

uppp

The magazine for professionals



In the spotlight:
Packaging Optimization

Small details, big impact

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Editorial UPP



Jörg Sabo,
Global Director Marketing
& Innovation

Dear Reader,

Change often begins in the details. In those places where small, smart adjustments can have a big impact. This is exactly where our focus lies: packaging optimization as a key to greater innovation, efficiency, and sustainability. It's about solutions that not only sound good on paper, but prove themselves in everyday use. We challenge the status quo and develop ideas that make packaging lighter, more functional, and more resource-efficient, without compromising on quality or ease of use. On pages 4 to 10, we show you how we put this approach into practice and shape it for the future.

Alongside this, we present other exciting topics. With rPP4Food, Greiner Packaging is launching an ambitious project to drive the use of mechanically recycled PP – an important step toward sustainability. In addition, we provide insight into our current development activities for r-PP in the US business (page 3).

In our market focus on pages 11 to 13, we explore the snacking market and our new Snack Cups range, which combines sustainability with practicality. The innovative strength of Greiner Packaging is also reflected in further highlights: the clever Flapper Lid (page 14) and the newly developed

Click On sealing lid (page 18), both perfectly combining convenience and safety.

Sustainability and transparency are equally important topics. The conformity assessment (page 17) provides clarity about our packaging, and the recertification of our CO₂e calculation tool (page 18) underscores our commitment to reliable emissions data. There is also an update on our partnership with the environmental education app SampApp (page 15).

This issue is rounded off with two success stories: the project with Stockeld Dreamery and our K3® in the USA, as well as our collaboration with Cliffdiver (both on page 19). These examples show how our solutions are making an impact worldwide.

We invite you to dive into the world of packaging development with this edition. Because in the end, it's about more than just packaging. It's about taking responsibility with every step and actively shaping the future.

Enjoy reading the new unique packpaper!

Yours,
Jörg Sabo

Driving circularity in food packaging: Greiner Packaging's rPP4Food initiative

Polypropylene (PP) is one of the most widely used plastics in food-contact packaging. With the EU's Packaging and Packaging Waste Regulation (PPWR) setting mandatory recycled content targets – 10% for contact-sensitive PP by 2030, rising to 25% by 2040 – packaging producers and brands face increasing pressure to adapt.

Recognizing the significant challenges in safely recycling PP for food contact due to its complex nature and contamination risks, Greiner Packaging is launching rPP4Food. This strategic project aims to develop a scalable, cost-effective supply of mechanically recycled PP that fully complies with EU Regulation 2022/1616 (EFSA). By doing so, Greiner Packaging is addressing an urgent need in the market to enable the safe, circular use of recycled polypropylene in food packaging. This initiative builds on Greiner Packaging's involvement

in pioneering efforts such as Pack2theloop and Circplast-mr, which demonstrated the technical and commercial viability of food-grade recycled PP.

Greiner Packaging's approach covers the full value chain, from defining input material specifications and advanced decontamination technologies to conducting legal risk assessments and developing commercialization pathways. This ensures regulatory compliance while providing customers with food-safe, regulation-ready packaging solutions. Customers can focus on their core business without the burden of complex sourcing or compliance challenges. Through these efforts, Greiner Packaging supports customers in meeting sustainability targets while advancing a truly circular economy.



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r-PP in the US: Where expertise meets opportunity

Sourcing recycled polypropylene (r-PP) suitable for food packaging remains a significant challenge in Europe, largely due to limited infrastructure and restrictive regulatory frameworks. In contrast, the United States has made greater progress in this area, supported by the FDA's Letter of Non-Objection, which permits the use of r-PP in selected food packaging applications.

Greiner Packaging is actively preparing to leverage this opportunity by exploring the integration of food-grade r-PP into its US operations. Central to this effort is the company's investment in building deep expertise around the material's use, recognizing that this is not merely a material substitution but a strategic process. In parallel, Greiner is reducing packaging weight to make limited supplies go further, alongside other goals, and increasing the share of clear PP to improve future r-PP quality. By developing in-house know-how and application-specific insights, Greiner ensures that its sustainable solutions meet the highest standards of safety, functionality, and quality.

Given the limited global supply of food-grade r-PP, Greiner Packaging is focusing its development

work on applications with the highest sustainability impact. As recycling infrastructure and supportive legislation continue to evolve worldwide, the availability of food-grade r-PP is expected to grow.

By developing expertise today, Greiner Packaging will be well-positioned to scale its use of r-PP in alignment with future supply increases. This proactive approach will help customers achieve their sustainability targets more rapidly. Expanding the use of recycled polypropylene is a vital step toward a circular packaging economy, and Greiner Packaging remains committed to innovation and leadership in driving this transformation.



In the spotlight: Packaging Optimization



Packaging optimization: small details, big impact

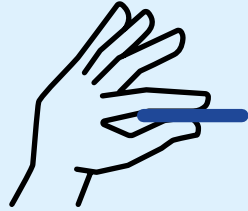
Packaging is everywhere – and yet it often goes unnoticed. It protects, transports, informs, and sells. It's the first thing consumers hold in their hands, and despite being so omnipresent, it's rarely questioned. But it's worth taking a closer look. After all, packaging holds enormous potential: for savings, for innovation, and for sustainability.

Packaging optimization operates between precision and vision. It requires technical expertise and creative solutions. Optimizing packaging is a strategic process in which every detail is scrutinized. Those who think smart here can not only save resources and costs, but also act more sustainably and position themselves as a future-ready brand.

