VOLUME 13.5 – 2018

PACKAGING EUROPE

SMURFIT KAPPA'S BETTER PLANET VISION

BREAKTHROUGHS IN THE CIRCULAR ECONOMY • INTRODUCING LATE-STAGE CUSTOMISATION FOR GLASS

Smurfit Kappa
Better Planet Packaging

ENVISIONING A BETTER PLANET

As the industry and wider world wrestle with plastic waste and the relationship of packaging to the environment, Smurfit Kappa has been rethinking its own engagement with the sustainability challenge. Arco Berkenbosch, VP innovation and development, shares Smurfit Kappa's view of the problem we face – and the radically outward-facing approach it has adopted.

The year 2018 has seen European consumers and regulators put packaging waste and single-use plastics in particular under the heat of the spotlight. While the paper industry can feel more relaxed than most in this climate, representing a renewable, widely recycled, and biodegradable product, Arco Berkenbosch approaches the plastic debate with welcome nuance.

"The first thing we have to understand is that the fundamental problem with packaging waste is litter," he states. "I'm a believer in innovation, and I'm confident that if waste is collected in a controlled way, we can apply all the R&D resources we have in the packaging industry and beyond to find ways to solve or at least reduce the problem. Therefore, the first principle is that we should be solving the litter challenge, not waging a war on plastic. When you look at it from this point of view, debates around reusable vs recyclable formats are rather academic. Even if we have multi-use plastic packaging, it's still a material that will stay on the planet for 500 years. Whether we want to use plastic packaging once or forty times, it's imperative that it stays under our control."

What paper can – and can't – do

In addition, Mr Berkenbosch readily acknowledges the properties that make polymers uniquely suitable in certain applications. "We have to recognise that in certain contexts plastic is the most functional material available," he says. "Take the example of the cucumber: we know the plastic film protects more environmental resources than it uses itself, and at the moment there is no real alternative material that can fulfil this role. We always need to interrogate whether a packaging material is fit for purpose in its core function of protecting the product. In a case like the cucumber it is almost by definition sustainable."

Therefore, our responsibility as a society is to minimise the amount of uncontrolled waste as soon as possible – without creating negative side-effects in relation to resource efficiency. The dual challenges are to develop systems that ensure we collect and recycle much more plastic, and develop easily recyclable alternatives. Smurfit Kappa believes that it has a role to play in both.

"We have the obligation to share what is necessary to make the recycling system work," suggests Mr Berkenbosch. "Paper packaging is recyclable firstly because it is economically viable without subsidy and secondly because we solved the purity problem, meaning, from a consumer point of view, anything from newspaper to corrugated can go into the same stream."

Smurfit Kappa also aims to bring, where appropriate, the inherent sustainability of fibre-based packaging to applications currently dominated by SUPs. "First of all, let's be clear about our limitations," Mr Berkenbosch observes. "As an R&D guy, I intrinsically believe in innovation but producing transparent paper based packaging or high oxygen / liquid barriers are challenging goals for the paper industry right now. However, there are some obvious opportunities to use fibre-based materials, starting with packaging formats where they were traditionally used, such as trays for salads or hamburgers and punnets for fruits and vegetables. These were utilised for many years before being displaced by plastics – for cost or marketing purposes, not functionality. We all recall the time when six beverage cans were aggregated on a paper-based tray on the shelf, rather than in shrink film. Another obvious opportunity which ought to be higher on the agenda is buffering. The polystyrene used as protective packaging and as void-fill in e-commerce can be replaced by plenty of recyclable products that are available today."

At a time when the debate around SUPs has been dominated by a focus on visibly impactful applications where there is an emotional connection for consumers, such as drinking straws and coffee cups, the short-term reduction in plastic waste that could be achieved via the low-hanging fruit (void fill, trays, pizza boxes) can easily be overlooked.

