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Subject: Successful cooperation: Carlsberg, DS Smith and KHS launch sustainable multipack with rounded corners to market

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Number of characters: approx. 9,000 (with spaces and without boiler plate)

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## **Title**

Round(ing) the corner

## **Subtitle**

Together with DS Smith and KHS, Carlsberg produces a sustainable cardboard pack with rounded corners

## **Teaser**

In a show of joint force, a real packaging innovation has now been created: together with DS Smith and KHS and based on SCA's patented Arcwise® technology, Carlsberg is launching an eye-catching premium multipack with rounded corners to market, starting with Poland. Further projects are in the pipeline.

## **Main text**

When Carlsberg starts contemplating innovative new packaging designs, the focus is on the consumer. Packaging innovation director Marine Andre gets straight to the point. "For us, consumer experience has top priority. After all, in store we have less than two seconds for our products to be noticed on the shelf. If you're not conspicuous, you're not there." This is hardly surprising when we consider that one consumer passes about 300 different products a minute at the supermarket.

Intensive market research has discovered that sustainability is something consumers expect – but don't actively 'reward'. They're not willing to pay a premium for it. It's thus all the more important that sustainable packaging is both functional and gets brands noticed. "We're consciously trying to break down the barriers between sustainable packaging, optimized costs and the perfect consumer experience," explains Andre. "If a system doesn't score with at least two of these criteria, it's doomed to fail."

### **Visual brand presence**

One good example that shows how Carlsberg is exploring new avenues is the DS Smith Round Wrap®, a [cardboard multipack with curved edges](#) for beer bottles. It provides added value on three counts. Firstly, it gives the brand a greater visual presence, upgrades the pack and boosts its impact on the shelf. This has been proved by scientific studies carried out by the Harvard Medical School, among others: they show that objects with round shapes are perceived as being more attractive than those with square corners and edges. Secondly, this new style of secondary packaging uses less material, has a smaller carbon footprint and is better protected against damage during transportation. And thirdly, as the pack can be produced on existing packaging machines, no large investments are needed, with the consumer not having to pay a higher price.

### **Long learning process**

Before the new multipack made it onto the shelf, however, the concept had to undergo a lengthy learning process. “We started the first trials in Sweden back in 2020,” remembers senior packaging implementation and optimization manager Bogdan Volkotrub, the man who holds operative responsibility for the project at Carlsberg headquarters. “Before we started thinking in greater quantities, we first wanted to prove on a small scale that this solution could actually be implemented at all. At first, we weren’t successful because we couldn’t produce constant quality.”

The breakthrough ultimately came with participation of the right partners in 2022. DS Smith, manufacturer of sustainable packaging, was able to provide sufficient material and exhibited the necessary testing, learning and validation perseverance, working in a team with Dortmund systems supplier KHS. The latter first analyzed which of its packaging machines in operation in the Carlsberg universe could process the new packs without the need for substantial conversion. “It’s like playing with LEGO,” is how Volkotrub describes the process. “One piece is the material, one represents the machine and a third stands for teamwork. If just one bit doesn’t fit, you can’t build anything decent from the pieces.”

## **Finding the right market**

All that then remained to be done in order to make that perfect fit and finally go live was to identify a suitable test market. The choice eventually fell to the sales region serviced by [Carlsberg's Polish subsidiary](#). Here, bottled brand products such as Carlsberg, Garage and Somersby are primarily packaged into big packs holding 20 or 24 containers. For these, wrap-around cartons are used instead of plastic crates. The production site also already had a packer that could produce the new multipack, namely a [KHS Innopack Kisters WP Advanced](#). In 2024 the first packs with rounded corners began to appear on the shelves of Polish supermarkets.

## **Testing material combinations**

Rounded corners make high demands of the material and the way it's processed. Jonathan Carter, head of Innovation Product Management at [DS Smith](#), explains what's important here. "We need an outer liner that's robust enough to stabilize the curve, whereas the inner liner must be much lighter to enable the fluting to form perfectly. This is the only way to produce a smooth curve without the material creasing or tearing." To make sure the quality was right, DS Smith tested countless combinations of paper, types of corrugation, adhesive and machine parameters in a laborious, iterative process before the material was dispatched to the customer. Carter is pleased to call the test result the "golden ratio" of material composition.

