

Five Brighter Ideas for Building a Better Package and a Better Brand



Introduction

Today's brand owners operate against a background of unprecedented complexity. Product packaging is just one aspect of contemporary brand management, but the reality is that it reaches into many areas of business-critical concern.

For example, some of the practical concerns about product packaging that brand owners have to consider include product identification, presentation and storage, conservation against environmental factors, protection against contaminants, and anti-counterfeiting.

Packaging now needs to be informative with product information, traceability, storage and usage instructions, ingredient labelling, health information, allergens and recycling details.

There are also promotional concerns to think about, such as point of sale impact (in-store and online), product comparison, promotions and offers, competitions, and integration with online/social media.

That doesn't include other commercial issues, including brand recognition, competitive differentiation, brand preference, consumer loyalty, repeat purchase, and consumption.

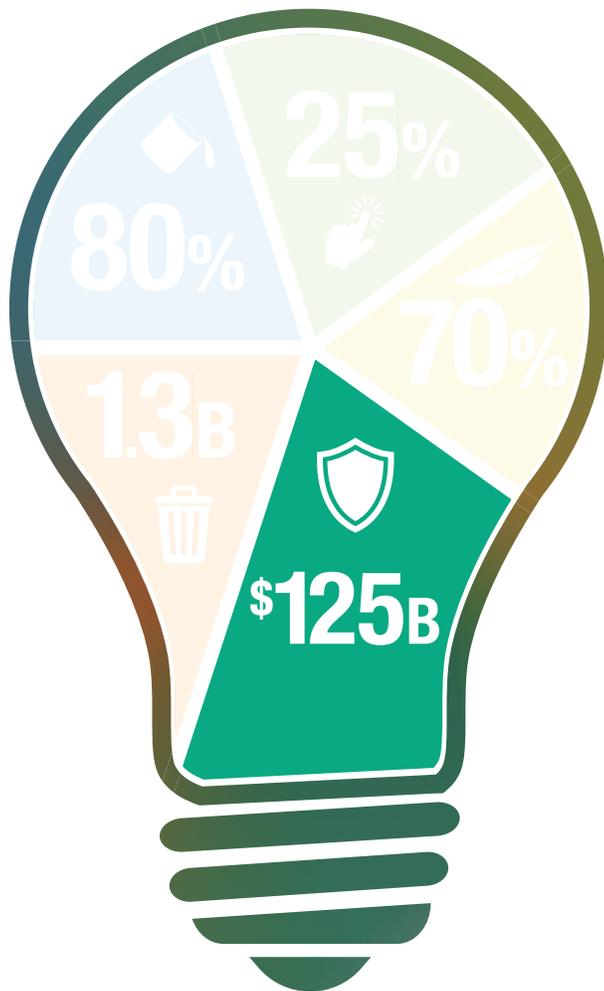
Brand owners strive to consider these diverse factors against a backdrop of growing legislative and consumer pressure regarding product integrity and environmental performance. What is more, products must compete for consumer attention and spend in an increasingly multichannel environment for both promotion and purchase.

Sun Chemical has defined five key areas where there are immediate opportunities to optimise packaging and address these issues:

- Consumer Protection
- World of Color
- Lightweighting
- Food Waste
- Consumer Experience

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Brighter Ideas for Consumer Protection



Global counterfeiting results in the loss of over \$125 billion annually, according to the **U.S. Chamber of Commerce**.

When it comes to your business, your customers are arguably the most important consideration in the packaging supply chain. It is the consumer who makes the final decision whether or not to purchase your product, and is therefore fundamental to the success of your brand, your products and your business.

Consumers are becoming more confused as to what is a safe, authentic product and which brands they can they trust. This lack of confidence and trust will only intensify as the complexities of supply chains expand across the world. While official governing bodies continue to introduce ever more stringent regulations, it will be your role as a brand owner to work even harder and smarter to reassure consumers and regain their trust.

Keeping customers on your side and protecting their interests in terms of health, safety and confidence is essential to building their trust, maintaining brand loyalty and increasing sales.

Key considerations to maximise consumer protection

The two key considerations to ensure your product packaging delivers maximum consumer protection are:

- **Compliance**—All substrates, consumables, processes and technologies must be fully compliant with the latest global regulations and legislation that govern the safety of product packaging.
- **Brand protection**—Use the latest anti-counterfeiting solutions to protect your brand against counterfeit goods that not only threaten the reputation, integrity and value of your brand, but also the health and safety of your customers.

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Compliance

THE FACTS

What consumers say:

- 70% say they like to know where their food and drink comes from. *(Source: The Locavore: Attitudes toward locally-sourced foods, U.S., Feb 2014)*
- 69% show a strong commitment to food safety as a determining factor in food purchases. *(Source: Food Value Equation Survey: Deloitte Consulting LLP, 2015)*
- 66% admit to being worried about food contamination and the risk of chemicals leaching from food packaging into its contents. *(Source: www.foodbev.com/news/consumers-concerned-about-safety-of-food)*
- 63% who buy poultry are concerned about how safe it is to eat. *(Source: Poultry—U.S., Nov 2014)*
- 62% want products that are free from harmful elements. *(Source: Food Value Equation Survey: Deloitte Consulting LLP, 2015)*
- Only 48% trust in the UK government's capability to ensure food/drink is safe to consume. *(Source: UK Consumer Data: Food Safety)*

With the increase in the number of product withdrawals from the market in recent times, concerns about consumer safety have never been greater. In the U.S. alone, 56 million vehicles and 8.4 million kilograms of meat were recalled in 2014, while in Australia there are over 5.4 million cases of food poisoning reported every year.

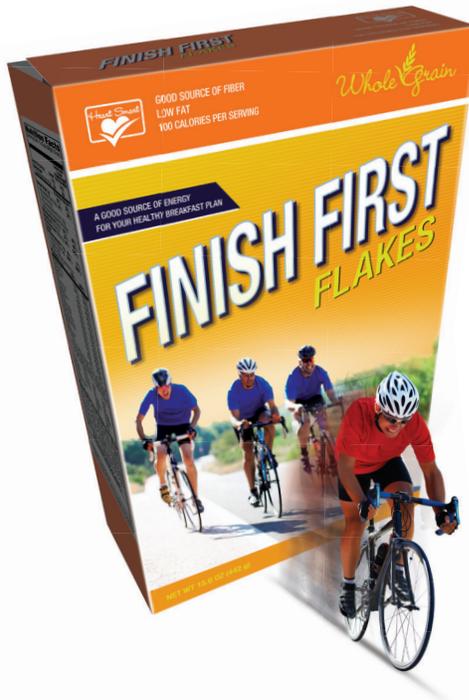
Scrutinising your supply chain from all angles and taking a more proactive approach in terms of transparency of information is now essential, and this applies to the packaging as well as the product itself. Where food, medical, personal and close-contact products are concerned, it's vital to work in partnership with your packaging suppliers and converters to ensure the inks used are the very best quality, are fit for purpose, and pose no risk to your customers through migration.

The challenges

While the technicalities of migration compliance are far removed from your everyday concerns, mistakes in this area can have severe consequences, threatening the reputation of your brand and, more seriously, the health of your customers. Consumers are becoming much more aware of the health concerns relating to chemicals, especially in food contact materials, and rely on brand owners and current legislation to ensure the products they purchase are safe.

