI hoists, fitted with motorised trolley mountings for big bag handling in chemical, pharmaceutical and food processing environments.
(© Hoists)

Numerous benefits are provided by Profi TI hoists. For example, these easy-to-operate, lightweight hoists are suitable for use in hazardous areas and are insensitive to dust, vapour, humidity and temperatures ranging from - 20 to +70 °C. Profi TI hoists can also perform continuous work, extended duty cycles, provide fail-safe starting conditions and overload protection. Fast lifting and lowering speeds can be achieved, even at full load.

Additional benefits include minimal maintenance. For example, Profi TI hoists house a low-maintenance vane motor, and the chain sprocket in the mid-section runs in dustproof, maintenance-free ball bearings. The planetary gearbox utilises long-life grease lubrication and all teeth are made of tempered or hardened high-grade steel, while the chain and hook are also made from high-quality tempered steels with a breaking strength of five times the nominal load. These design features highlight JDN's commitment to safety, which is the company's top priority.

Ultimately, process industry users get to enjoy robust, quick, silent, oil-free hoist operation. Furthermore, the hoists are purpose-designed to offer the process industry's most efficient air-consumption rates per metre lift (as low as 0.7 m³/min in some applications), helping to reduce TCO (total cost of ownership).

TOP launches ColdPress 20



ColdPress 20 (© TOP)

TOP bv from Wageningen introduces two larger versions of the Cold Press No.1, the high grade industrial press for the extraction of juices with optimal maintenance of quality.

The Cold Press No.10 and No.20 (CP 10 & 20) are the larger brothers of the successful Cold Press No.1. All three machines operate according to the same mild press principle. Fruit and vegetables are processed in the Cold Press without squashing too many cells and without generating a lot of unwanted heat. These two aspects guarantee a higher quality of the extracted juice compared to other press methods.

The CP1 is already deployed successfully by processors of fruit and vegetables. The introduction of the CP10 and CP20 allow processors to produce juices at a larger scale while preserving the natural nutritional value. The capacity of the CP20 is 1000 liters of juice per hour (600 liters for the CP10). Press bags are emptied automatically and the machine can be operated by one person.

Preparing for growth in exotic fruit

Global demand for exotic fruit is rapidly increasing. Today, the worldwide fruit puree concentrate market is valued at more than US\$ 400m (€ 332 m) and is expected to grow to US\$ 700m (€ 581 m) by 2026.

Similar growth is expected in the exotic fruit puree concentrate market which is predicted to reach US\$ 274 m (€ 227 m) by 2026.

What is causing this increase and how can exotic fruit processors meet the demand without compromising quality?

Consumer demands

The worldwide increase in consumption of baby food is a significant factor in the predicted expansion of the market. Alongside this, growth in the fruit juice industry, and the increasing demand for fruit smoothies and other products, is further encouraging development in the sector.

Currently, fruit juices tend to be made from juice concentrate. However, manufacturers are starting to use puree concentrate instead. This shift provides consumers with a thicker, better-tasting, smoother drink and exotic fruits are a key ingredient within many of them.

Exotic fruits include high quantities of fibrous material, which further increases its consumer appeal from a health perspective. As 'better-for-you' products become more popular, the demand for fruit puree concentrate is only going to increase and so are the varied ways in which it is processed.

For example, when it comes to juice processing, most fruits are crushed and the juice is then extracted. However, as consumers look for better taste, a thicker consistency and to keep some of the important nutrients intact, processors are responding by peeling the fruits, removing the skin, seed pockets and stones to achieve a high-quality concentrate and puree.

Advanced technologies - Fruit peeling

Fruit peeling is an important part of the juice and smoothie manufacturing process. Current methods involve certain fruits –such as peaches, apples and mangos –undergoing a lye peeling process. This sees produce pass through a boiling sodium hydroxide solution which burns off the skin. This process, however, uses large volumes of water, and can lead to high levels of food waste which makes the process inherently inefficient.

Technological advances in steam peeling have created significant advantages over lye peeling. These allow for reduction in water usage, limiting the amount of produce wasted and contributing towards an altogether more sustainable process.

Today, leading equipment manufacturers have delivered innovations which can steam peel and sort a range of fruits including apples, mango, peaches, nectarines and papayas. These innovations also help processors overcome problems found in particular fruits, such as the removal of seed pockets in apples and the pits in others. By helping in the removal of these issues, processors can provide a higher quality, smoother drink to consumers.

Using steam peeling to remove the skin, and to create a smooth consistent surface around the outer surface and inner core, means that high volumes of fruits can be processed to a very high quality and with reduced waste. These high quality peeled fruits form the basis of the concentrate and puree that can be used in many applications.



Fruit peeling is an important part of the juice and smoothie manufacturing process.
(© Tomra)

In recent years, TOMRA Sorting Food has worked closely with leading fruit processing companies in Europe and Asia to evaluate their steam peeling processes for use in high volume fruit processing lines. The companies' system enables processors to peel quickly and efficiently, so that the heat absorption of the fruit is significantly lower, in turn protecting it and making for a superior product.

Sidel launches the versatile Aseptic Combi Predis for highly flexible production

Sidel introduces the versatile Aseptic Combi Predis, a new solution that can produce aseptically both still beverages and carbonated soft drinks in PET bottles. This results in a high degree of production flexibility and productivity while contributing to reduced costs and lowering the environmental impact.