Which levers can be adjusted, how this creates a whole system of benefits, and why it pays off in multiple ways: **Let's take a closer look at packaging.**

Levers for packaging success

Packaging optimization involves a variety of levers that can be used strategically to reduce costs and environmental impact while still meeting product requirements. Below, we take a closer look at the most important ones.



Material reduction

Targeted reduction of material usage is one of the most effective measures in packaging optimization. The goal is to eliminate material where it is not strictly necessary without compromising the stability or protective function of the packaging.



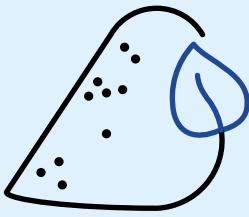
approx.
26%
Material
savings

Topology optimization: Topology optimization refers to the targeted distribution of material within a package, adjusted to the actual load. Material is reduced where less is needed and reinforced where it's critical. The result is a design that combines high stability with minimal material usage. This requires deep understanding of mechanical loads and plastic behavior. The outcome is lightweight, stable packaging that can be flexibly tailored to various requirements.

Avoiding unnecessary components and overengineering: Packaging sometimes contains elements of limited benefit, such as secondary closures or inserts. Additionally, many packages are larger or more robust than necessary, either out of caution or for historical reasons. A critical analysis allows for targeted reduction of overengineering and superfluous components.

Wall thickness reduction: Wall thickness determines the material volume of a plastic package. Reducing it in a targeted way can significantly lower the weight. Mechanical and protective properties must be carefully evaluated to ensure that material is not reduced in critical areas. Modern materials testing and lab trials help determine the minimum required wall thickness. Switching the production technology – for example, from injection molding to thermoforming – can also enable thinner walls.





Material change and use of recyclates

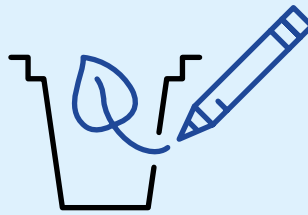
When selecting the optimal plastic, it is not only the functional suitability that matters, but also recyclability and compatibility with existing material streams.

Selecting the appropriate material: A central lever of packaging optimization is the targeted selection of materials. Instead of heavier or more energy-intensive materials such as glass or metal, plastics are often used, as they are lighter, shatter-proof, and more flexible.

Within the family of plastics, a targeted switch to a different type of material offers an effective way to optimize packaging. This can, for example, reduce weight, increase recyclability, or improve product protection through more suitable barrier properties. It is essential that the selected material is compatible with existing recycling processes in order to effectively close the material loop. Furthermore, packaging should be designed in such a way that it fits optimally into regional sorting and recycling systems. This not only increases recycling rates but also minimizes waste and generates economic benefits.

Use of post-consumer recyclates (PCR): The use of PCR, i.e. recycled material from consumer packaging, reduces the need for virgin material from fossil resources, lowers the CO₂e footprint of the packaging, and supports a functioning circular economy. PCR makes it possible to process used materials and reintegrate them into production.

Due to increasing regulatory requirements, such as the EU Packaging and Packaging Waste Regulation (PPWR), minimum proportions of recycled content in plastic packaging will become mandatory. As a result, the use of PCR is not only more sustainable, but increasingly also legally required. Companies that rely early on higher recyclate content design their packaging to be more environmentally friendly, secure competitive advantages, and avoid costs due to non-compliance.



Design for recycling and circularity

A central element of packaging optimization is design for recycling. Plastic packaging should be designed in such a way that it can be recycled as simply and efficiently as possible.

Monomaterial concepts and avoidance of multi-layer composites: To promote the recyclability of plastic packaging, the use of monomaterials or easily separable materials is essential. This facilitates sorting and processing during recycling. Complex multilayer composites made of different plastics or materials hinder separation and reduce or even prevent the efficiency of recycling.



Permanently bonded materials can contaminate recycling streams and impair the quality of the recycled plastic. The consistent use of monomaterials or easily separable components significantly improves circularity and enables effective recycling.

Recyclable decorations: Decorative elements such as labels and sleeves are important components of packaging. To ensure high recyclability, they must support the recovery process. Ideally, they are made from the same material as the packaging body or can be easily separated during sorting, for example through density differences or mechanical removal. Particularly advantageous are integrated solutions such as in-mold labeling, in which the decoration is directly fused with the packaging body during manufacturing. This creates a mono-material solution that facilitates single-grade recycling and significantly improves circularity. Ideally, a label is chosen that detaches completely from the main plastic component in the shredder without leaving any residue, thereby achieving a higher purity of the recycled material.

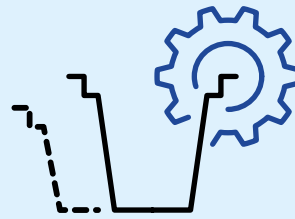


Peelable in-mold label

Recycling-friendly inks and adhesives: Washable printing inks, coatings, and adhesives leave no problematic residues and can be easily and completely removed during the recycling process. This helps ensure that the quality of the recycled plastic is preserved and its range of potential applications is not limited. The use of soluble or washable inks and adhesives is therefore an important lever in packaging optimization.