The ever changing legislation and numerous regulations designed to limit potential contamination from mineral oils are varied and complex and, while they largely affect the packaging technologists, converters and manufacturers, brand owners are also expected to keep up to date. And yet, with the endless new rules and regulations being introduced all the time and with the need to comply with the latest Good Manufacturing Practice guidelines, it can become a minefield of confusion and concern.

As the brand owner, a simple risk assessment of your packaging in the initial design stages should be sufficient to determine potential issues with compliance and migration. Working with packaging solutions providers, who understand the challenges you face and are experts in regulations and compliance, can simplify the process and help you determine the best solution.



Sun Chemical has been developing, testing and promoting the use of technology and products for migration-compliant packaging for decades and can help brand owners stay ahead of changing migration-compliant safety standards.

Insight from market intelligence organisation Mintel

“When price and perceived product quality are equal, shoppers will turn to packaging to help make a purchasing decision. Such on-pack communication strategies as Clorox used to promote its SmartTube technology, which made it overtly clear to consumers that they could “Spray Every Drop,” work to reinforce purchasing decisions that not only prevent product waste, but help stretch consumers’ purchasing dollars.”

– David Luttenberger, CPP, Global Packaging Director, Mintel, USA

“In the light of many food safety scandals, consumers are increasingly becoming curious and cautious regarding food production methods and ingredients used. Trust is a key element in the communication between producers and consumers. Packaging needs to be utilised more to become the mediator in this discussion. It is packaging that will facilitate the communication that will drive growing trust in producers.”

– Regina Maiseviciute Haydon, Packaging Analyst, Mintel, UK

“Consumers and shoppers are increasingly mistrustful of on-pack promises and claims. Whilst clean labelling can go some way to reassuring consumers on food safety and quality, in today’s connected world a single negative tweet can quickly go viral and ruin a reputation. The key to ensuring that packaging will not damage perceptions of safety is not just to ensure good communication with consumers, but also to be agile enough to respond to scares around a food ingredient or packaging material rapidly and efficiently.”

– Dr. Benjamin Punchard, Director of Packaging Insights, Mintel, UK

Sun Chemical’s brighter ideas for compliance

- A wide range of high-quality, migration-compliant inks, coatings, adhesives and barrier coatings that have been rigorously tested and work with the majority of folding carton flexible packaging applications
- Global access to migration-compliant solutions for use across complex international packaging supply chains
- Independent and certified migration testing services
- Consulting analytical facility certified to ISO 17025 standards for specific migration test protocols
- Product certifications and clear, easy-to-use Statements of Composition
- Risk assessment and auditing support services from experienced experts in compliance and regulatory requirements



Sun Chemical’s fifth edition of “Designing Packaging with Certainty, A Best Practice Guide” helps readers understand how to design, produce, and store packaging safely with respect to migration of unwanted contaminants, and provides practical ways to minimise the risks.

- Regulatory knowledge transfer on existing legislation and insight into future global requirements
- The Sun Chemical “Print for Packaging—a Printing Compliant Migration Best Practice Guide,” which has become the industry standard in best-practice procedures, provides information on how to design, produce and store packaging safely to minimise migration risks.
- NIRF technology—Near infrared fluorescent compounds and a new system for the detection of plastic contamination in food. This system uses luminescent dyes, a near infrared sensor and a near infrared camera to detect fragments of plastic in packaged food.

To download a copy of Sun Chemical’s 5th edition of “Designing Packaging with Certainty, A Best Practice Guide” visit www.sunchemical.com/brighterideas.

Brand Protection

THE FACTS

- The global counterfeit goods market is valued at \$1.8 trillion. *(Source: Counting the cost of counterfeiting; A NetNames Report, 2015)*
- Worldwide counterfeiting is growing by 15.6% every year. *(Source: International Chamber of Commerce (ICC))*
- Counterfeit goods account for 10% of global trade. *(Source: ICC)*
- The global anti-counterfeiting packaging market is expected to reach \$153.95 billion by 2020. *(Source: Anti-Counterfeit Packaging Market by Technology, Usage Feature, End-Use—Global Forecasts to 2020: MarketsandMarkets, Feb 2016)*
- One third of the global pharma market (£130 billion) has been claimed by counterfeiters. *(Source: Counting the cost of counterfeiting; A NetNames Report, 2015)*

What consumers say:

- 61% think counterfeiting is unlawful. *(Source: Ipsos Mori Survey)*
- 24% have been duped by online counterfeiters. *(Source: Online Shopping Habits Survey, MarkMonitor, 2015)*
- One in five admits to occasionally buying a counterfeit product. *(Source: Ipsos Mori Survey)*

The challenges

The global pandemic of counterfeit goods continues to increase and with it some significant challenges to protect your products and your customers. Counterfeit goods can damage the integrity, equity and reputation of your brand, leading to loss of market share and revenues that can take years to repair.

While fake packaging can look legitimate and appear to perform well to unsuspecting customers, when the consumer's health and safety is compromised, the implications to the brand owner go way beyond a loss of profit.

With the primary burden of tackling the counterfeit trade lying with the brand owner, it's essential that you maintain your one-step advantage. The good news is that, while counterfeiters are becoming more sophisticated, manufacturers and packaging suppliers are developing ever greater ranges of anti-counterfeiting and authentication solutions. These innovations make it more difficult for the counterfeiters and enable you, the brand owner, and the consumer to check if products are genuine or fake.

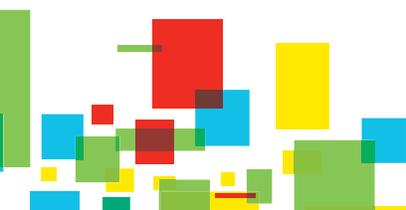
Different products require varying levels of security, and a flexible and multilayered approach allows you to add and remove security features as required. This will enable you to keep your advantage over counterfeiters without compromising on levels of consumer protection and confidence.



Sun Chemical's V400 reader and Verigard™ security system offer a lock-and-key approach to securing and authenticating brand packaging and documents of value. It is one example of many overt and covert solutions available from Sun Chemical.

Sun Chemical's brighter ideas for brand protection

- **A range of overt solutions**—Visible features added for consumer verification that don't require detection devices. Offerings include:
 - Thermochromic inks that change color with variable-temperature conditions to enable consumer interaction with the packaging
 - Microtext to introduce deliberate errors to help establish product authenticity
 - Color-shift inks that change from one color to another with different security grades



Brighter Ideas for Consumer Protection

- **Semi-covert solutions**—Concealed and can only be detected through a reading device, offering a cost-effective solution. Offerings include:
 - UV-responsive and infrared inks that use readily available detection equipment for authentication, offering ease of detection and implementation at low cost
 - Smartphone authentication applications whereby authentication can be verified by consumers using their mobile phones
- **Covert solutions**—Can only be detected through a sophisticated reading device and offer robust high levels of security. Offerings include:
 - Infrared taggants integrated within spot colors or varnishes that are only visible or detectable using more sophisticated detection devices such as laser pens or dedicated readers
 - Hidden images covertly embedded into existing product and packaging designs that are revealed only through an optical lens or digital decoder
 - Sophisticated proprietary readers that look for a unique taggant signature or multiple signatures, making them extremely secure on packaging
- **Near infrared fluorescent (NIRF) compounds** and a new system for the detection of plastic contamination in food, which works as follows:
 - NIRF dyes are mixed into the plastic components used in the equipment of a food processing line, in the clothing of the line operators and in their personal protective equipment. The mechanical properties of the components remain unaffected because of the low quantity of dye mixed into the components.
 - A fragment of a plastic component breaks off and, for example, accidentally falls onto or into an item of food on the processing line.
 - When the food item passes the detection system's sensor, which has been installed in the processing line, it detects the near infrared light transmitted from the plastic fragment.
 - This triggers the line to stop or to remove the contaminated pack.