Different consumer expectations drive the demand for beverages today: a healthier lifestyle has led to an increase in the demand for refrigerated and ambient drinks with more natural recipes without preservatives. Consumers are also looking for a wider variety in beverage flavours. In order to help the beverage industry players to ensure their packaging protects both their beverage and brand, Sidel is introducing the new versatile Sidel Aseptic Combi Predis. This solution can produce a wide variety of products efficiently, with increased flexibility, reliability and product integrity. "By reducing total cost of ownership and enhancing end-product quality, the versatile Aseptic Combi Predis helps ensure that the beverage business remains sustainable," explains Guillaume Rolland, Sensitive Products Vice President at Sidel. "This version is benefiting from all the practical advantages of the proven Sidel Aseptic Combi Predis platform. Now accounting for more than 100 references worldwide, this industry-leading platform has already received Food and Drug Administration (FDA) approval and is validated for low acid manufacturing and commercial distribution in the United States market."

Enhanced, flexible aseptic production

Suitable for high and low-acid sensitive beverages (like teas, juices, UHT white milk, soya milk, etc.), in PET bottle formats from 200ml to 2L, the solution further strengthens the aseptic production flexibility to handle both still and carbonated soft drinks (CSD), with or without pulps, and with more natural and preservative-free recipes. The modular design of the Aseptic Combi Predis allows the needs of current beverage producers to be met and opens doors

for the introduction of any new products to easily and quickly adapt to market trends which are less and less predictable.

The same filling valve handles aseptically all types of sensitive beverages with no need of changeovers. The filling configuration can be adapted to the main production performance factors required by the beverage producers with two different filling valve variants.

The Aseptic Combi Predis can be equipped with the new Capdis™ Multilanes, the dry cap sterilisation system that can handle multiple cap designs (flat and sport caps) and diameters (from 28 to 38mm) with no need for manual changeover, in order to enlarge even more the capability to manage a wide range of stock keeping units.

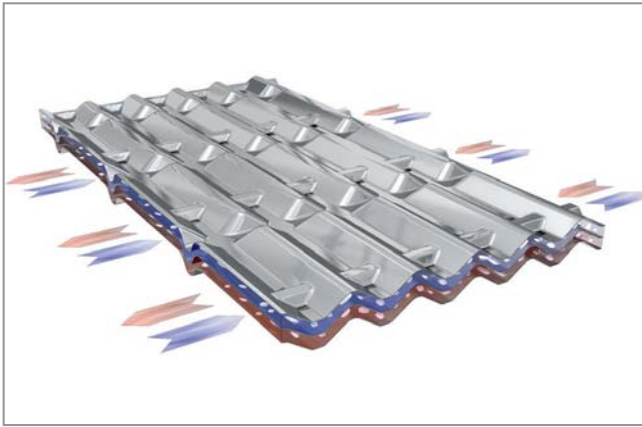
One integrated, safe, reliable and sustainable solution

The proven, safe and simple technology of the Aseptic Combi Predis is designed to offer maximum productivity, efficiency and safety with an aseptic blowing process with no need for blow-moulder sterilisation, as well as fast and safe product and format changeovers with limited manual intervention, for continuous aseptic production time. This versatile machine configuration is designed as a complete solution featuring several key innovations and patents. The beverage producer also has the option to add a dedicated aseptic carbonator: easy to operate thanks to its simplified interface with the Aseptic Combi Predis, it allows great performance in terms of CO₂ dosing accuracy, stability and product integrity. The product circuit design includes a technically advanced magnetic filling valve that ensures food safety and reliable performance. To keep it simple, the small sterile zone and minimal critical factors can be managed easily and effectively. Furthermore, by reducing the amount of chemicals and water required, it is also a cost-effective and sustainable solution.



(© Sidel)

NF100M – from Kelvion, the new heat exchanger plate for viscous and particle-containing media



New NF100M heat exchanger plate.

(© Kelvion)

With its new NF100M heat exchanger plate, Kelvion offers a solution for operations with viscous and particle-containing media, as they occur in the following sectors: in the production of fruit and vegetable juices, as well as ketchup; in sugar production (thick juice and syrup) and in the treatment of industrial waste water. The new Kelvion

plate complements the NF series in the mid-performance range and is available in stainless steel and titanium. Special engineering design features of the NF100M heat exchanger plate include free-flow channels with constant width of the flow gap and continuous support lines – which enables particles up to 3 mm diameter to flow through separate gaps without causing blockage. This design, inspired by the Kelvion N40 predecessor series, enables energy-efficient treatment of these demanding media. Long production periods between cleaning cycles result in low operating costs. The new NF100M uses the same frame as the NT100M plates, which offers the option to replace NT100M by the new NF100M plates without great time or cost expenditure.

Re-assembly of the heat exchangers after inspection work is made easy by the Kelvion PosLoc™ assembly system, which ensures optimal centering of the plate pack. In addition, the EcoLoc gasket fixation has positive effects on the seal effectiveness of the heat exchangers – and results in greater reliability and long service life. Easy assembly assures short maintenance and repair times, as reflected by lower life-cycle costs.

Tetra Pak offers full customisation of heating solutions with industry-first modular portfolio

Tetra Pak has launched Intelligent Customisation, an industry-first modular portfolio of heating systems that offers tailor-made processing solutions for food and beverage manufacturers.

The modules, which are based on the company’s leading technologies in dairy, beverages and prepared food processing, can be combined in any number of configurations, allowing every heating solution to be customized to meet the specific needs of each individual customer.

Ola Elmqvist, Vice President Business Unit Liquid Food at Tetra Pak said, “With our new modular portfolio we are working with the customer in a completely collaborative way. This is crucial since every customer has increasingly different challenges and priorities, that often change over time.”

“We start with detailed discussions about their business, such as the products they produce, their production process, running time, utility costs, and their short term, as well as long term goals. With this deep understanding, we are then able to provide fully customised heating solutions that bring value to their business.”



