

# The future of packaging

Packaging has become an inevitable fixture of modern life and its latest trends are closely followed. Here are some highlights from APN's Plastics in Packaging conference

**S**ustainability, Cost effectiveness and Compliance: these are some hot topics being discussed in the plastics industry nowadays. For those gathered for APN's Plastics in Packaging Conference in Singapore, two fruitful days from 19 to 20 August were spent presenting and discussing new developments.

Taking the beverage industry as an example, there have been various initiatives to reduce the amount of plastics material used, such as by downgauging and lightweighting.

PK Lee, Technology, senior manager Asia of PolyOne Corporation showed that Nestle Waters has introduced a new Eco-Shape half-litre PET bottle weighing just 9.3 g. This is an improvement from the original Eco-Shape bottle that weighs 12.4 g, and an even more marked improvement from the CSD PET bottle that weighs 23.9 g.

Many beverage companies have adopted the PCO 1881 standard 28 mm neck finish on their PET bottles. Reducing the height, weight and design of the bottle neck alone can cut the amount of resin used by between 1.25 g and 1.35 g, and a typical cap weight by 0.5 g.

Functional packaging is one way of being practical and kind to the environment. Taking the example of Zeller Plastik Spain's oval PP snap-on closure, the new design has a better hinge position and hinge action makes for improved dispensing and minimises product wastage upon disposal.

Packaging, especially for food, is going increasingly transparent because consumers like to be able to see the contents, said Ms Lee. Such a situation poses a problem for the shelf life of the product, yet at the same time, allows companies like PolyOne to introduce new technology such as anti-microbial additives, UV filters and oxygen barrier protection.

### What are our favourite drinks?

Asia is such a large region and tastes differ across the continent as well as the type of innovation in each country, said Philippe Chan, Asia regional manager for beverage research company Canadean.

Canadean found that over the past decade, brand perception has shifted somewhat. Coca-Cola and Pepsi-Cola continue to be the top two brands in Asia but Chinese brands like Kangshifu and Wahaha have climbed fast and furious up the rankings.



Three of our speakers, (from left) Rohit Vashistha, managing director of Polyplex (Thailand); James Ong, application marketing manager, film and moulding business unit, Borouge; and Ashley Jones, vice president, Global Closure Systems (GCS) Asia Pacific

Chan expects China to dominate the beverage industry as its share in the world market continues to grow - from just 4% of the 338 bil-litre market in 2000 to possibly 20% of 755 bil litres to be consumed in 2020.

Of the various packaging materials for beverages, PET shows the fastest growth due to more drinks in single-serve. Demand for ready-to-drink (RTD) teas, CSD and packaged waters in China have exploded over the last few years. In the RTD tea sector, PET growth from China can be shortlisted down to one single player, which is Kangshifu.

Years after PET bottles for beer were introduced, Asia is not adopting this technology widely, with the exception of South Korea. Nevertheless, new packaging formats were observed in China in 2009. Japanese brewers Asahi and Suntory launched beers in PET bottles and priced them comparably to beer in conventional glass bottles, at around RMB4.20 (US\$0.60) for a 660-ml serving.

In July, Suntory China launched a new fruit beer called Mix bottled in PET. The product comes in lemon, peach and grape flavours with an alcohol content of 2.5%, said Chan. Extensive sampling and promotion were carried out throughout summer and

the product has been a hit in eastern China. As a result, Chan said other brewers are starting to investigate the feasibility of pushing flavoured beer in other parts of Asia.

### The "R" way to sustainability

Different speakers at the conference proposed their R equation to make better use of plastics. Besides Reduce, Reuse and Recycle, we also heard about Replace, Recover and Return.

Several regulatory standards are adopted to define the degradability of plastics, such as the ASTM International and the EN European Standards.

NET Eco is a new Thai company that distributes oxo-biodegradable plastics additives manufactured by EPI of Canada. When these Totally Degradable Plastic Additives (TDPA) are added to commodity plastics film and other single-use plastics products, oxidative degradation - triggered by heat, UV light and mechanical stress - begins soon after disposal. The disposed product becomes brittle and hydrophilic and is ingested by microbes occurring in the natural environment, leaving behind just carbon dioxide, water and biomass.



**Packaging's future lies in plastics**

Chairman of the conference Ashley Jones, who is also vice president of Global Closure Systems (GCS) Asia Pacific, posed an interesting question to our speakers: is bioplastics a sustainable solution?

James Ong, application marketing manager of Borouge's film and moulding business unit, presented his case: polypropylene and polyethylene are versatile materials with low carbon footprint, and easy to recycle.

Ong said that the bioplastics remains a niche market and is likely to be a fad. Since raw materials for bioplastics include food crops like corn and sugar cane, there is a fundamental question of whether they should be used for packaging or for food.

NET Eco's Murray agrees. Since global production of biopolymers stands at just 0.26% that of synthetic polymers, supply has to increase 400 times for bioplastics to become a mainstream material. If such a situation actually happens, it also means that the ecosystem could be over-strained and massive deforestation could have occurred.

On the other hand, while the concept of recycling plastics bottles is rather commonplace, the actual process is sometimes less effective. Jones said that many drinks bottles are made of more than one type of plastics, which this causes a problem for the recycling chain. As a result, some customers like P&G are moving away from multi-material packaging to simpler designs.

PolyOne's PK Lee said that the demand for recycled materials is on the rise and they have become so popular that their prices are comparable with virgin materials. When the price of raw materials and cost of production are high, consumers find themselves paying more for so-called environmentally friendly products made from recycled plastics or biopolymers.

In the end, Lee opined that it is a chicken-and-egg situation: when the supply of PLA and other bio-based polymers increase, their prices will fall. Some government intervention may be required to bring balance in supply and price.

**Oxo-biodegradable plastics additives manufactured by EPI of Canada is distributed by NET Eco in Thailand**

**Nestle Waters' new Eco-Shape half-litre PET bottle weighs just 9.3 g**