See how our brighter ideas for consumer protection can help you

Drawing on years of experience in working with brand owners, industry organisations, regulatory bodies and packaging converters, Sun Chemical has developed a range of innovative brand protection and compliant ink solutions to suit every application.

Talk to us to find out how our Brighter Ideas for Packaging can help your brand on its journey from concept to consumer.

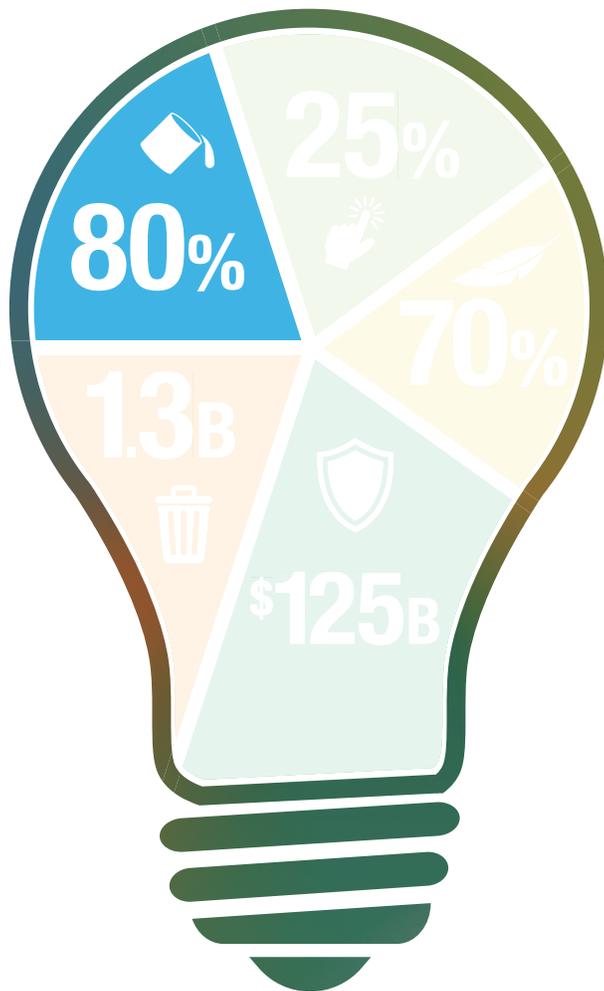
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Brighter Ideas for World of Color



Color increases brand recognition by up to 80%, according to a study by Loyola University Maryland.

A critical component of brand strategy, color is essential to brand recognition. At one level it helps us find our favourite products on the supermarket's crowded shelves; at another, it is an intrinsic part of the brand's "personality," telling us what the brand stands for and what we can expect from it.

Like a picture, a color can paint a thousand words. Different colors trigger subtle and complex emotions. White is associated with innocence, safety, purity and simplicity; black can denote power, control, class or mystery; blue is said to denote trust and security and to improve customer loyalty; and so on.

Some colors are so closely associated with a brand that the mere mention of the brand name brings the color to mind—a phenomenon known as "brain branding." Cadbury can only mean purple, which is why Cadbury goes to court to assert its legal control—its ownership—of that one special shade. Starbucks is green, UPS brown.

THE FACTS

What consumers say:

- 93% of their buying decisions are based on visual appearance. *(Source: Seoul International Color Expo)*
- 85% cite color as the primary reason for choosing one product over another. *(Source: Seoul International Color Expo)*
- Color can improve brand recognition by up to 80%. *(Source: Loyola University Maryland, USA)*
- 31% of Chinese mothers view a natural color tone of infant formula packaging as an attribute of safety. *(Source: Mintel)*

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Insight from market intelligence organisation Mintel

"In Mintel's report 'Color Their World,' the design practice of the 'mindful use of color' is explored. When brands 'flood' a package with color, it often screams at consumers but without a clear voice. When brands use a 'splash' of color as an accent or exclamation mark to draw attention to one key product ingredient or functional packaging attribute, it gives the product and package a clear voice, yet without screaming at consumers in already noisy product categories, aisles and shelves."

– David Luttenberger, CPP, Global Packaging Director, Mintel, USA

"Color needs increasingly to deliver more than just stand-out in-store. Brand extensions alongside an explosion in flavour variants and limited editions have introduced significant complexity to the shopper environment. Color needs not just to highlight brand and variant, but often to help consumers wayfind in store. With consumers changing the way they shop, this is more important now than ever. For example, younger consumers now shop the periphery and avoid traditional centre-of-store ambient and frozen aisles, a challenge for many longstanding food brands who have 'grown up' focused on ambient products."

– Dr. Benjamin Punched, Director of Packaging Insights, Mintel, UK

"Colors are important in building brand recognition, perception, trust and even in shaping consumer emotions. However, their importance is often overlooked. More analysis into psychology of colors and their impact on consumer purchasing decisions can help brands to build or further develop their identity and create consumer recognition in a more straightforward way."

– Regina Maiseviciute Haydon, Packaging Analyst, Mintel, UK

Why consistent color is vital

Because color plays such a critical role, it is essential that consumers see the same color on every version of the product—however it is packaged, and wherever it is sold. Failure to control color and achieve consistency can reduce brand impact, confuse customers and damage sales.

For an idea of the environment in which the brand identity has to work, walk down the washing detergent aisle of any supermarket. There are hundreds of cartons, refill pouches, boxes and shrink-wrapped bottles. Color is the most powerful weapon the brand has to tell the time-poor shopper: "Here I am!" As a brand owner, you want shoppers to recognise your product unconsciously, whether it's in a refill pouch, a bottle or a box, but if the color is even slightly off, the chances are that the message won't get through.

The challenges

Many substrates, multiple channels—The colors on those pouches, bottles and boxes are printed on many different substrates (paper, plastic, glass, metal, paperboard, corrugated carton board, etc.) using a range of processes (offset, flexo, gravure, even digital inkjet). Each substrate responds differently to different inks, processes and lighting. In countries where non-food products such as detergents are often sold outside, packaging uses fade-resistant pigments to withstand the sun. Ensuring consistent color under all these conditions—not to mention all the online sales channels—is a complex affair.

More variety, shorter runs—When UK supermarket ASDA (owned by U.S. retailer Walmart) decided to redesign its pet food ranges, they had to work across five pack formats, including cartons, labels, bags and flow-wraps, and 345 SKUs. And before its competitor, Tesco, took action to reduce the number of products it sold, the supermarket had over 90,000 SKUs on its shelves.

Today brand owners have to manage more and more product versions—a direct result of the way digital technology tells you more about customers' buying habits. The more you know, the more you can customise products to precisely target audiences and markets. A sophisticated supply chain IT infrastructure, linking brand owners and retailers, means changes in consumer habits can be identified almost in real time.

Agile, flexible supply chains—Identifying new trends is just the beginning; brand owners have to respond to changes quickly, as well as to new initiatives from competitors. Supply chains must be agile and flexible, optimised to get new products on the shelves as quickly as possible—even when brand owners, designers and converters are spread around the globe.