Tetra Pak has completed trials of the new modular portfolio with customers in Europe and Russia.

(© Tetra Pak)

This new heating portfolio means Tetra Pak can offer full flexibility and upgradability that supports a customer’s current and future needs. For instance, the solutions can be upgraded to support a customer’s product expansion from milk and cream, to beverages with particles, or from baby food purée to a wider range of prepared food products.

Rapak® launches EvacuStrip™, a dip strip technology beverage bag with a 99.6 % evacuation performance of highly viscous liquids in bag-in-box formats



EvacuStrip™, a Dip Strip Technology Beverage Bag.

(© Rapack)

Rapak North America, part of DS Smith Plastics, announced the launch of its EvacuStrip beverage bags for bag-in-box packaging formats.

This next generation bag has been redesigned to incorporate a dip strip – a rigid, rectangular evacuation assistance

device – allowing for convenient dispensing of traditional post-mix syrup as well as difficult to evacuate pulpy juice or highly viscous liquids.

The enhanced next generation bags are not only more durable and puncture resistant but with the dip strip, they provide an evacuation performance of highly viscous liquids in Bag-in-Box configuration packaging in excess of 99.6 % at any orientation, compared to standard post-mix bags. This includes the most challenging of all – vertically situated bag-in-boxes – and evacuating from the top of the box.

Rapak's EvacuStrip flexible bags pair perfectly with NSF approved PCSS+™ Line-side connectors providing the full-system solution for Bag-in-Box dispensing. Rapak EvacuStrip bags for Bag-in-Box are available in a variety of sizes.

Applicator provides automated can multi-packing for lower users

WaveGrip, manufacturer of innovative beverage multi-packing solutions, is launching a new automatic version of its entry level G1 applicator for lower volume beverage producers.

The G1 can create multi-packs of 4, 6 or 8 cans, with automatic pack separation and accommodates a full range of can heights at speeds of up to 100 cans per minute (cpm).

Built to the same quality and standards of the larger G2 and G3 applicators, the G1 includes an Allen Bradley PLC Control and is backed by an experienced engineering support team who ensure seamless installation and integration into each canning line.

The low entry cost of just £ 12,000 and compact size of 1.4 m x 0.8 m, make the G1 perfect for those at the earliest stages in drink production, especially for production at lower canning volumes, such as craft beer producers.

Compatible with all WaveGrip carriers the G1 uses the standard WaveGrip reels which can pack over 3000 6-packs, and allows a run time of five hours at 60 cpm or three hours at 100 cpm.

“We have been overwhelmed by the interest in WaveGrip’s multi-packing solutions and the launch of our new G1 is another exciting development for our entry-level customers,” comments Aaron McIvor, Managing Director, WaveGrip.



“WaveGrip, manufacturer of innovative beverage multi-packing solutions, is launching a new automatic version of its entry level G1 applicator for lower volume beverage producers.”

(© WaveGrip)

“We have listened to their requirements and with the new G1, created an automated applicator that has a low entry cost, small manufacturing footprint and required volume output.

“Combined with the benefits of our lighter, stronger, recyclable and photodegradable WaveGrip carrier, we believe the G1 is now the perfect multi-packing solution for craft brewers and other lower volume beverage manufacturers.”

Coffee is becoming even more attractive thanks to health study findings, says GlobalData

A wave of recent research positively linking coffee consumption to health and longevity will increase opportunities for coffee manufacturers to appeal to health-conscious consumers, according to GlobalData, a leading data and analytics company.

Two separate research studies published this year have already linked higher frequency of coffee consumption to a reduced risk of mortality. These findings have now been supported by a wide-scale meta-analysis published in the British Medical Journal.

Melanie Felgate, Consumer Analyst at GlobalData, comments: "The findings will be welcomed by coffee consumers around the globe, particularly as other caffeinated beverage options such as fizzy drinks and energy drinks become increasingly criticised due to their high sugar content."

According to GlobalData's Q3 2016 consumer survey, 60 percent of consumers globally are often or always influenced by how the product impacts their health and wellbeing when choosing non-alcoholic beverages. The survey revealed that 89 percent of consumers are interested in food and drinks that claim to improve general health and

wellbeing, ensuring that coffee is likely to be an increasingly attractive beverage option.

Felgate continues: "Coffee consumption is already on the rise globally, with GlobalData forecasting volume sales of coffee to grow by around 2.4 percent per year from 2016 to reach 6.8 billion KG by 2021. As awareness of the positive benefits of coffee become more widespread, it is likely to become even more attractive as a form of healthy functional hydration supporting further growth."

Coffee also has the advantage of being a natural product, likely making it more appealing than the array of functional health beverages, such as added vitamin waters, hitting the market. GlobalData's Q1 2017 survey revealed that 90 percent of consumers globally find products naturally high in nutrients to be appealing; well above the 68 percent who find products fortified with added nutrients appealing.

Felgate concludes: "As the understanding of the link between coffee consumption and health increases, there are opportunities for other food and drink brands, beyond coffee, to capitalize by incorporating coffee as a flavor or ingredient to enhance the healthy 'halo' of such products."

Thomas Körmendi starts as CEO in Elopak



Elopak announces Thomas Körmendi as new Chief Executive Officer (CEO) and President of the Elopak Group, to join on 01 April 2018.

Thomas Körmendi is currently CEO at Kezzler AS, a Norwegian company working with the digitalization of packaging. Earlier in his career Thomas worked about

twenty years at Tetra Pak in various international positions. His latest position in Tetra Pak was as Vice President and head of North Europe with 1200 employees and four multi country production plants.