De-inking direct print



Geometry adjustment and logistics optimization

Geometry adjustment: By precisely adjusting the geometry of a package – for example, by changing the draft angle or the inclination of its sidewalls – it is possible to reduce the overall height without affecting the fill volume. Fine-tuning curves, edges, and surface distribution allows the overall proportions to be tailored to logistical requirements without compromising functionality or product safety.

Optimized stackability: A well-designed package enables stable, secure stacking during storage and transport. With suitable surfaces and structural features, packaging units rest safely on one another without slipping or being damaged. This minimizes transport-related damage and improves space utilization.

Stacking distance: The stacking distance refers to the minimum space between stacked packages. Reducing this distance optimizes storage and transport volume without compromising stability. By aligning packaging design with an optimal stacking distance, volume efficiency and supply chain safety are both improved.

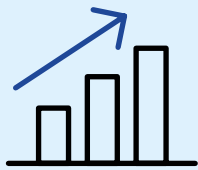


Minimization of empty space: Reducing unused internal volume is essential for material and resource efficiency. Designing packaging to minimize empty space lowers material usage, costs, and environmental impact. It also improves space utilization, maximizing transport capacity and warehouse efficiency.

Benefits of packaging optimization

Packaging optimization creates tangible advantages on multiple levels. The following four areas demonstrate why evaluating optimization potential for plastic packaging is worthwhile – both strategically and operationally.

Increasing economic efficiency



Optimized packaging enhances cost-effectiveness throughout the entire packaging chain, from material selection and design to logistics. The focus lies on reducing direct and indirect costs without compromising functionality or product experience.

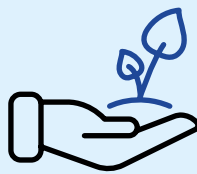
Lower material costs: Reducing wall thickness, eliminating unnecessary components, or improving geometry can significantly reduce material usage. Cost advantages also result from using more economical materials, such as plastics with better availability. In addition to price, factors like processability, long-term supply security, and sustainability play key roles.

Optimizing storage and transport volumes: More compact designs, improved stackability, and reduced void space enhance spatial efficiency in storage and logistics. This lowers transport costs per unit, reduces the number of trips, and saves fuel and labor. Warehouse space is used more economically, and both logistics providers and retailers benefit from compact, easy-to-handle packaging.

can be cooled more efficiently – in warehouses, during transport, and at the point of sale. This reduces energy usage per unit, optimizes refrigeration capacity, and improves the product's carbon footprint.

Lower waste disposal and EPR fees: In many markets, packaging fees, such as those under extended producer responsibility (EPR), are calculated based on material usage, recyclability, or carbon footprint. Optimized designs reduce material volume and disposal costs while improving classification within EPR systems. This helps reduce fee-related expenses for manufacturers and retailers.

Reducing environmental impact



Packaging optimization is a powerful lever for significantly improving a product's environmental footprint. By strategically reducing material use, energy consumption, and emissions, environmental impact during production, use, and disposal is substantially lowered.

Reducing the carbon footprint along the value chain: Many individual measures within packaging optimization – such as reducing packaging weight, eliminating unnecessary components, or improving stackability – add up to a significant reduction in climate-relevant emissions. Less material means less CO₂ during production. More compact packaging reduces transport-related emissions. And improved recyclability lowers CO₂ compared to producing virgin materials. Through smart packaging strategies, companies and entire industries can make meaningful contributions to their climate targets.

Resource savings and material efficiency:

Optimizing material usage and geometry makes it possible to produce packaging using significantly less plastic without compromising functionality or product protection. This not only reduces the consumption of fossil-based raw materials but also lowers energy demand across production, processing, and transport. Downstream environmental impacts – such as during collection and disposal – are also reduced. Every unit of packaging saved directly contributes to resource conservation and emissions reduction.



Reducing process and handling costs:

Standardized dimensions, simplified shapes, and improved machine compatibility streamline the packaging process. Packaging that can be easily filled, sealed, stacked, and palletized through automation saves labor time, increases process reliability, and reduces reject rates. Better handling also lowers effort during picking and repacking.

Lower energy costs for chilled products: For temperature-sensitive products, shape and volume directly affect energy consumption. Compact packaging with minimal empty space

Improved recyclability and closed-loop systems:

The recycling rate of packaging depends largely on how well it can be sorted and reprocessed. Improvements that enhance material separability, avoid problematic additives, or promote the use of pure plastic types significantly increase the likelihood of reintroducing materials into the circular economy. This not only reduces the amount of waste that ends up in landfills, is incinerated, or – worst of all – carelessly discarded into the environment. At the same time, it enables the production of high-quality secondary raw materials that can be reused in new packaging. This actively supports the transition from a linear to a circular packaging system.

Meeting regulatory requirements

With increasing political pressure to promote a circular economy, regulatory demands on packaging are growing. Directives like the EU

Packaging and Packaging Waste Regulation (PPWR) will soon require mandatory recycled content, prohibit certain composite materials, and demand recyclability. National regulations, such as those tied to Extended Producer Responsibility (EPR), further increase the need for adaptation.

Companies that transition early to optimized, compliant packaging reduce legal and financial risks, such as fines, restricted market access, or higher EPR fees for non-recyclable packaging. At the same time, they gain a competitive edge: Compliance is increasingly becoming a selection criterion in partnerships, tenders, and supply chain requirements where sustainability and legal conformity are expected.

Strengthening the brand and market position

Packaging serves as a key brand ambassador and plays a vital role in shaping product perception. Well-

designed packaging optimization offers a wide range of benefits that go beyond ecological improvements, without neglecting sustainability.