Change is constant—If brands are always changing, spinning off new variations on a theme, then so is the environment they work in. Tighter regulation—reducing artificial colors and preservatives, for example—may mean new substrates or pigments. Switching a printing process, from offset to gravure, or flexo to digital, changes the game. New materials and technologies pose fresh new challenges.

People see colors differently—Color plays an important part in conveying information, but remember that there are an estimated 200 million people worldwide who suffer from deficient color vision in one form or another. Some are simply color blind; others have age-related conditions such as glaucoma or cataracts. Packaging design needs to take account of this.

Brighter Ideas for World of Color

What do these challenges mean for consistent color?

Put all the above together and it's clear that brand owners are under constant pressure to streamline processes, introduce efficiencies, manage cost by eliminating waste, and accelerate time to market.

Color is the bedrock of brand identity; if the color isn't right, the integrity of the entire supply chain is compromised. So it follows that achieving consistent color across substrates, print processes and national frontiers is essential to the efficiency of the packaging workflow.

There are two major obstacles to this. The first is the number of variables that make true color consistency elusive—all those pack types, substrates, inks and so on. The second is the number of parties with input into the production and approval of color. The universe of brand owners, designers and converters is vast and geographically spread—producing the 345 ASDA pet food SKUs mentioned earlier involved 20 printers.

While software tools for color management are available, they are often deployed inconsistently by the individual links in the supply chain. The result is a chain of disconnected islands of solutions, rather than a community working to an industry-standard reference. In practice, “color management” is often a mix of gut feel, operator experience and the inconsistent use of measurement tools and samples.

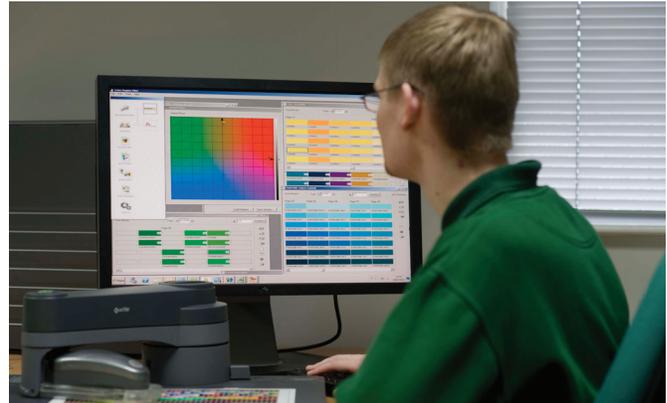
Try to map the color management process in many packaging supply chains, and the picture is pretty chaotic, with communication between the different parties going in many different directions and often around in loops of approval and re-approval. For brand owners, this is a recipe for error, inefficiency and unnecessary cost. It is no surprise that color that fails to meet brand owner expectations is the primary reason for rejects and reworks.

Sun Chemical's brighter ideas for consistent color

INTRODUCING A FULLY DIGITAL COLOR WORKFLOW

Color is not subjective: every color that can be printed can also be measured, and its characteristics stored as a spectral curve that acts as the “DNA” of the color and serves as an exact specification. All that is needed is a supporting system that enables converters to match the color as faithfully and efficiently as possible.

Sun Chemical is the preferred partner for such a system—PantoneLIVE™. Developed by Pantone, recognised worldwide as the leader in color communication from designer to manufacturer to retailer to customer, PantoneLIVE is an open ecosystem supported by licensed hardware and software.



Sun Chemical's global color platform allows every ink color to match exactly with PantoneLIVE. Users of PantoneLIVE can access a cloud-based repository of spectral data whenever a brand's spot color needs to be reproduced across multiple packaging substrates.

It enables every participant in the supply chain workflow to access a cloud-based repository of spectral data whenever the exact PANTONE™ spot color needs to be reproduced—across the vast majority of packaging substrates. The spectral curves are captured from a physical print on a particular substrate. There are currently 28 libraries for packaging applications, which include dependent-level versions of all 1,988 PANTONE master colors. These libraries contain the precise spectral curves of each color, as captured from a master physical print on a particular substrate.

As the PantoneLIVE preferred ink partner, Sun Chemical leverages PantoneLIVE with an additional key enabler in the form of a fully integrated, global color platform that links every part of the workflow. This global color platform is a mix of various tools, software, hardware and services, which support the interconnectivity between the major suppliers responsible for getting colors right first time on press. With these tools and a PantoneLIVE licence, everyone in the supply chain is able to share the color “DNA,” color “right first time” on press is achievable, and global brand color management across diverse substrates and printing processes becomes a reality.

In practice, the PantoneLIVE workflow looks like this:

- **Brand owners** specify the color they require digitally, relying on PANTONE or, better, on PantoneLIVE dependent standards.
- **Designers** create the artwork and manage brand expectations by showing the likely differences in processes.
- **Pre-media technicians** adapt the file to the specific printer configuration, based on the same color spectral curve.

Brighter Ideas for World of Color

- **Ink manufacturers** spectrally match the right ink to the digital color specification.
- **Printers** ultimately reproduce the color on the final product and control color quality by direct comparison to the original color spectral curves.
- **Everyone** works from the precise and unique color definition stored in the “PantoneLIVE cloud.”

Such a system closes the loop and allows for seamless color approval. All users operate in a fully digital workflow, producing colors that match the original specifications, which are themselves established from measuring real colors on real substrates. It injects digital efficiency into a stage of the production process that desperately needs it: time in pre-media is reduced, money is saved in production, and the customer experience is infinitely better.

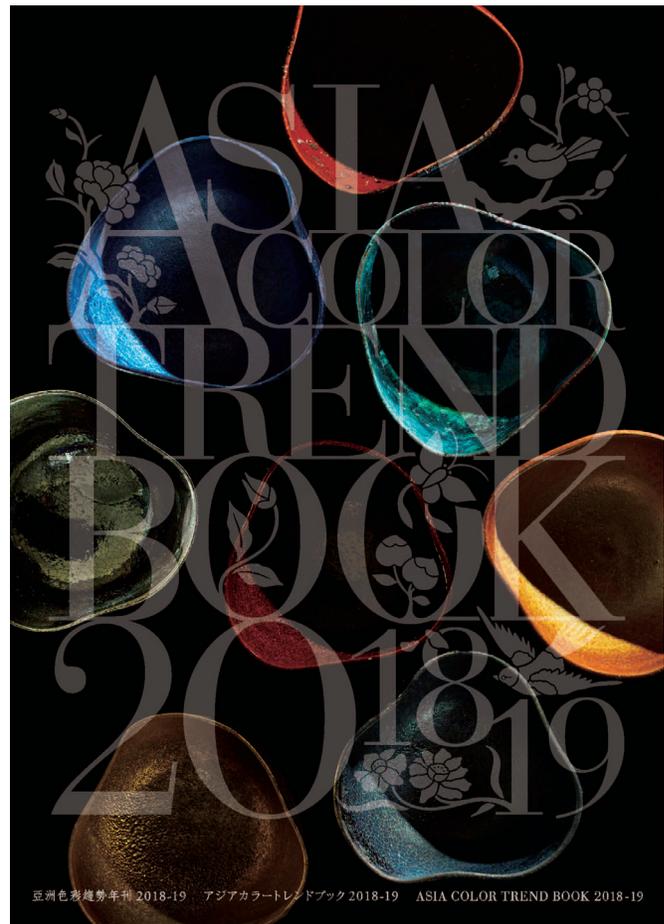
Color Universal Design (CUD)—Developed in cooperation with the University of Tokyo and other institutions, CUD can be applied to the presentation of colors across three technologies—paint formulation, print production and screen displays. It provides practical tools that help designers choose color schemes to convey important information to people with deficient color vision.