In such applications, according to Mr Berkenbosch, paper offers an attractive alternative. "At Smurfit Kappa we have 31 different flute designs, which means a lot of scope to play around with the structure to maximise efficiency and marketing impact," he says. "In the context of omnichannel retail and agile marketing, it's also a big advantage that board offers a lot of flexibility in altering the structural design and graphics of a tray, compared to the cost involved in redesigning a plastic tray."

A study conducted on UK consumers in August 2018 using Smurfit's ShelfSmart tool to measure relative impacts found that 75 per cent preferred paper-based trays. While similar tests are being undertaken across other geographies, the working hypothesis is that a marketing shift in favour of fibre is underway. Meanwhile, if governments follow through on recycling levies, it is expected to tilt the cost proposition in the paper industry's favour.

Extending the possibilities

Beyond the low-hanging fruit, the cutting edge of Smurfit Kappa's R&D emphasises developing additional functionalities without compromising recyclability. "Enhancing gas and moisture barrier properties is a key innovation focus, and we've seen a shift in approach here," Mr Berkenbosch reveals. "In the past there was a lot of research into biodegradable coatings, which were problematic because they needed to be separated from the paper, which required special collection streams and lots of consumer education. Today we are performing research on coatings that can go through the standard paper collection stream, meaning we can harness the existing infrastructure – with its 91 per cent collection rate – without re-educating the supply chain or consumers."

Under this model, material separation takes place after collection: the bio-based coatings dissolving in the typical paper recycling process. Another advantage of the current research approach is that whereas coatings have in the past have usually been applied early in the production process, here it takes place at the printing stage, meaning it can be applied selectively where required. This translates to reduced pressure on volumes and flexibility in creating dedicated solutions. ▷

Sustainability leadership

While such fundamental R&D efforts are yielding exciting advances, Smurfit Kappa has come to see this model of innovation, leveraging internal knowledge along with research partnerships, as somewhat within its comfort zone. As such, the business has undergone a radical rethink of the role it has to play in sustainable innovation. The result is its 'Better Planet Packaging' initiative, the pillars of which consist of inspiration and education, design, innovation, and external cooperation. Smurfit Kappa's transformative idea is that it needs to adopt an even more open relationship than today with the wider industry and community, providing leadership and know-how, along with a platform for a much wider ecosystem of design creativity.

"We'll be setting an innovation agenda," Mr Berkenbosch says. "We are developing a set of guidelines to reimagine how things would look if we designed packaging differently. When it comes to design, the key challenge is to produce packaging that fulfils its protective role while reducing the chance that it will become litter. A classic example is the non-detachable ring pull invented for cans so they don't turn into litter. For plastic bottles it would be beneficial to create a similar mechanism that keeps the cap connected to the bottle. With fibre-based packaging, it could mean producing tapes that remain attached to the box after opening, or a two-piece box that isn't detached, so no elements are diverted away from the recycling stream."

While Smurfit Kappa looks to set the agenda, it recognises that it can't monopolise it if the objective is to think outside the box. "We've launched Better Planet Packaging in part with the intention of mobilising not just Smurfit Kappa's designers, but the global design community," Mr Berkenbosch states. "I think the industry has had something of a blind spot. In the IT world it's common to hold sessions where you put 200 developers in a room to solve a problem. In Smurfit Kappa we have proven to be a strong believer in the packaging industry shedding its conservative habits and embracing new approaches. Why shouldn't we, like Apple or Google, bring together 200 brilliant designers and set them a challenge to forget how we used to do things and come up with new, sustainable solutions? Maybe there are designers from the automotive industry or other sectors who can approach our challenges in a totally different way."