Enhancing sustainability credentials: Reduced material usage and improved recyclability help achieve environmental goals and meet legal requirements. They are also valued by environmentally conscious consumers, strengthening the brand's credibility in terms of sustainability.

Improved product presentation and differentiation: Even aside from sustainability considerations, optimized packaging with streamlined designs, improved functionality, and attractive aesthetics can enhance visibility at the point of sale. This sets the brand apart from competitors and boosts customer satisfaction.

Enhanced user convenience: Geometric refinements and the removal of unnecessary components can improve packaging usability – for example, by making it easier to open, reseal, or dispense. This improves the user experience and strengthens customer loyalty.

Cost efficiency and adaptability: Savings in materials and production create financial flexibility for pricing or marketing. Standardized packaging formats also allow quick adaptation to evolving market demands, speeding up time-to-market and reducing costs.

Packaging optimization as a success factor

Packaging is a silent multiplier. Those who optimize it with precision and foresight not only reduce costs but also comply with legal requirements, conserve resources, and strengthen their market position. In this way, packaging optimization transforms from an inconspicuous detail into a strategic powerhouse, where ecology, efficiency, and brand impact intersect – and every improvement pays off multiple times: for the company, the environment, and the customer.





Perfect for snacking: packaging with snack appeal

Snacks are no longer just a quick bite – they're the little heroes of our everyday lives, providing a quick energy boost, satisfying mid-day hunger, or simply offering a brief moment of enjoyment when the day doesn't allow for a break. They carry us through long workdays, accompany us while on the go, and are welcome companions during leisure activities like a park afternoon, strolling through the city, or attending an event.

But the days when taste was the only factor that mattered are over. Today, it's all about the complete package, and packaging is a key factor in that: A good package not only protects the contents but also enhances the experience. It communicates quality, supports the brand message, and makes handling easier on the go. In a world where purchasing decisions are made in seconds, packaging has become a strategic success factor: functional, emotional, and strategic all at once.



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Snacking without boundaries: the global snack boom

What once was a small indulgence has long become a global multi-billion-dollar market: chips, bars, gummies, nuts, cookies, and more – snacks are a reflection of food culture, lifestyle, and individuality. And they're growing in popularity worldwide.

This diversity is reflected in the massive global market. By 2025, the global snack market is expected to surpass **537 billion U.S. dollars**. North America leads the way with 28% market share, followed by Asia-Pacific at 24% and Western Europe at 23%.¹ The demand is continuously increasing – driven by changing lifestyles, new consumption habits, and a growing need for convenient, instantly available moments of indulgence.

This clearly shows: Whether it's a bag of chips, a chocolate bar, or gummy candies – the small moments of enjoyment are an integral part of our daily experiences around the world. However, not all snacks are the same: While Europe stands for indulgence, quality, and environmental awareness, the U.S. market focuses more on innovative concepts, new flavors, and functional added benefits. The global snack market is dynamic and diverse – reflecting the evolution of modern eating habits as well as regional taste preferences.

Convenience on the go, always ready for a snack

The snack market is booming – not only because of the sweet and savory temptations themselves but also because they perfectly fit into a lifestyle that is becoming more mobile, faster, and more flexible. More and more people are constantly on the go, between work or studies, appointments, leisure activities, or travel.

¹ Source: GlobalData's Market Analyzer, including confectionery (chocolate, gum, sugar confectionery), ice cream (artisanal ice cream, impulse ice cream, take home ice cream) and savory snacks (ethnic/traditional snacks, meat snacks, nuts & seeds, popcorn, potato chips, pretzels, processed snacks)

Snacks are a part of this everyday routine – they're quickly available, easy to consume, and adapt flexibly to different needs.

What today's consumers expect can be summed up in one word: **convenience**. Packaging should be easy to open, without any fiddling or force. It should be light, durable, and easy to carry – fitting effortlessly into a backpack, handbag, or car. What's especially in demand is resealability, so nothing spills or crumbles while on the go. **On-the-go snacking** has become a way of life, and packaging must meet this need: easy to use with one hand, safe to transport, and practical even while moving.



But convenience doesn't stop at ease of use. **Sustainability** has now become an equal factor in the purchase decision. Consumers are paying attention to the environmental compatibility of packaging, while still expecting comfort. The ideal packaging today combines smart functionality with a footprint that can be proudly displayed. Those snacking on the go don't want to carry a guilty conscience – they want a solution that is both practical and responsible.

The requirements are high: Snack packaging must fit seamlessly into various everyday situations, be easy to handle, and simultaneously conserve resources. In short: It takes more than just a wrapper – it requires intelligent packaging solutions that stand up to modern life.

Snacks to go, but packaging to stay

So far, most snacks rely on flexible packaging solutions – bags, foils, or small plastic pouches, which dominate around 80% of the market. They're lightweight, inexpensive, and efficient to produce – but are often limited in terms of everyday usability.

The issues begin as soon as you open it: one tug, and the package **tears too far or unevenly**. The contents end up in your bag or on the car seat. Especially on the go, this can be a real source of annoyance.

Things get even trickier when you don't want to eat everything at once. The issue of **resealability** often remains unsolved – many bags simply can't be closed properly. If you don't want to eat it all at once, you either have to improvise or accept that the contents end up scattered in your bag or car.