Color Trend Book—Further guidance for designers is provided by the DIC Color Trend Book—the first such aid focused solely on Asian design trends.

See how our brighter ideas for world of color can help you

Sun Chemical has unrivalled experience working with all participants in the packaging supply chain, guiding brand owners from concept to converter to consumer, through a full range of solutions. Underpinning everything is our world-leading commitment to innovation in inks, pigments and coatings, and to working in partnership with leading color measurement, printing and converting technology developers.

To find out how we can help you ensure consistent color throughout the packaging workflow, visit www.sunchemical.com/brighterideas.



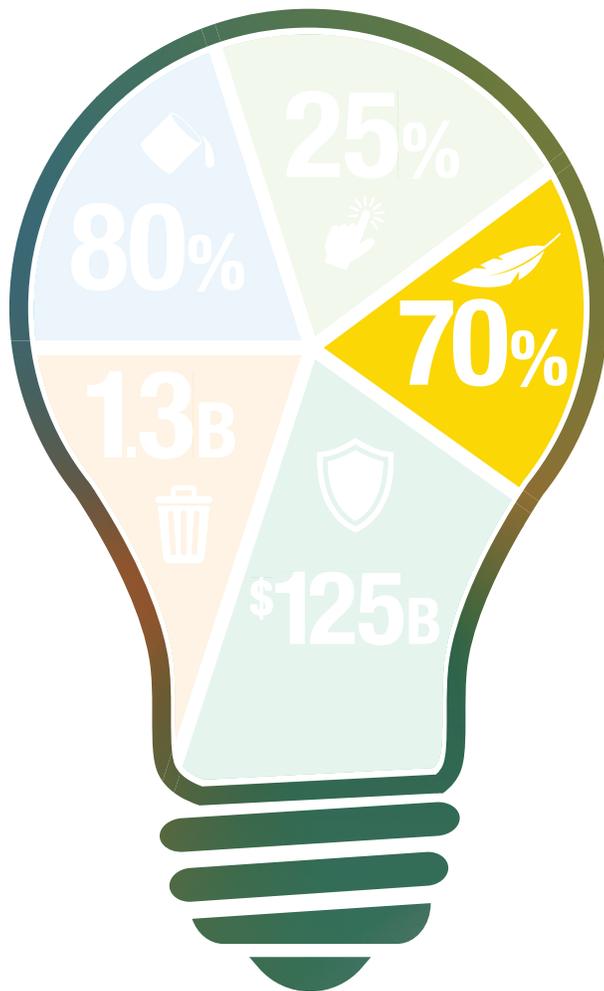
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Brighter Ideas for Lightweighting



Lightweighting can reduce fuel consumption by as much as 70%, according to **Assemblies Unlimited**.

Lightweighting—a subject on a lot of brand owners' minds at the moment—is not a new concept; brands have always looked for ways to reduce the costs of raw materials and production processes. What is relatively new, however, is a variety of factors that give new impetus to lightweighting, such as consumer opposition to excessive packaging and the growing appeal of flexible packaging to consumers seeking convenience as well as sustainability.

Lightweighting vs. source reduction

As a concept, lightweighting is often mentioned in the same breath as source reduction, but technically there is a difference. Source reduction is more concerned with waste prevention and is usually applied at the design stage of the product development process, with the aim of eliminating waste before it is created. In contrast, lightweighting happens after the product has been commercialised and aims to reduce the weight of the existing packaging, while retaining the features that consumers are familiar with.

However, this is not to say that source reduction measures cannot be applied to existing products. Sometimes brands decide to switch from one form of packaging to another—some baby food brands have changed from glass bottles to plastic pouches, for example—but such moves carry an inherent risk of confusing or alienating existing customers.

Both concepts, however, aim for the same outcome—lighter packaging.

The benefits

Cost savings, sustainability and convenience—taken together, these are powerful reasons for brands to “lighten up.”

- Lightweighting can produce substantial cost savings. In a system-wide lightweighting programme, Coca-Cola cut the weight of PET bottles, aluminium cans and glass bottles by between 25% and 50%. This saved the company an estimated \$180 million.

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Brighter Ideas for Lightweighting

- Lighter packages cost less to transport, and lighter packages that are also flexible mean fewer trucks, less emissions, a smaller carbon footprint and enhanced environmental credentials.
- Flexible packaging delivers significant benefits elsewhere in the supply chain as well: fewer breakages reduce waste and more flexibility makes for more efficient storage.
- Consumers like brands that are seen to be pursuing sustainability objectives. Research by Asia Pulp & Paper found that 56% of U.S. consumers want more sustainable packaging, and 42% say they would pay more for it. Consumers automatically associate lighter packaging with reduced packaging and, hence, increased sustainability.
- Consumers appreciate the functionality and convenience of flexible packaging and how it is optimised for today's lifestyles. This explains the success of food that is sold in individual portions and that, without being transferred to another container, can be cooked or heated in the package it comes in.

Insight from market intelligence organisation Mintel

"The Unilever Compressed can is perhaps the quintessential packaging and marketing case example of lightweighting in context with consumer education about the process. Unilever understood that such a radical package size change (150 ml to 75 ml), and a product price point that remained the same, would never work with consumers at face value. In-store signage, aggressive social media efforts, and prelaunch product sampling were keys to making the package design change a success."

– David Luttenberger, CPP, Global Packaging Director, Mintel, USA

"Lightweighting has, in most cases, moved beyond shaving small amounts off existing pack types. Most on-pack lightweighting claims seen by Mintel's GNPD refer to the weight of an alternative pack type, such as pouch, compared to a traditional format, such as can. This suggests that the biggest opportunities are for those brands still stuck in heavyweight rigid packaging. Brands need to look into multilayer, barrier and coating technologies that will help them to make the leap to lightweight flexible packaging."

– Dr. Benjamin Punchard, Director of Packaging Insights, Mintel, UK

"Lightweighting has been benefitting brands in cutting costs for a long time. However, from the consumer prospective, this hasn't been widely used as a key marketing message. However, promoting lightweighting and building sustainability messages around it can help brands to promote their added-value positioning."

– Regina Maiseviciute Haydon, Packaging Analyst, Mintel, UK

The challenges

Persuasive as the arguments for lightweighting are, implementing the strategy successfully depends on one key factor—there can be no compromise on the performance of the lightweighted version. The "new improved" package must fulfil all the functions it had before lightweighting, protecting and preserving the product on its journey from factory to consumer.

At one end of the supply chain, the lightweighted package must be compatible with existing conveyor speeds and filling rates. At the other, if consumers reject the new version, all the work that's gone into the lightweighting process is wasted. This means that brand owners need to adopt a holistic approach, in which the viability of the lightweighting strategy depends on successfully managing a number of related factors. Just such a holistic concept—that of "packaging efficiency"—has been developed by professional services company PwC. The model comprises five metrics that can be used to assess how efficient a package is:

- The resources used
- Contribution to a positive consumer experience
- The level of product protection it provides
- End-of-life impact
- Transport and display efficiency

Each of these factors needs to be considered in any lightweighting project, with the objective of avoiding compromise on any one aspect as much as possible before finally arriving at the right balance.