Thomas Körmendi will be based at Elopak's Group Headquarters in Skøyen, Oslo, Norway.

Cees de Jong will step down as CEO of Chr. Hansen Holding A/S

Chr. Hansen's Chief Executive Officer Cees de Jong has informed the Company that after having led Chr. Hansen as CEO for almost 5 years, he intends to pursue a career as a non-executive director outside Chr. Hansen in due course.

The Company has initiated a process to find his replacement, and until then Cees de Jong will continue as CEO of Chr. Hansen.

Wavegrip's new appointment strengthens sales and development team



WaveGrip, has appointed Paulo Catalão as its Sales and Business Development Manager, EMEA. The appointment strengthens its international sales team.

In his role, Paulo will be responsible for the European, Middle East and Africa region and will focus on creating new business opportunities and managing the delivery of successful multi-packing projects to new customer sites.

Visitors from more than 135 nations celebrated the latest in food innovation at Fi Europe & Ni 2017

With record breaking visitor numbers, Fi Europe & Ni (Frankfurt, Germany) was the place to be for decision makers, product developers, market strategists and scientists

A marketplace for innovation, a source of inspiration and a trend barometer. The world's most important trade show for food and beverage ingredients, Fi Europe & Ni 2017 welcomed more visitors than ever before.

More than 26,000 attendees from over 135 nations worldwide used the three-day trade show to discover innovative new concepts and novel solutions. Boasting an abundance of excellent, high quality delegates, post-event analysis showed that almost 78 % of the attendees had budget responsibility, with approximately 30 % having higher management roles – an ideal mix to generate promising leads at more than 1,600 stands. In total, show organizer UBM recorded 50,000+ visits.

Oliver Wolf, Head of B2B Marketing at GELITA, gave a very positive review, stating: “The sheer volume of visitors at the GELITA stand was immense – and the overall quality of enquiries was very high. That’s why Fi Europe was, once again, the perfect setting for us to introduce our latest innovations in gelatine and collagen peptides to a broad expert audience.” Peter Hennebichler, Director Corporate Sales & Marketing at AGRANA, added: “We counted a record number of attendees at our stand this year. Because of the highly relevant contacts we make here, AGRANA has exhibited at FiE for many years.” Key players such as Cargill, FrieslandCampina, BENEIO, Roquette, Avebe, Kerry and Naturex all presented innovative new products and solutions. In addition, several start-ups and first-time exhibitors used Fi Europe & Ni as a platform to further expand their brand.

Fi Europe Brand Director Richard Joyce’s conclusion was also positive. Sharing his excitement for the reservations numbers for the 2019 edition in Paris, he said “Currently, 80% of the exhibitors have already booked a stand for the next show. This clearly indicates that Fi Europe & Ni is a must-attend event for food ingredient companies. We are already looking forward to 2019 and will do our utmost to arrange another top-class agenda.”

Value adding extras

Far more than just a supporting program, this year’s Fi Europe & Ni once again offered a variety of additional attractions, including 20+ country pavilions and themed areas – such as the Expo FoodTec Pavilion – and daily Innovation Tours. In the Industry Insights Theater and Supplier



More than 26,000 attendees from over 135 nations worldwide used the three-day trade show to discover innovative new concepts and novel solutions..

(© UBM)

Solution Sessions, attendees were able to get up close and personal with interesting companies and their concepts. Furthermore, the New Product Zone and Ingredients in Action, hosted by Innova Market Insights, provided an overview on the latest products that made their way into consumers’ shopping carts.

With the second Future of Nutrition Summit, the pre-show one day summit, show organizer UBM EMEA offered detailed insight into the future of the industry; social and technological developments that will impact the ingredients industry during the next 5 years were put under the spotlight. In addition, the three-day Fi Conference covered everything from clean label to regulatory issues. Jennifer Arthur of Leatherhead Food Research introduced the possibilities and challenges of personalized nutrition, whereas Dr Laurice Pouvreau, Senior Project Manager, Protein Functionality at Nizo, explained how promising sensory results can be achieved by blending different protein sources. With more than 250 delegates, the conference program also reached a record-breaking number.

Post-show is pre-show: Hi Europe 2018 in Frankfurt, Fi Europe & Ni 2019 in Paris

Next year, Hi Europe will open its doors on November 27 in Frankfurt for three days. In times when functional ingredients with added health benefits are becoming increasingly important, Europe’s leading trade show for health and nutrition is the meeting place for manufacturers and decision makers in the food and nutraceuticals industry. The following year, Fi Europe & Ni will return to Paris (3–5 December 2019) and take place at the Parc des Expositions Villepinte.

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Please contact Mrs Cornelia Hebbe: phone +49 (0) 2634 9235-16 or cornelia.hebbe@fruit-processing.com

MARKET PRICE REPORT

(Price Information without Liability)

Source: Survey by confructa medien GmbH, from a minimum group of 5 marketers and 5 juice purchasers for each product. Since its first publication in 1991, more than 40 industry partners – manufacturers, traders, processors, bottlers, packers, bankers – have been contributing data.