The often noticeable **rustling** of flexible packaging is particularly bothersome when snacking on the go. Whether on the train, at the office, or in meetings – the sound of opening or taking out a snack can be perceived as disruptive.

Additionally, flexible plastic packaging is not stable in shape, which means fragile products like chips or pretzels can break when carried in a backpack or handbag, and the contents are reduced to nothing but a pile of crumbs.

In short: flexible packaging meets many needs – but when it comes to convenience, everyday usability, mobility, and user experience, it quickly reaches its limits. This is exactly where the potential for new solutions lies, offering more than just product protection: comfort, control, and quality – even after the first opening.

K3® & K3® r100 Snack Cups: sturdy cups, flexible benefits

Greiner Packaging presents the K3® and K3® r100 Snack Cup, an innovative packaging solution for the snack market, already successfully used in segments like dairy products. The plastic cups with cardboard wraps combine the advantages of plastic packaging with the sustainability and aesthetics of cardboard. They overcome the weaknesses of flexible snack packaging and offer a range of benefits, perfectly tailored to the needs of modern snackers.



Everyday benefits – comfort that thinks ahead

- » **Shape stability:** The rigid cup form prevents the unwanted tearing of the packaging, which often happens with flexible films. The snack thus stays securely inside the container, and crumbs stay where they belong.
- » **Durability:** Sturdy and well-protected, the Snack Cup keeps the contents intact even under pressure or impact – ideal for on-the-go, whether during your commute or while traveling.
- » **Convenient handling:** The compact, shape-stable packaging fits perfectly into cup holders in cars, bikes, or strollers, making it easy to snack on the go.
- » **Resealability:** After opening, the packaging can be easily closed again thanks to the lid, ensuring the snacks stay fresh and securely in place inside.

- » **Attractive at the POS:** Especially in high-traffic sales locations like gas stations, train stations, or convenience stores – where snacks are often bought on the go and spontaneously – the first impression counts. An eye-catching package showcases the brand at the point of sale and makes it the first choice for a quick indulgence while on the move.
- » **Lid options:** Resealable lids, made through thermoforming or injection molding, are available in PP, PET, or r-PET and can be customized with IML, labels, or pre-printing. The Snack Cups are also compatible with Greiner Packaging's two innovative sealing lid solutions, Click In and Click On. To learn more about these innovations, check out page 18 of this magazine.

Sustainability on a new level

- » **Self-separating cardboard wrap:** The K3® r100 features an innovative self-separating cardboard wrap that allows for simple and complete material separation without any action required by consumers, ensuring over 90% recyclability.
- » **Tear-tab:** The K3® features an innovative tear tab that makes the cardboard wrap particularly intuitive and easy to remove, ensuring the recyclability of both the packaging and the plastic.
- » **Material reduction:** By combining a sturdy plastic cup with a cardboard wrap, the material thickness of the plastic can be reduced, as some of the stability is provided by the cardboard.
- » **Recycled materials:** The cardboard wrap is made entirely from recycled materials, significantly reducing the ecological footprint of the packaging. The plastic cup can also be produced using recycled materials.

The benchmark for modern snacking

The snack market continues to grow – and with it, the demand for packaging solutions that optimally support the modern lifestyle of consumers. Flexible solutions are still widely used, but in the convenience sector, they are reaching their limits: unstable tearing, crumb loss, and poor resealability are annoyances that spoil the snacking experience.



Design freedom for brands

- » **Thermoforming technology:** Enables precise shaping and thin wall thicknesses – for stable product protection with reduced material usage.
- » **Flexible material portfolio:** Production from PP, PET, or r-PET (up to 100% recycled) is possible.
- » **More than just packaging:** the cardboard as a branding space: The cardboard wrap offers various design options – whether hot foil stamping, embossing, coatings, or windows – making the packaging an eye-catching feature at the point of sale. The inside can also be printed, providing additional space for communication such as promotions, brand messages, or interactive content that appears only upon opening.

With the **K3®** and **K3® r100 Snack Cup**, Greiner Packaging demonstrates what the next generation of packaging looks like: stable, user-friendly, sustainable, and design-forward. They provide protection, flexibility, and a positive user experience on the go – all in harmony with the environment and the brand message.

For snack manufacturers, this means: With plastic cups, you're in tune with the times. Those who invest in smart cup solutions offer their customers more – more quality, more comfort, more responsibility. What was once a simple snack becomes a compelling brand promise. And packaging becomes a true competitive advantage.

Maximum user-friendliness: the Flapper Lid



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Scan the QR code to
experience the Flapper
Lid up close, right on
your desktop:



Greiner Packaging offers innovative solutions that perfectly combine functionality and sustainability. Through its in-house design and prototyping agency DesPro, the company continuously develops new packaging concepts that are not only environmentally friendly but also deliver maximum ease of use for end consumers. A prime example is the Flapper Lid – a thermoformed lid that doesn't need to be fully removed from the cup to consume the product, thanks to its integrated flap.

Compared to conventional lids, this user-friendly solution is not only more convenient, but also more sustainable: the thermoforming process saves up to 35% in material compared to injection-molded lids.