## **Surprisingly simple solution**

During the final phase of the project, DS Smith sent thirteen pallets representing a limited selection of different material variants to KHS in Kleve. Here, they were subjected to vigorous machine testing by the packaging experts. One of these, Tobias Kersten, outlines what was technically possible on the existing systems. "When we first heard about a wrap-around pack with rounded corners, lots of us asked how this was going to work." In the end, the solution was surprisingly pragmatic. "We simply had to use other guide and folding tools in the folding area," Kersten states. "In practical operation, this calls for just minor adjustments. Our specialists set up the system with the utmost precision so that the new format can be seamlessly integrated into modern wrap-around packers. This enables the machines

to provide excellent process stability and fabricate the new type of packaging without any notable loss in performance.” This key aspect emphasizes the wrap-around packer’s flexibility and high market acceptance, he adds.

### **Resounding success**

The finished secondary packaging is being well received by retailers and consumers. On the one hand, the rounded corners are less susceptible to damage during transportation, in the warehouse and at the POS. On the other, the curved design already appears to be enhancing sales, even if no concrete figures are yet available. This is confirmed by a consumer study commissioned by DS Smith which shows that an average 77% of those surveyed would be more willing to purchase a product with the improved rounded wrap-around design than another type of packaging. This could lie in the fact that the rounded corners provide additional space for brand communication, for instance. What’s more, the box lid printed with its advertising motif can be opened and propped up in a vertical position for sale of single bottles – just like a miniature display.

### **Proven sustainability**

Besides on design and function, the new premium pack scores further points for its ecological footprint. Thanks to the lighter inner liner and optimized blank, up to 20% less material is required. “Depending on the basis for comparison, we use up to about 24% fewer CO<sub>2</sub>e,” smiles Jonathan Carter. Here, Carlsberg in Poland reckons on saving approximately 224 metric tons per year. Additional positive effects are generated in conjunction with logistics, such as greater pallet stability and lower consumption of stretch film.

### **Launch to further markets**

The DS Smith Round Wrap® is now fully developed and ready for use on further markets. Carter believes the conditions for this are good. “We’ve already successfully tested production in numerous key locations across EMEA” [eds: Europe, the Middle East and Africa]. “We have the know-how; now we need to scale this up together.” Carlsberg holds similar views. Here, they trust in subsidiary demand and aim to roll

out the new format selectively. Where market volume, brand strategy, material supply and machine technology all slot in with one another, there's nothing stopping a wider launch, states Carlsberg headquarters.

### **Innovation as teamwork**

The new rounded corner multipack powerfully demonstrates how sustainable packaging innovation can work in our day and age – not as an individual idea but as a joint project implemented throughout the entire value chain. Clearly satisfied with the outcome, Marine Andre concludes, “we can’t change anything in packaging on our own. Only by working together with strong partners can we develop systems and solutions that are better for our customers, the environment and our companies.”

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## **Pictures and captions**

(Source: Frank Reinhold)

Image download: <https://KHS.dphoto.com/album/o7ipvph6>

## **Picture captions**

### **DS Smith Round Wrap®**

The DS Smith Round Wrap® scores with a strong visual presence, better on-the-shelf impact, lower material consumption and optimum protection against transportation damage.

### **KHS Innopack Kisters WP Advanced**

Pragmatic solution: multipack production on the KHS Innopack Kisters WP Advanced requires just minor adjustments in the folding area.

### **Wrap-around cartons**

At Carlsberg in Poland, brand products in glass bottles such as Carlsberg, Garage and Somersby are packed in the new wrap-around cartons.

### **Carlsberg Poland: fact check**

## About the KHS Group

The KHS Group is one of the world's leading manufacturers of filling and packaging systems for the beverage and liquid food industries. Besides the parent company (KHS GmbH), the group includes various subsidiaries outside Germany, with production sites in Ahmedabad (India), Waukesha (USA), Zinacantepec (Mexico), São Paulo (Brazil) and Kunshan (China). It also operates numerous sales and service centers worldwide. KHS manufactures modern filling and packaging systems for the high-capacity range at its headquarters in Dortmund, Germany, and at its factories in Bad Kreuznach, Kleve, Worms and Hamburg. The KHS Group is a wholly owned subsidiary of the SDAX-listed Salzgitter AG corporation. In 2025 the KHS Group and its 5,769 employees achieved a turnover of around €1.649 billion.

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