

New Technology for New Products

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In January 2012 France introduced its new "cola tax" for all drinks containing added sugar or sweetener. Hungary has had its own "chips tax" – targeting excessively sweet drinks among other things – since September 2011. In the United States too a levy of this kind is under consideration. These and other new developments are forcing the drinks industry into rethinking the ingredients and manufacturing processes used for its products. The resulting changes and innovations in process technology will be on view at drinktec 2013, the "World's Leading Trade Fair for Beverage and Liquid Food Technology", which takes place at Messe München in Munich, Germany, from September 16 to 20, 2013.

Four Major Trends in Worldwide Consumer Attitudes

In the soft drinks field, four mega-trends currently dominate consumer behavior worldwide. Drinks purchasers are becoming more concerned about "naturalness", preferring products made from natural ingredients. Consumers are also on the lookout for products that confer health benefits – functional beverages are regarded at present as a main driver of innovation. But naturalness and functional value alone are not enough to keep the consumer happy. Drinking is supposed to be an enjoyable experience, and that means first-rate taste, aroma and "mouthfeel". And finally, in the highly mobile society of today, sheer convenience remains a big factor. These trends affect all soft drinks, ranging from water, traditional soft drinks, juices and nectars by way of energy drinks and sports drinks to instant coffees and teas.

Juices

Juice products are a growth market worldwide, with notable demand for new lines. This in turn means process technology must rise to new challenges. Where in the past producers' main concern has been to maximize output, today's priority in terms of performance is optimal product quality. This means it is now vital that products are processed rapidly but also without impairing quality, and under oxygen-free conditions. How this is done can be seen at drinktec 2013. More than 88,000 sqm of exhibition space will be given over to leading manufacturers from all over the world to present product-specific and product-independent processing technology.

When it comes to expensive, premium-segment juices, the prime requirements are high quality and constant consistency. Processing methods highly protective of fruit quality have now been introduced for the

production of juices containing whole fruit pieces. Careful handling of the fruit bits to prevent disintegration involves keeping them separate from the juice throughout processing – for instance, the fruit bits are pasteurized in their own separate tube heat exchangers. Consumer preferences governing vegetable juice production are much the same as for fruit juices. The key requirement is that the juice-extraction process must not impair the product's natural properties. Speed, continuity and minimal oxidation are the watchwords here: all three are essential to the production of high-grade juices with high yield. The new methods and new technology introduced to meet all these requirements will be presented and explained to users at the drinktec show. A survey at drinktec 2009 showed that as many as one in five visitors that year represented the fruit-juice sector, many of them exclusively. The trend is upwards. drinktec's Exhibition Director, Petra Westphal, sees this as "clear evidence that the international fruit juice industry is now among those listing drinktec as a permanent fixture on their events calendar".

Soft Drinks

In the narrower soft drinks field too, the trend to higher fruit content and use of natural ingredients means there have to be fresh approaches in process technology. The new products are more susceptible to microbiological contamination. So the manufacturers have to supply process components that can be efficiently and sustainably cleaned. For individual syrup bases, life begins in the syrup room. Raw materials go through dissolving, blending, heating and filtration stages on their way to becoming the individual syrup variants, and then move on to the mixing process. A host of exhibitors at drinktec 2013 will be on hand to explain just how the requisite high levels of precision, reliability, economy and flexibility have been achieved in practice.

A further important element in the process chain is a modern water preparation plant. The homogeneity of the premix is of key importance when it comes to the blending in of the further ingredients. High product quality and elimination of product wastage are also key factors. Drinktec 2013 will feature the latest developments in batch and continuous systems. The recent approval of stevia across the EU as an alternative, zero-calorie sweetener harmless to teeth will entail new approaches in process technology. Adopted solutions will be presented at drinktec 2013.

Unmissable Date for Soft Drinks Manufacturers

Large and small producers of soft drinks use the drinktec technology platform as a rendezvous, an opportunity to exchange views and ideas with colleagues and competitors. Take the example of Coca-Cola. Every four years when drinktec comes round, the world's biggest soft drinks manufacturer organizes what amounts to a family gathering. Of course, it's not just a matter of saying "Hi!" to each other again, as Dr. Klaus

Stadler of Coca-Cola Europe explains: "We find drinktec a great forum for meeting with producers and distributors and of course doing some networking. Our top people from Atlanta show up at drinktec just as regularly as bottlers and franchisees from all over the world. Members of the Coca-Cola family come here from as far away as Africa, Latin America, China and Australia."

Water

In the water sector too, constant innovation keeps paring costs and delivering improvements in microbiological quality. Still table water, carbonated, flavored – whatever the water type, production involves ever more sophisticated process technology, for requirements ranging from degasification to precision carbonation to hygienic filtration. Instant and ready-to-drink products made with cereals, blossoms or plant roots may come in future to be used for gently beneficial effects on human health, with the potential for a considerably increased future role as diet supplements. With this end in view, the production process will involve the delicate operation of extracting the valuable active ingredients from plant cells for subsequent blending into the drink. In the view of Euromonitor International, the strongest future growth rates can be expected in ready-to-drink tea and specialty drinks from Asia, because of the associated health benefits. The producers' ideal is process technology that will ensure meticulous – and hence benefit-conserving – treatment of the tea extract while also maximizing product yield. Riding high in the instant coffee markets at present, meanwhile, are the aromatized specialty lines, flavored for example with vanilla or chocolate.

Research and development have moved into some entirely new areas, such as the DCD process (Dynamic Cellular Disruption), which may in time supersede at least some of the processes currently used in the beverage industry. Improvement of the keeping qualities of smoothies by application of pulsed electric fields is a further exceptionally interesting research field.

The drinktec fair, September 16-20, 2013, is an ideal opportunity to catch up on the commercial development and in-service record of these and many other technological advances. Process technology is always news.

Further information: www.drinktec.com

Source: Messe München; IFAT