What sets the Flapper Lid apart:

- » **Resource-saving:** The thermoformed Flapper Lid uses up to 35% less plastic than traditional injection-molded lids – reducing material usage and CO₂e emissions. Depending on the application, the lid can also be made from up to 100% recycled PET. Alternative materials such as PP or PET are also available.
- » **User-friendly:** During first opening, the flap is lifted, and the tamper-evident seal, which protects the product until first use, is removed. The Flapper Lid does not need to be fully taken off, making handling especially intuitive and enabling quicker consumption.
- » **Versatile:** The Flapper Lid can be manufactured in various sizes and shapes, making it suitable for a wide range of markets.
- » **Child-safe:** As an added feature, the Flapper Lid can be equipped with an integrated child-safety mechanism – ideal for products requiring special protection, such as detergents.
- » **Seal- or weldable:** The Flapper Lid can be sealed or welded directly onto the cup, forming a fixed, inseparable unit with its second component – whether that's a cup, tub, or similar container. When both components, such as the cup and lid, are made from the same material (such as PP or PET), the result is a mono-material solution that further enhances recyclability.

The Flapper Lid is a solution that perfectly unites user-friendliness, innovation, and sustainability – and it's suited for countless applications across a wide variety of markets.

Fixed connection:
lid is welded onto the
tub after filling



STEP 1:
Open flap



STEP 2:
Remove sealing



STEP 3:
Take your gum



STEP 4:
Reclose and see when you
need to buy more



SampApp and Greiner Packaging promote gamified environmental education in Indonesia



Since April 2025, Greiner Packaging has been supporting the Indonesian educational app SampApp, promoting the spread of knowledge about sustainable waste management. Indonesia is among the countries with the highest levels of plastic waste globally: over seven million tons are generated each year, much of which ends up uncontrolled in the environment. Effective solutions go beyond infrastructure – it takes education that drives long-term behavioral change.

SampApp: Learn, Play, Take Action

It's not enough to install new bins or pass stricter laws. If people don't understand why waste separation matters, nothing will change. This is where the greatest potential lies: education. And not just any education – but one that is easy to understand, practical, and entertaining. That's the only way to reach people and keep them engaged over time.

SampApp, a play on the Indonesian word sampah (waste) and app, was developed by the NGO Veritas Edukasi Lingkungan (VEL). The application explains the life cycle of plastic from production and consumption to disposal. It combines environmental education with game-based elements, making complex topics like plastic production, waste sorting, and pollution understandable. The modular, interactive learning concept begins with short explainer videos, followed by quizzes and missions to reinforce the material. Users earn experience points, coins, and digital rewards. Those who complete all content receive a certificate as a "SampAssador" and become ambassadors for sustainable consumption.

In addition to its educational content, the app focuses on community building: users can form groups, participate in challenges, and compete on leaderboards. This creates a sense of shared purpose, turning sustainability into a collective experience. The app is free to download, compatible with older smartphones, and therefore accessible to broad segments of the population, which is crucial in a country with significant social inequality.

Education That Reaches People

Since the app's relaunch in April 2025 and the start of the partnership with Greiner Packaging, user numbers have grown significantly: nearly 12,000 people have used the app so far, with around 3,000 completing all learning modules and becoming certified SampAssadors. The project is also gaining visibility on social media: over 20 so-called "sustainfluencers" on Instagram and TikTok have already recommended the app to their communities.

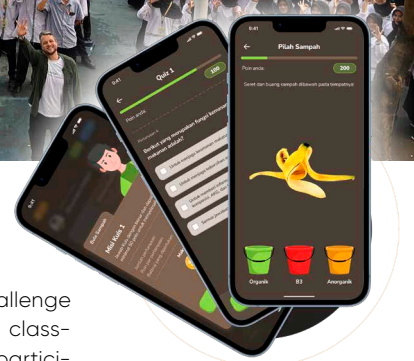
VEL relies on more than digital channels: a team of community officers brings SampApp directly to schools, villages, and religious communities, organizing events and workshops that make environmental education come alive on the ground.



What's Next: School Challenge and New Features

In September 2025, a nationwide school challenge will launch, integrating SampApp into classrooms and rewarding schools for active participation. At the same time, a plastic footprint calculator is in development, helping users track and reduce their plastic consumption. Both initiatives aim to increase SampApp's reach and impact, embedding sustainable behavior in everyday life.

With this partnership, Greiner Packaging is sending a strong message: anyone serious about circular economy must start with education – and the best way to do that is with innovative, digital tools that are engaging, fun, and bring people together.



Conformity assessment: the key to EU-compliant packaging



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When a package is created, a great deal happens behind the scenes. It's developed, tested, and documented – not only in the interest of the product but also in compliance with legislation. The EU Packaging and Packaging Waste Regulation (PPWR) sets a new standard: As of August 2026, conformity assessments under this regulation will become mandatory. It is a comprehensive process that manufacturers like Greiner Packaging must undertake to ensure their packaging meets the legal requirements for sustainability, recyclability, and the exclusion of certain hazardous substances. Failure to provide proof of compliance can lead to serious consequences – including a potential sales ban within the EU. That's why Greiner Packaging is already preparing for the legal requirements expected in 2026.

Packaging safety with documentation

The conformity assessment is a multi-step process that evaluates whether packaging complies with current product safety regulations and the upcoming PPWR requirements. This includes technical testing, an evaluation of material properties, and an analysis of recyclability. As part of the process, a declaration of conformity is also created, which will be mandatory starting August 12, 2026. This official document confirms that the packaging meets the applicable requirements.