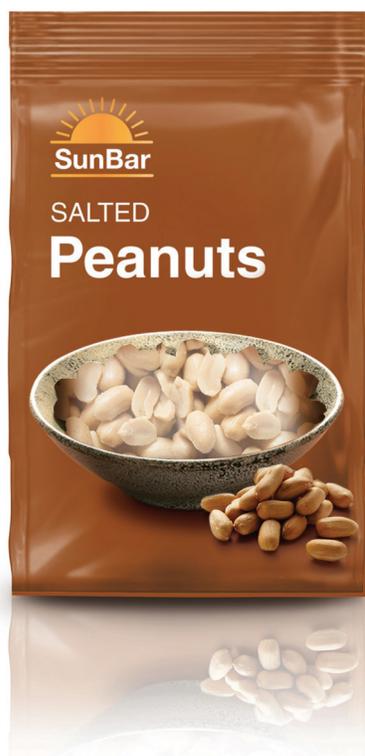


Brighter Ideas for Lightweighting

Sun Chemical's brighter ideas for lightweighting

Barrier selection, in particular, is one of the most important decisions that brand owners have to make in the lightweighting programme. Getting the right strength-to-weight ratio is critical. For some products, weight is synonymous with quality, so the new version has somehow to continue communicating quality with reduced bulk. In food applications, weight assures the consumer that chemicals, inks and coatings cannot migrate from the pack into the product.

Currently, most flexible packaging consists of three to four layers of material that give the packaging its structure, protecting the contents from external contaminants and providing an effective oxygen barrier to preserve the contents. Patented developments in solvent-based lamination adhesives and speciality coatings by Sun Chemical/DIC offer brand owners the scope to eliminate one of these layers, while delivering enhanced shelf life as well as sustainable, easier-to-recycle and waste-reducing solutions.



Sun Chemical offers converters a range of lamination adhesives and coatings with oxygen barrier properties that contribute to replicating the protective functionality of the additional layer with reduced material, and that can be fully compliant for food-packaging applications.

Sun Chemical/DIC has also developed a series of dry lamination adhesives that improve the oxygen barrier properties of food packaging materials made with vapour-deposition films, thereby helping reduce food loss while lightweighting the laminated structure of such films.

For demanding applications, the removal of a film layer may have significant implications for material cost reduction. In others, the impact may be on the weight of the package, with a corresponding impact on transportation costs and carbon footprint.

Either way, a high-performance lamination adhesive or coating could offer a route to a more cost-effective overall packaging structure with reduced impact through the supply chain.

See how Sun Chemical can help

Sun Chemical has unrivalled experience working with all participants in the packaging supply chain, guiding brand owners from concept to converter to consumer, through a full range of solutions. Underpinning everything is our world-leading commitment to innovation in inks, pigments and coatings.

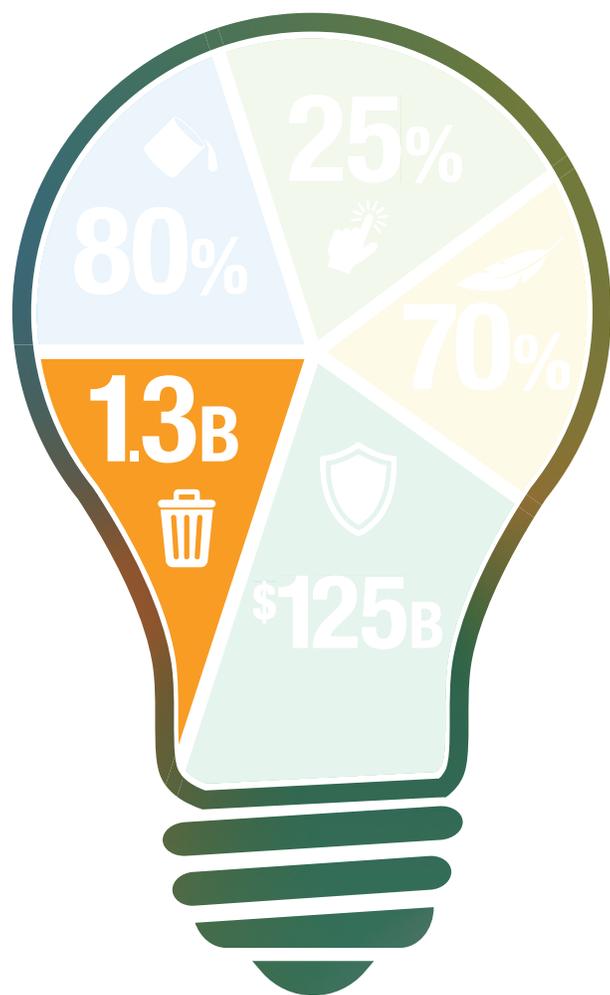
To find out how our barrier technology can help you implement successful lightweighting, visit www.sunchemical.com/brighterideas.

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Brighter Ideas for Reducing Food Waste



1.3 billion tonnes of food is wasted globally, according to the Food and Agriculture Organization of the United Nations.

Food waste is a significant and growing global concern, and while producers, manufacturers and retailers are all playing their part to limit waste throughout the “farm to fork” supply chain, there is still more to be done to reduce waste further down the chain, at the consumer level. Households are now the most prolific producers of food waste. What’s more alarming, the majority of it could be avoided.

THE FACTS

- 1.3 billion tonnes of food is wasted globally every year. *(Source: The Food and Agriculture Organization of the United Nations)*
- One third of all food produced in the world is lost/wasted each year at a cost of \$1 trillion.
- 75% of food wasted in UK homes could be avoided. *(Source: Estimates of Food and Packaging Waste in the UK—WRAP)*
- Fruits and vegetables are wasted in greater quantities than other kinds of food. *(Source: Global Food Security Symposium 2015—The Chicago Council on Global Affairs)*
- Reducing global food waste would feed nine billion people. *(Source: Global Food Security Symposium 2015—The Chicago Council on Global Affairs)*

What consumers say:

- 99% think addressing food waste is important. *(Source: Making Food Go Further; a joint ambition for a zero food waste Britain, Sept. 2015)*

By creating the right packaging for your produce, you can play a key role in combatting food waste, through extending its shelf life and by helping consumers reduce the amount of food they throw away.

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Brighter Ideas for Reducing Food Waste

Insight from market intelligence organisation Mintel

“Consumers expect companies and brands to act responsibly, and they view their purchase of ethical brands as an extension of their own responsibility. To that end, 42% of UK consumers say they select food products based on a company guaranteeing its products’ packaging is environmentally friendly.”

– David Luttenberger, CPP, Global Packaging Director, Mintel, USA

“Food waste continues to be a major issue, and as such we are increasingly seeing brands and retailers trying to educate consumers and help them learn how to cut food waste. The promotion of ‘ugly vegetables’ and using food byproducts to make packaging are just a few initiatives aimed at food waste reduction. This also opens up this topic to a wider discussion, education and the packaging actions that can be taken to reduce food waste.”

– Regina Maiseviciute Haydon, Packaging Analyst, Mintel, UK

“It may have been for environmental reasons that campaigns such as WRAPs ‘Love Food Hate Waste’ were initially launched, but it is the financial imperative rather than the environmental that has driven the growing consumer interest. As such, packaging innovation, and the on-pack communication that supports it, needs to highlight the saved value that food waste-reducing packaging can deliver. A simple solution, such as individually portioned packs with extended shelf life, will likely resonate better both at the shopper moment and in use.”