Your price quotation data, too, is much appreciated. Please forward your contributing input directly to the editorial team c/o christian.friedel@confructa-medien.com

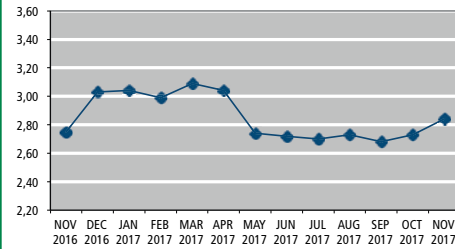
Prices: The price range is calculated for juice or puree of different proveniences, traded in drum or bulk; \$/kg = cif Rotterdam; EUR/kg = DDP

Custom Duties: The range encompasses preferential duties up to 30 %

◆◆ This line represents the development of the mean values (excepted graph 'orange juice concentrate – future markets')

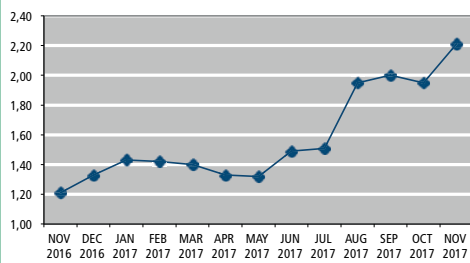
Orange Juice Concentrate

65 °Brix, \$/kg



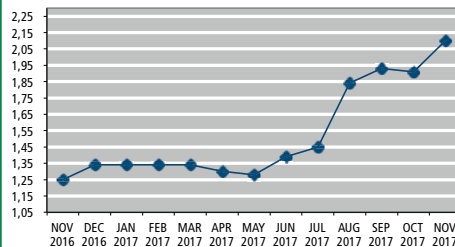
Apple Juice Concentrate

70 °Brix, high acidity, EUR/kg



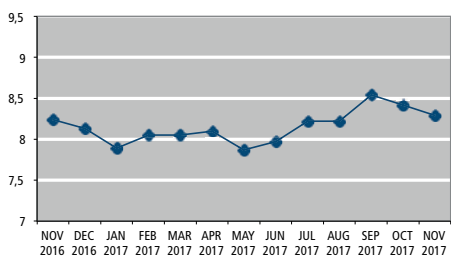
Apple Juice Concentrate

70 °Brix, low acidity, EUR/kg



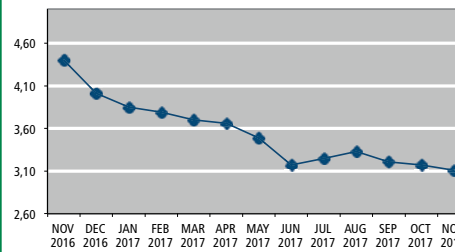
Passion Fruit Juice Concentrate

50 °Brix, \$/kg



Pineapple Juice Concentrate

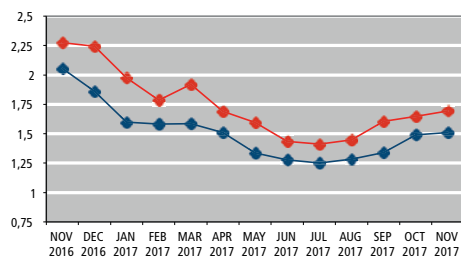
65 °Brix, \$/kg



Orange Juice Concentrate

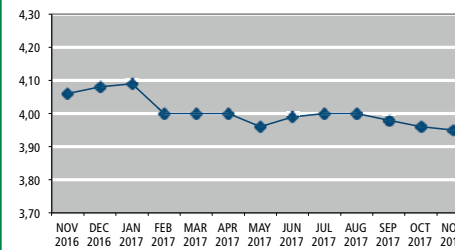
Future Markets \$/lb.

