

## CONCEPT BOTTLES

In the push for eco-friendly packaging, an 'end-to-end' solution that has been thought out down to the last detail is the Holy Grail for converters and brands. Sidel's concept brainchild – AYA – recently scooped the top prize in the Best Drink Design category of the World Food Innovation Awards 2020.

The primary package is 100 per cent recycled PET, with board secondary packaging and potential for similarly sustainable tertiary packaging options. All technologies are optimised for local distribution methods, it is claimed.

Sidel's packaging designer Marion Boulanger received the award and commented: "The battle on packaging waste is fought on many fronts in the beverage industry, from the manufacturers of packaging materials to the bottlers. Sidel is strongly involved in developing more sustainable primary and secondary packaging with an integrated design approach, taking into account the latest sustainable market trends.

"The way we at Sidel have been developing packaging has evolved over the last ten years, taking into account the eco-design approach. When designing packaging, we try to think more widely, and consider the whole packaging lifecycle from the raw material production to the end-of-life options in order to reduce the environmental footprint of the packaging. This approach requires a different mindset that allows optimisation at every level of the packaging, ensuring its main functionalities are met."

Sidel's AYA eco-packaging concept is named after a deity of ancient Mesopotamia, also known as Ea or Enki, master of groundwater. This name proved a perfect choice since the intention behind this concept is to provide people with safe drinking water, when secure access is denied.

The 220ml rPET bottle weighs just 5g, with a snap-on tethered cap. The engraving of logos, brand names and legal information directly onto the bottle eliminates the need for labels, which is another step towards facilitating PET bottle sorting and recycling.

Sidel's articulated shoulder bottle features three stable positions. After the blow moulding process, the bottle shoulder remains in an intermediate, folded position. Then, after filling and capping, mechanical pressure is applied to the shoulder, moving it to create the final iconic V-shape of AYA. As the bottle is slightly pressurised, its weight can be reduced but still retain the strength it needs to survive the supply chain.

It is possible to maintain the folded shoulder position in order to enlarge the volume and avoid any overflow when opening. AYA also features a recessed base design, created using the Base OverStroke System during bottle-forming. This allows for the stacking of bottles, reduction

# AYA ready?

A prototype bottle concept was granted the prestigious World Food Innovation Award in March for its eco-friendly credentials.

**Dominique Huret** found out more



of height and improvement of storage volumes.

The distinctive V-shape bottle offers two packing alternatives: bottles stacked in layers on top of each other; or top-and-tail. In the former option, bottles nest together thanks for the fit between the recessed base and the low bottle neck. In this layout, each layer of bottles is held together with a perforated cardboard separator that fits over the necks.

In the second option, the bottles are placed in a staggered fashion, alternating upright and inverted, to make the best use of secondary packaging space and place as many bottles as possible in a given volume, according to distribution needs.

"The AYA design reflects market requirements and evolution, but it is a prototype," said Boulanger. "Sidel's packaging design engineers brainstorm without technical barriers, which gives space for creative ideas. Later, the most interesting ideas are fine-tuned and transformed into technical concepts to be proposed to the market, allowing us to evaluate the interest shown in each solution before transforming it into an industrial solution."

As for adapting existing Sidel lines to accommodate the design, the company said that some

*Above: There are multiple options for stacking with the AYA bottle.*

*Right: Sidel's packaging designer Marion Boulanger received the award for Sidel at the event in March*



modifications would be required. For the primary package, this would involve investment in specific moulds that are compatible with any Sidel blow-moulder. As AYA is a label-free bottle, the labeller can, of course, be bypassed.

Additional adaptations would be needed at the end of the line for secondary and tertiary steps. As for bottling speeds, Sidel cautions that AYA is not an industrial solution yet. Nevertheless, bottles with articulated shoulders have already been blown and validated at the research and development stage.

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