The company is adamant that Better Planet Packaging isn't about promoting its portfolio. "We mean to start an innovation journey that asks what we need to do to develop sustainable packaging, with a particular focus on end-of-life scenarios," Mr Berkenbosch concludes. "We see ourselves as a leader in setting this agenda but the honest truth is that we don't precisely know where this journey will end." □

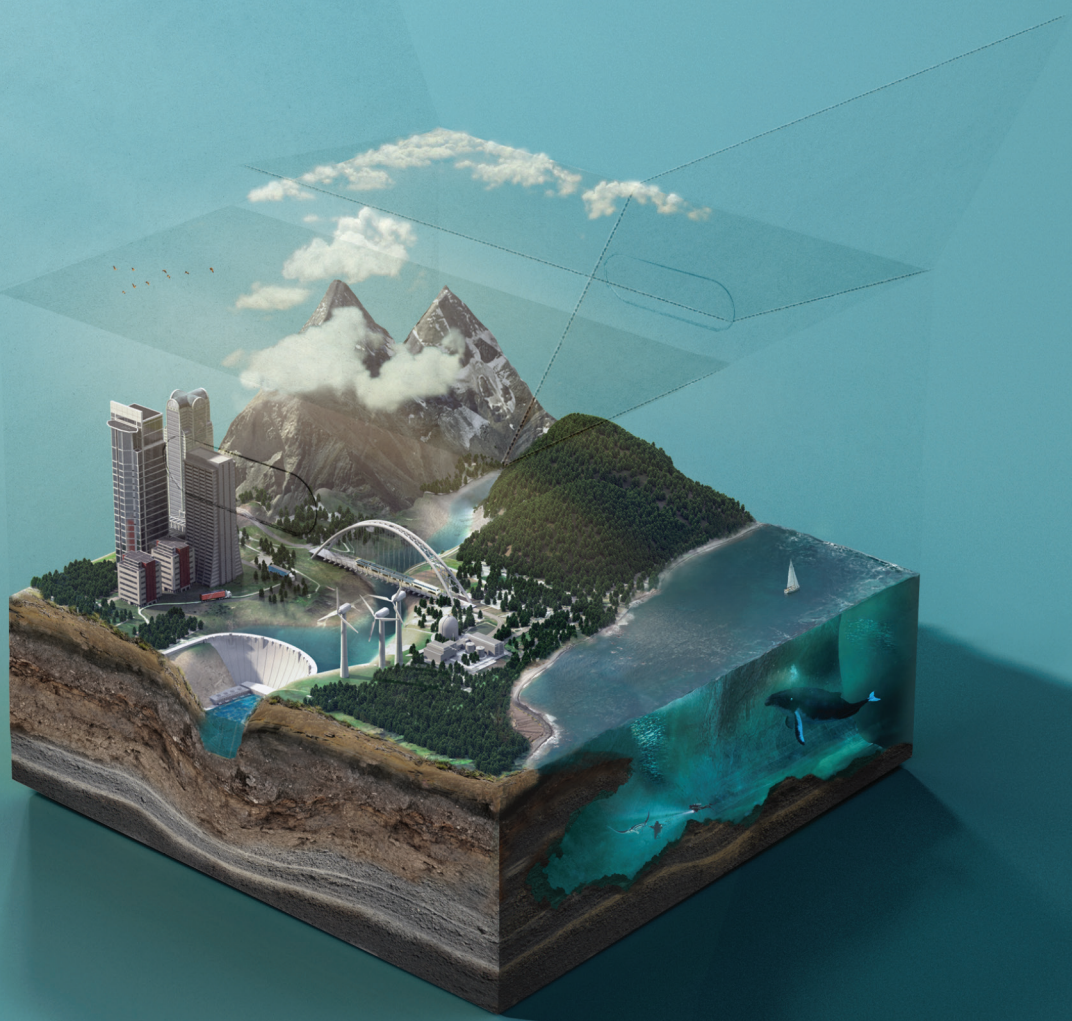
Arco Berkenbosch, VP innovation and development

Better partnerships.
Better packaging.
Better planet.

Smurfit Kappa
Better Planet Packaging

Partnering with other thought leaders allows us to help deliver a more sustainable world.

Find out more at **smurfitkappa.com**



PAPER | PACKAGING | SOLUTIONS

LSE:SKG

Smurfit Kappa
Open the future