◆◆ = highest values
◆◆ = lowest values



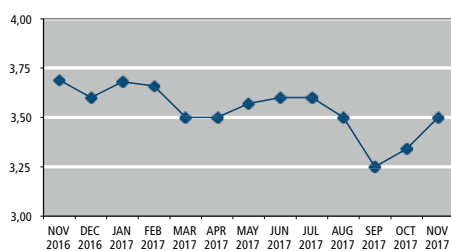
Lemon Juice Concentrate

cloudy, 400 g/l acid, \$/kg



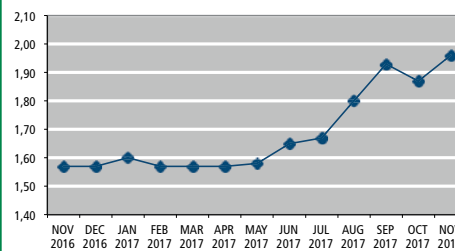
Grapefruit Juice Concentrate

58 °Brix, \$/kg



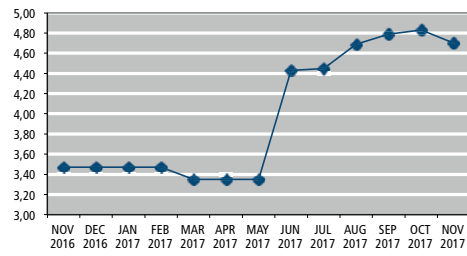
Pear Juice Concentrate

65 °Brix, EUR/kg



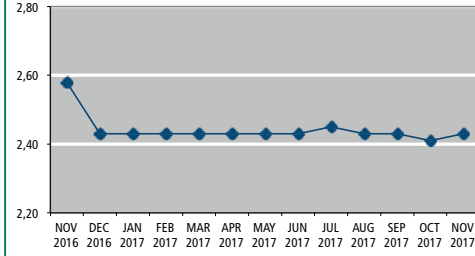
Sour Cherry Juice Concentrate

65 °Brix, EUR/kg



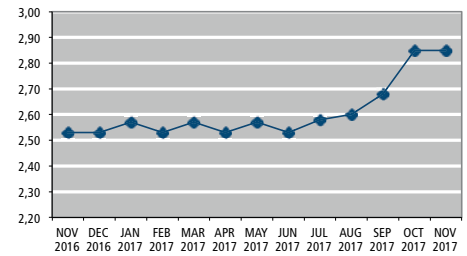
Black Currant Juice Concentrate

black, 65 °Brix, EUR/kg



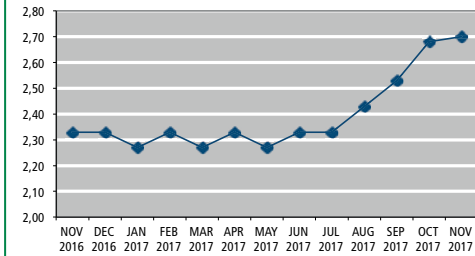
Grape Juice Concentrate

white, 65 °Brix, EUR/kg



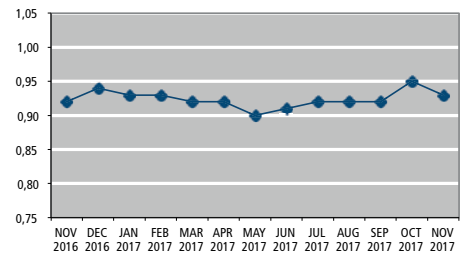
Grape Juice Concentrate

red, 65 °Brix, EUR/kg



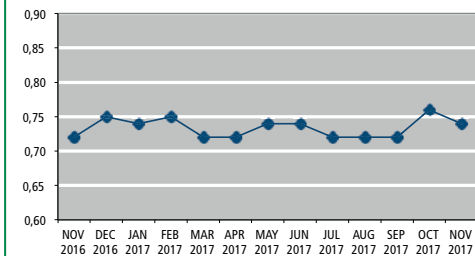
Apricot Puree

EUR/kg



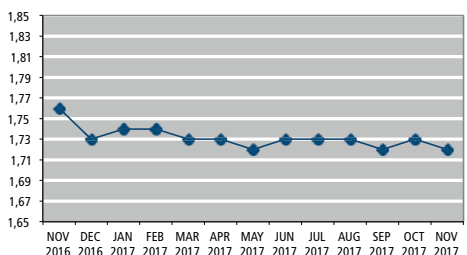
Banana Puree

22-24 °Brix, \$/kg



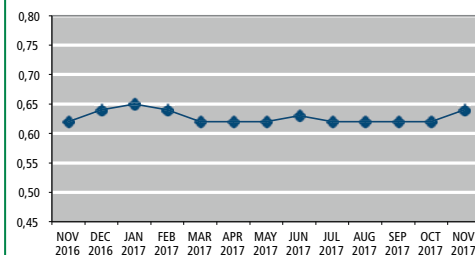
Mango Puree

15 °Brix, \$/kg



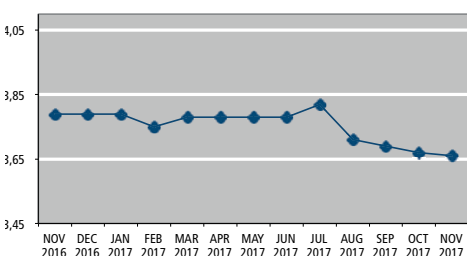
Peach Puree

EUR/kg



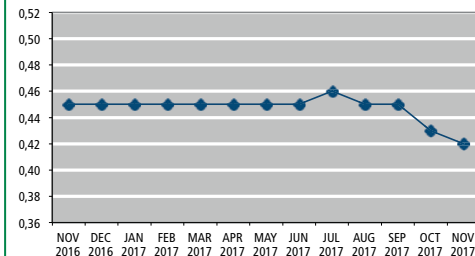
Carrot Juice Concentrate

65 °Brix, EUR/kg

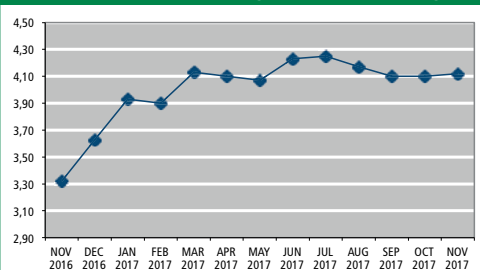


Carrot Juice

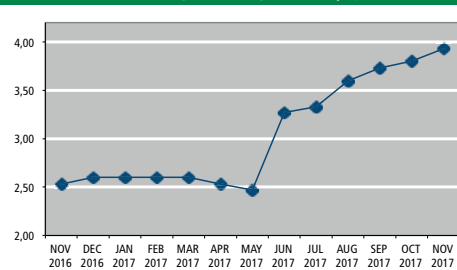
EUR/l



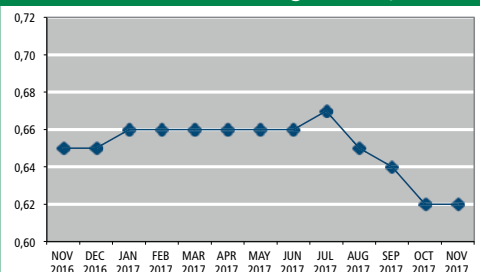
Orange Juice Concentrate organic, 65 °Brix, \$/kg



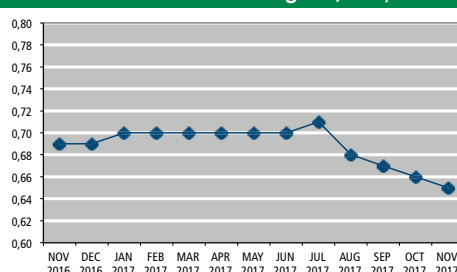
Apple Juice Concentrate organic, high acidity, 70 °Brix, EUR/kg



Carrot Juice organic, EUR/l



Red Beet organic, EUR/l



A new generation of yellow and orange beverage colours



The new yellow color range is suitable for multiple applications: carbonated or still, with or without juice. (© Chr. Hansen)

Refresh and revitalize your beverage brands with these new, improved functionality, color solutions

Extending its existing range of CapColors® and ColorFruit® Chr. Hansen is launching four new color solutions for beverage. With these two new orange and two new yellow solutions, Chr. Hansen wants to give beverage manufacturers better choices when it comes to color, performance and cost on the journey to naturality.