Commitment to transparent information sharing

A central component of the conformity assessment is the provision of relevant information throughout the entire supply chain. While product safety is already at the heart of today's conformity declarations, the PPWR will introduce numerous additional sustainability and circularity criteria. Suppliers must provide timely details regarding the materials used, their origin, ingredients, and environmental impact prior to packaging production. Manufacturers are required to fully incorporate this information into technical documentation and make it accessible to authorities or business partners upon request. Packaging suppliers like Greiner Packaging must ensure that all necessary documentation is in place prior to market launch. Only then is a legally compliant assessment of packaging under the PPWR possible.

Fully documented and digitally secured

To reliably demonstrate compliance, all documentation must be structured, up-to-date, and digitally accessible. Quality assurance measures ensure that any deviations are identified and prevented at an early stage. Clear labeling and digital data integration enable seamless traceability and efficient management throughout the entire life cycle of the packaging.

Martina Kronegger, Global Expert Sustainability Processes at Greiner Packaging, sums it up: *"We collect all relevant data completely and transparently – from product development and production through to quality assurance. Only in this way can we guarantee that our packaging not only meets technical requirements, but that we can also prove it at any time."*

Between regulatory obligation and strategic opportunity

As demanding as the new requirements may be, they also provide clarity. The declaration of conformity ensures transparency and brings sustainability goals, material requirements, and legal frameworks together. It is a prerequisite for bringing products to market. At the same time, clear documentation builds trust among regulatory authorities, customers, and partners alike. Reduced disposal costs and greater transparency across the life cycle of the packaging can deliver additional benefits.

Greiner Packaging is taking early action: With digital tools for capturing conformity data and strategic projects aligned with the conformity assessment, the company is not only meeting legal obligations – it is actively shaping how packaging will be designed and evaluated in a circular economy.

Greiner Packaging certifies enhanced CO₂e calculation tool

With the latest enhancement of its CO₂e calculation tool, Greiner Packaging is taking transparency and precision in the environmental assessment of its products to a new level.

New functions have made the tool more powerful and expanded its usability to nearly all production sites. As a result, customers in an increasing number of markets can now access reliable CO₂e data faster and more easily.

The enhanced tool was reviewed by TÜV Austria and successfully re-certified in June 2025 in accordance with the internationally recognized ISO 14067:2018 standard – a clear validation of the reliability of the calculation methodology.

Reliable data for informed decisions

The CO₂e calculation tool enables precise determination of the product carbon footprint (PCF), covering greenhouse gas emissions from raw material extraction to the point it leaves the production facility ("cradle-to-gate"). Ongoing improvements have made emissions source analysis even more accurate.

A major enhancement involves data integration: Newly entered product information is now automatically factored into the calculation. This increases both data coverage and quality, enabling more precise and up-to-date CO₂e calculations.

In addition, PCF values for specific material grades from suppliers will be further differentiated in the future. While average values were often used in the past, future calculations will increasingly take into account material-specific figures. This will make a significant contribution to more accurately mapping the actual emissions of individual products and creating further opportunities for reduction.

The tool thus provides customers with transparent and comparable data to assess and strategically reduce emissions along the value chain.

The significance of the product carbon footprint

Disclosing and reducing environmental impacts is becoming increasingly important for companies. The PCF plays a key role as a strategic management instrument.

Various EU regulations, such as the Packaging and Packaging Waste Regulation (PPWR) or the Ecodesign for Sustainable Products Regulation (ESPR), will soon introduce extensive requirements for packaging labeling and documentation. These will encompass not only environmental and sustainability aspects, but also product-specific requirements, safety information, packaging label design, and the integration of digital product passports to ensure comprehensive information transfer along the supply chain, including details on the product carbon footprint. By implementing PCF tracking early on, Greiner Packaging has laid the groundwork to meet these demands.

Customers benefit from TÜV-certified CO₂e data that can be seamlessly integrated into their sustainability strategies and environmental reporting. The tool helps identify hotspots, define reduction measures, and transparently compare products.

"Only those who know their emission sources can effectively take action," says Diana Strasser, Global Expert Life-Cycle Assessment at Greiner Packaging. "Our certified tool delivers the transparency needed to make informed decisions for climate protection."

TÜV Austria confirms high standards

The renewed certification by TÜV Austria confirms that the tool meets all requirements of ISO 14067. Its calculations are consistent, traceable, and based on recognized methodologies – a strong vote of confidence for partners and customers alike.

With this successful recertification, Greiner Packaging demonstrates how innovation and environmental responsibility go hand in hand. The CO₂e calculation tool remains a core instrument on the path toward greater sustainability and a clear signal of transparency and credibility in the packaging industry.



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One for all: the Click On sealing lid

Maximum flexibility with no limitations on cup selection

In the last issue of UPP, Greiner Packaging introduced the new Click In lid – an innovative sealing lid that stands out with its high leak resistance and ease of use. Now, Greiner expands its sealing lid portfolio with another forward-thinking solution: the Click On sealing lid. This new version is particularly praised for its maximum flexibility: The Click On lid fits a variety of cups – without the need for any adjustments to the cup itself. It's the ideal solution for anyone looking to upgrade their existing packaging to a modern sealing lid solution.

The Click On sealing lid

Like all other sealing lids from Greiner Packaging, the Click On is also a consistent monomaterial solution. By eliminating an additional component, such as an aluminum plate, not only material consumption but also recyclability and CO₂e efficiency are significantly improved.