– Dr. Benjamin Punchard, Director of Packaging Insights, Mintel, UK

The challenges

SHELF LIFE

While packaging serves to protect your product, it must also perform to ensure optimum freshness and shelf life, in-transit, in-store and in the home. From oxygen and light, to moisture and odours, there are many external factors that negatively impact freshness and shelf life. Packaging therefore needs to be designed for maximum functionality and the preservation of color, smell and appeal, while ensuring the product remains safe to eat.

Many of the more traditional packaging formats, such as glass jars or aluminium and steel cans, provide maximum performance in terms of protection and preservation, but they are often heavy, bulky to store and costly to transport.

Plastic packaging formats, on the other hand, are growing in popularity. Flexible plastic packaging solutions offer considerable benefits for you and your customers: lighter in weight, easier to store and more cost-effective to transport, all while preserving freshness and helping consumers select, store and use produce more effectively.

There are so many innovative solutions that can now be integrated into your product packaging to address food waste. More advanced barrier technology to protect against UV, oxygen and moisture degradation, antimicrobial films and coatings, as well as stay-fresh sheets, oxygen-sensitive labels and color-changing indicators denoting the freshness of the contents.

The challenge, therefore, is how to select and create a cost-effective package that is fit for purpose, functional and enhances shelf life, while also satisfying customer demand for reduced bulk, ease of use and enhanced performance in preserving freshness for longer.

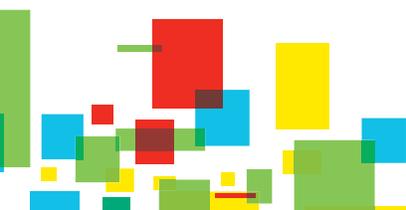
LATE-STAGE DIFFERENTIATION

Today's packaging has a central communications role to play in your brand's journey from initial design concept through to the final consumer experience. With competition driving down times to market and with increasing legislative pressures and consumer demand for more on-pack information about ingredient lists, dietary information, usage guides and best-before and sell-by dates, the ability to add critical variable information in the latter stages of the packaging process is vital.

It is the addition of this information that can help in the fight against food waste. For retailers, it helps them manage stock turnover to reduce loss through spoilage. For consumers, it provides a prompt to use the product in advance of the “best-before” date.

Potatoes, beets, radishes and carrots	46.2%
Fruits and vegetables	45.7%
Tuna, salmon, Shrimp and other seafood	34.7%
Cereal, bread & rice	29.1%
Lentils, green peas, chickpeas and seeds	22.1%
Chicken, beef and pork	21.5%
Milk, yoghurt and cheese	17.1%

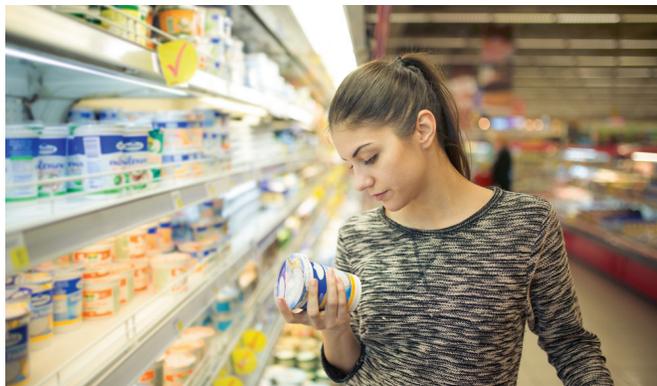
What and how much we waste globally every year. (Source: Food and Agriculture Organization of the United Nations)



Brighter Ideas for Reducing Food Waste

Sun Chemical's brighter ideas for reducing food waste

- Oxygen barrier coatings that transform standard substrates into controlled high-barrier films for polyolefin or polyester laminate structures
- Adhesive oxygen barriers enabling two-in-one features for vacuum metallised films
- Reinforcement and enhancement coatings for vacuum metallised and coated films, such as AlOx film, to deliver high levels of physical integrity to the laminate for enhanced performance, even under mechanical stress
- UV barrier coatings to protect food against the detrimental effects of UV light
- Anti-mist coatings applied to transparent packaging to reduce condensation build-up and enhance product visibility for consumers
- Non-ablative laser digital marking solutions for late-stage differentiation
- Water-based, solvent-free and solvent-based lamination adhesives for improved temperature and chemical resistance in flexible packaging applications
- Antimicrobial and antifungal surface coatings
- Easy-peel films suitable for high-temperature retort sterilisation



The "use by" date and ingredient details on a package are critical to consumers to make sure the product is safe to eat.

See how our brighter ideas for reducing food waste can help you

Drawing on years of experience in working with brand owners, industry organisations, regulatory bodies and packaging converters, Sun Chemical has developed a range of innovative packaging solutions designed to increase shelf life and reduce food waste.

Talk to us to find out how our Brighter Ideas for Packaging can help your brand on its journey from concept to consumer.

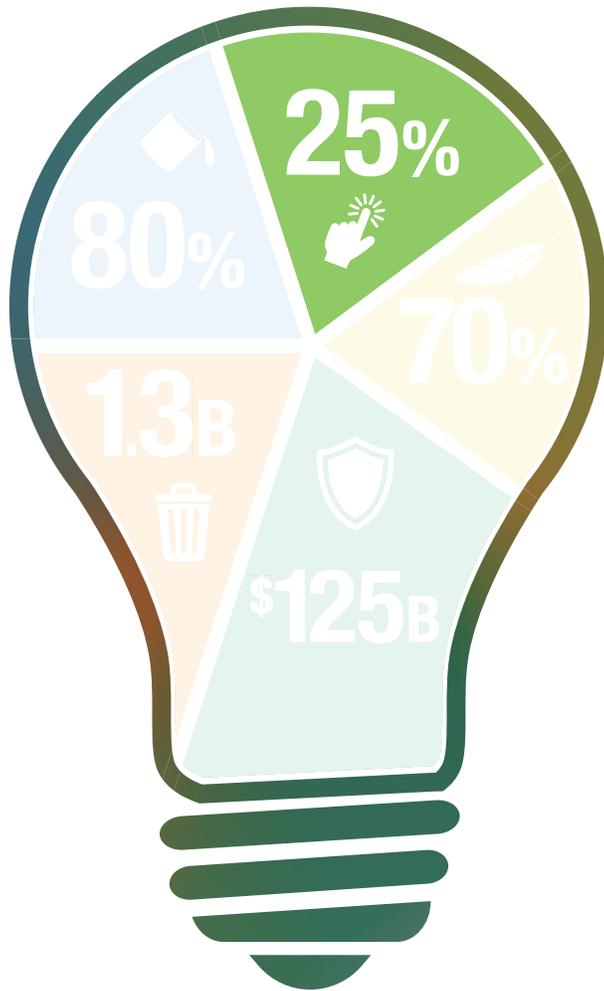
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Brighter Ideas for Consumer Experience



25% of buyers equate customisation with luxury goods, according to Mintel's 2014 "The Premium Brand and Luxury Consumer" report.

In this highly competitive, consumer-driven world, the relationship between your two most vital assets—your brand and your customers—has never been more important. This link between your product and the experience consumers have with it is everything and has the power to elevate the status of your brand far beyond that of the competition.

Having a strong brand that engages with your customers and delivers a positive experience is the key to success. Customer engagement strives to make an emotional connection with shoppers to drive loyalty, to expand your customer base and to boost satisfaction for an overall improved consumer experience.