Meeting market needs for natural beverage colors

Consumer preferences towards natural ingredients are on the move. In a recent consumer study from FMCG Gurus 65 % of consumers said they check product labeling for artificial colors sometimes or more often'. These trends are also impacting the beverage category, where 30 % of consumers said that Natural Color claims are important when it comes to beverage purchases'.

The two new CapColors® orange solutions utilize Chr. Hansen's newest patented encapsulation technique to im-

prove the functionality of the natural color in the final application. The CapColors® orange solutions require that the final application contains a small amount of juice to stabilize the color and secure that full strength of the color is obtained.

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

Unique technology for improved functionality

Stine Kreuzmann, Technical Industry Manager at Chr. Hansen Natural Colors, has worked on the development of these new color solutions:

"The four new colors are in liquid form and are easy for manufacturers to use. The colors 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," concludes Stine.

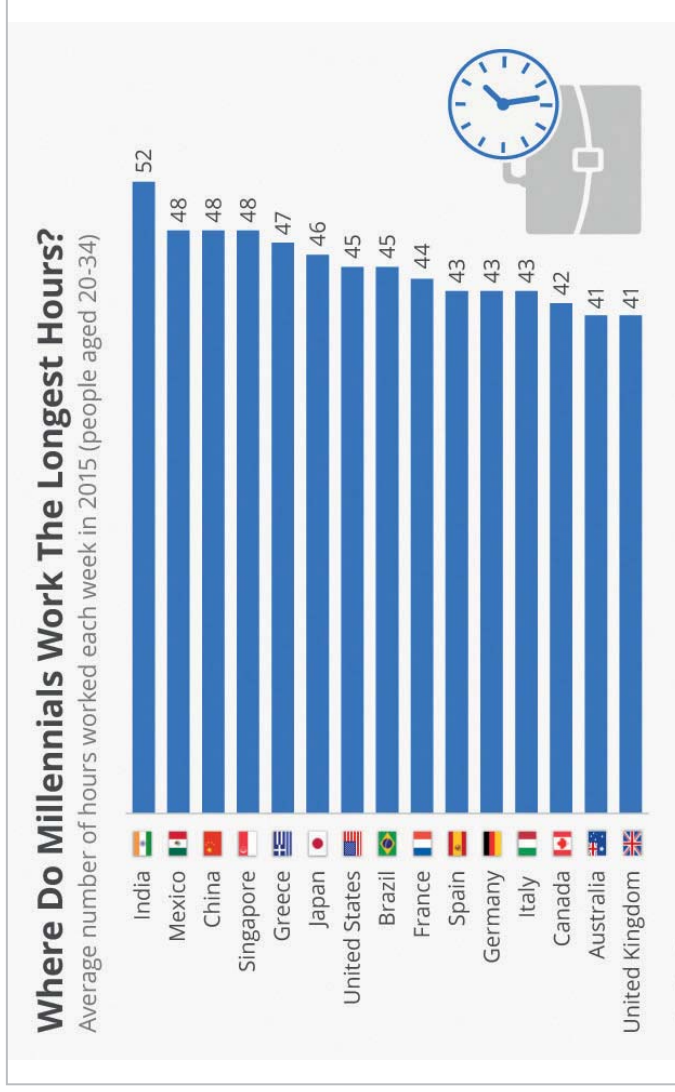
¹ Source: FMCG Gurus consumer study, 2017



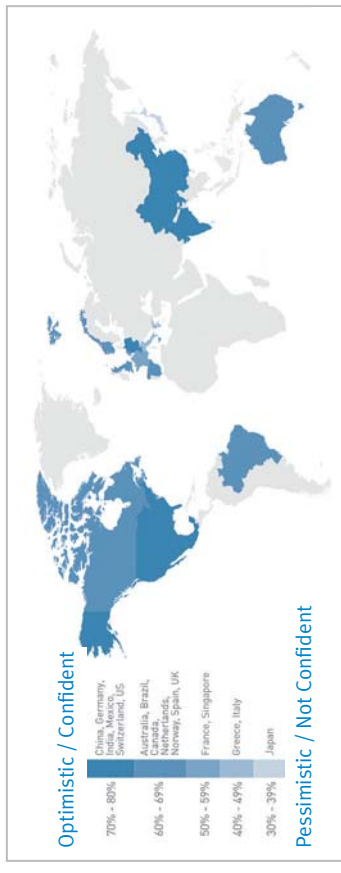
WORLD OF FRUIT PROCESSING

Market Data – confrica media GmbH

By 2020 Millennials will make up over a third of the global workforce.



How confident are millennials about their career Prospects?

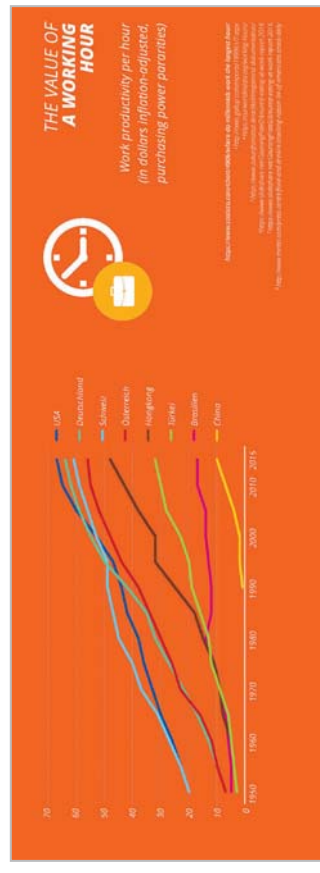


Millennials are surprisingly upbeat about their careers. Two-thirds are optimistic about their immediate job prospects. Sixty-two percent are confident that if they lost their main source of income tomorrow they could find equally good or better work within three months.