The major advantage of the Click On lid lies in its flexibility: Thanks to its smart design, it can be applied to a wide range of cup shapes of the same size – without requiring any changes to the cup. This makes the Click On sealing lid not only secure and reliable for product protection but also opens up new possibilities in packaging design. Compared to other sealing lid variants, the Click On sealing lid stands out with its prominent side flange, which draws additional attention.

The advantages of the Click On lid at a glance:

- » **Sustainability through mono-material:** By forgoing a separate sealing plate, the CO₂e footprint is significantly reduced. The lid is made from the same material as the cup – such as PP – which enhances recyclability and supports your sustainability goals.
- » **Unrestricted cup selection:** Thanks to its smart design, the Click On lid fits a variety of cup shapes of the same size. It stays securely in place – without requiring any adjustments to the cup.
- » **Positioning on the shelf:** Functionally, the lid also impresses: Currently available in two versions – convex and concave – the Click On lid offers increased visibility on the shelf. The concave flap version, in particular, enables a targeted alignment of the lid on the shelf, facing directly towards the consumer, creating a distinct placement at the point of sale. Additionally, the Click On lid is designed with a wide flap, making it especially user-friendly for children and seniors.

Two strong solutions – one smart portfolio: With the Click In and Click On sealing lids, Greiner Packaging now offers a complete portfolio of innovative sealing lids that meet the highest standards for sustainability, product protection, and ease of handling.

Scan the QR code for
more information:



K3® cups as brand ambassadors: U.S. brand Stockeld Dreamery relies on double impact

The U.S. brand Stockeld Dreamery is revolutionizing the plant-based cream cheese market in the U.S. – with creative flavors like “Spring Scallion” and “Midsummer Strawberry,” along with a clear focus on sustainability. For its packaging, the New York-based company turned to the K3® cup from Greiner Packaging: a carton-plastic solution that is not only recyclable but also provides space for brand messages – including on the inside of the sleeve.

Packaging with function that stands out

When Stockeld moved from the foodservice sector into retail, the New York company was looking for a stable plastic packaging solution that not only aligned with its environmental values but also stood out on the shelf.

The solution: the K3® carton-plastic cup from Greiner Packaging. The cup is 100% recyclable – as long as the cardboard sleeve is separated from the plastic cup. Additionally, the sleeve can be printed on both sides, making Stockeld’s vibrant brand world immediately accessible to consumers.

“We wanted packaging that reflects our values – sustainable, bold, and high-quality – while also telling our story. The K3® cup meets all of these requirements. Not just on the outside, but on the inside as well: We’ve placed hidden messages inside the cardboard sleeve, such as our founding story, a recipe, and an explanation of why we ferment our plant-based cheese. It’s a valuable communication space that gives our brand depth – things that conventional packaging doesn’t have room for,” explains Greg Lorenzo, Chief Business Officer at Stockeld Dreamery.

Packaging facts

Technology:	Thermoforming
Decoration:	K3®
Material:	PP



Cliffdiver: a leap into a new dimension of drinking

With the innovative Cliffdiver bottle, Greiner Packaging and its customer Sauerland Liquids are bringing fresh momentum to the beverage market. The 2-in-1 solution mixes long drinks like whiskey & cola or gin & tonic automatically upon opening – no extra tools required. This is made possible by a clever two-chamber system: Alcohol and soft drink are filled separately and only mix automatically when the bottle is opened for the first time.

Smart technology for responsible enjoyment

The bottle consists of three components: a large outer bottle, a smaller inner bottle, and a specially developed cap – all components designed and produced by Greiner Packaging. The alcohol is filled into the small inner bottle and sealed with the

cap. Next, the large bottle is filled with the non-alcoholic liquid and also sealed with the cap – which already contains the attached inner bottle. Only when the bottle is opened for the first time does the inner chamber detach, fall into the drink, and start the mixing process. This creates a unique taste experience and makes it especially easy for the end consumer to use.

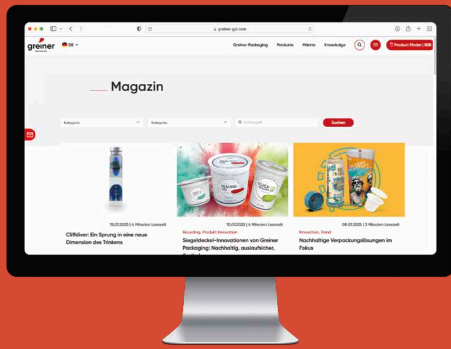
30% r-PET for greater sustainability

In addition to the innovative technology, Sauerland Liquids also focuses on sustainability. The bottles are made from 30% recycled PET (r-PET) and are already part of the European deposit return system. This ensures that the bottle is returned to the cycle and recycled in a resource-friendly way.

Packaging facts

Technology:	ISBM
Decoration:	Polyester Sleeve
Material:	
Bottle:	r-PET & PET
Cap:	PP





Greiner Packaging Magazine

Discover the latest insights, trends, and innovations in packaging. Stay up-to-date and immerse yourself in the world of packaging solutions with our magazine!



<https://www.greiner-gpi.com/en/Knowledge/Magazine>



Fairs Calendar 2025/2026

November 7–10

GLOBAL PACK
GRC, Athens

May 7–13

Interpack
GER, Dusseldorf

You can also find our current trade fairs and events on our website:



<https://www.greiner-gpi.com/en/Greiner-Packaging/Fair-Events>



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