As a brand owner, it is your responsibility to set the customer's expectation around their experience, and the success of your brand will depend on how well you deliver on those expectations.

Improving consumer experience through innovative, smart packaging solutions that optimise both performance and customer engagement can be an extremely valuable contributor to securing competitive differentiation.

THE FACTS

- 92% of companies highlight consumer experience as a top strategic priority. (Source: Forrester Research Study—Winning in the Age of the Customer, 2014)
- By 2020, customer experience will overtake price and product as a key brand differentiator. (Source: Walker Consulting Customers Report 2020—The Future of B2B Customer Experience)
- 50% of product investment projects will be redirected to customer experience innovations by 2017. (Source: Gartner Digital Marketing Conference, 2015)
- Loyal customers are worth 10 times more than first-time purchasers. (Source: Blog—Seven tips to keep your customer experience programme on track)
- A 2% increase in customer retention has the same effect as decreasing costs by 10%. (Source: Leading on the Edge of Chaos, Emmet Murphy & Mark Murphy)

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What consumers say:

- 86% would pay more for a better customer experience. (Source: *Customer Experience Impact (CEI) Report, 2011*)
- 71% say their smartphones have become more important to their in-store experience. (Source: *Google, Ipsos Media CT and Sterling Brands—Digital impact on instore shopping survey, 2014*)
- 56% agree packaging should be reusable. (Source: *Mintel—Prepared Meals & Sides Report, 2015*)
- 53% believe resealable packaging would help retain product freshness. (Source: *Mintel—Food Packaging Trends, UK, 2016*)
- 52% say packaging is more appealing when it has links to offers, promotions or recipes. (Source: *Mintel Food Packaging Report, 2013*)
- 36% agree unique packaging designs make a product more appealing. (Source: *Mila: The Live Fish Pack Experiment, www.youtube.com/watch?v=zd1bdbah1m8*)

The challenges

The globalisation of consumer goods has created something of a monotonous retail experience and, where multinational corporations dominate, their quest for speed, efficiency, price and convenience has often taken priority over innovation and consumer experience. Today's shoppers are more product-savvy than ever before and are no longer driven by price and convenience alone. They don't just expect functionality and sustainability, they demand something extra that will inform, entertain and give them added value.

This is where innovative product packaging can play a significant role. Brands that lead the field offer clever and creative aesthetic design, advanced packaging materials and finishes, and integrated multimedia technology that adds an exciting and engaging experience for the consumer. Memorable packaging leaves customers with a good experience they want to share, which has the power to underpin brand preference, drive repeat business and attract new customers.

In this consumer-driven, competitive society, your brand has to work harder than ever, not only to attract attention, but also to engage with your customers beyond the point of purchase. Today, brands need to engage seamlessly with the connected consumer and deliver both on what they want and need in terms of function and performance, as well as on their perceived requirements for information, interaction and entertainment.

What consumers want:

- Products that retain optimal freshness, taste, color and aroma
- Smarter and more informative packaging
- Reusable and recyclable solutions to reduce food and packaging waste
- Attractive and color-consistent packaging for ease of recognition and selection
- Trust and confidence that the products they purchase are safe and compliant
- Engaging and entertaining products that offer a value-added experience

There are so many new products, materials, applications and solutions on the market. The real challenge you face as a brand owner today is how to strike the correct balance between function, technical performance, creating the right consumer experience, and managing costs.

Insight from market intelligence organisation Mintel

"Brands today have the opportunity to engage shoppers and consumers by providing 'solutions-based' packaging. While disruptive packaging commands attention at the point of sale, when consumers see it as different but don't understand the difference, then it truly is only a disruption. When brands offer a 'solution,' consumers see it as different, but more importantly, they understand what that difference means to their shopping experience, occasion, or overall lifestyle."

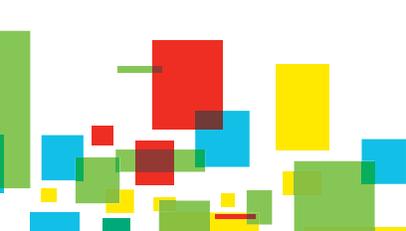
– David Luttenberger, CPP, Global Packaging Director, Mintel, USA

"Today's consumers, and especially Millennials, like to be entertained and positively surprised as they go about their daily shopping. The positive experiences with products and their packaging that can also be shared on social media can help building consumer loyalty."

– Regina Maiseviciute Haydon, Packaging Analyst, Mintel, UK

"As it becomes harder to differentiate on price or quality we increasingly see brands offering fun or engaging experiences to provide that extra added value. Some, such as Coca-Cola's bottle label that pulls into an attractive bow, simply aim to raise a smile and remind consumers why they love the brand. More savvy brands however will look to experiential packaging to support and build on core brand values."

– Dr. Benjamin Punchard, Director of Packaging Insights, Mintel, UK



Brighter Ideas for Consumer Experience

Sun Chemical's brighter ideas for consumer experience

- Purpose-designed coatings and adhesives that help retain the freshness, appearance and aroma of highly perishable goods
- Oxygen and odour barrier solutions to extend storage and shelf life and which can be applied in bulk packaging to eliminate environmental contamination during transportation
- UV-barrier coatings that preserve the color and freshness of certain food types
- Speciality anti-mist coatings for the optimal presentation of clear packaging for chilled products
- Grease- and moisture-resistant, direct-food-contact coatings, which help replace PE-coated cartons in cold and hot food applications, including paper cups. The cartons remain clean longer and without stains, increasing consumer satisfaction
- Advanced, lightweight films, coatings and adhesives that reduce structural layers, minimising weight and increasing recyclability
- Recloseable cold-seal technologies enabling packages to be resealed by consumers multiple times with minimal loss to their protective qualities
- Special-effect inks and coatings to optimise shelf impact and consumer engagement through innovative colors, textures and finishes
- Inks that can be used on ceramics and glass containers, such as beer/wine beverage bottles, drinkware, cosmetics and medical vials. They can also be used on glass for mobile phones, computer screens, gaming machine mirrors and furniture.
- Screen and offset inks, adhesives and varnishes that help printers meet the needs of the plastic card market by offering high bond strength and adherence to lamination, while also providing consistent color reproduction. The inks can also be customised to deliver various metallic finishes, they are easy to use and provide excellent adhesion to common plastics.
- Standard, color and printed magnetic tape options (based on DIC technology), which are aesthetically attractive with high durability and reliability. DIC's magnetic tape exhibits excellent magnetic characteristics, including high resolution and low noise with precise waveform.
- Expertise and consultation to devise holistic consumer engagement strategies at point of sale and post-purchase



Smart packaging solutions can lead to product differentiation, boosting customer loyalty and increasing sales.

As a global leader in the development of inks, coatings, films and adhesives, Sun Chemical has one of the widest ranges of products, solutions, applications and technologies designed to enhance the consumer's interaction, experience and engagement with your product's packaging.

Through our extensive experience and close partnerships working with brand owners, manufacturers, suppliers and converters, we can work with you to identify the right packaging solution for your brand and deploy it consistently across multiple geographies to help you enhance consumer experience.

See how our brighter ideas for consumer experience can help you

Whatever business you are in, improving the experience your customers have with your brand through smart packaging solutions can be the key to product differentiation, boosting customer loyalty and increasing sales.

Talk to us to find out how our Brighter Ideas for Packaging can help your brand on its journey from concept to consumer.

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