Overall, Millennials in Mexico, China, Switzerland and Germany are the most positive, while those in Japan, Greece and Italy are the least positive—a reflection of economic, political and cultural factors in these countries. The majority of Millennials globally see a promising future and successful careers ahead.

(Source: Manpowergroup: Millennial Careers: 2020 Vision)

The value of a working hour



ManpowerGroup commissioned thought leadership consultancy Reputation Leaders to conduct a quantitative global study of 19,000 working Millennials and 1,500 hiring managers across 25 countries to understand what Generation Y wants now and in the future, and help individuals and organizations succeed in this new world of work. Millennials were identified as those born between 1982 and 1996.

By 2020 Millennials will make up over a third of the global workforce. That's one reason so many reports about them exist. Some say they are disloyal, self-absorbed and lazy, while others claim they're a generation of digital entrepreneurs and innovators. Some aim to dispel the myths others have created. Just type "Millennials are..." into a Google search to see the stereotypes.

The time is ripe for employers to take a fresh look at their people strategies. This report is the first in a series providing a practical guide with clear recommendations for employers on how to attract, retain, develop and motivate the best Millennials for the 21st century workforce.

(Source: Manpowergroup: Millennial Careers: 2020 Vision)

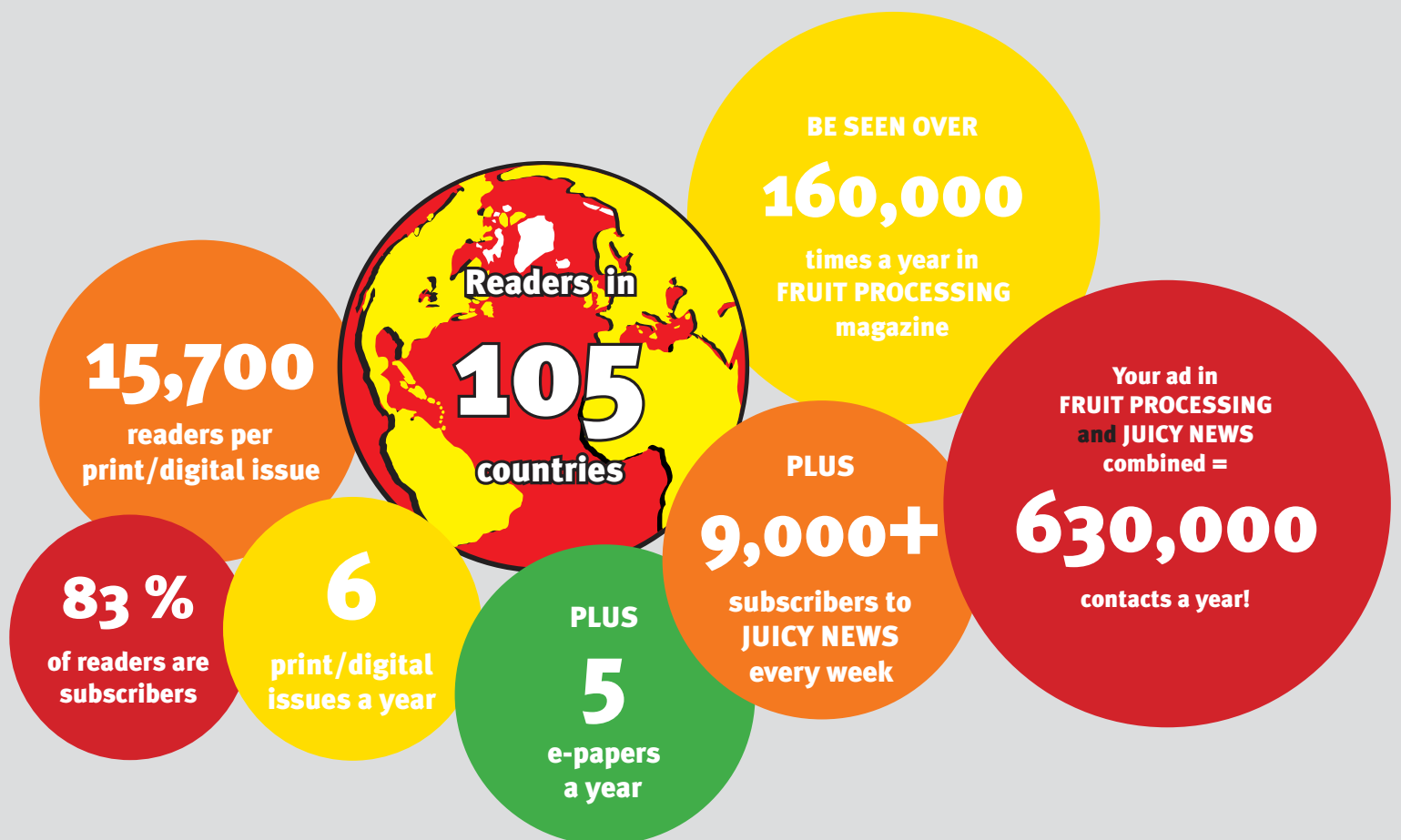
(Source: SIG White Paper, www.sig.biz)

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